

Appendix E: Asbestos Discovery at Seven Oaks Drive

From:
Sent: Friday, 29 October 2021 11:21 AM
To:
Cc:
Subject: [EXTERNAL] RE: Eastern Busway - Asbestos confirmed
Attachments: 2749076-A2P-1.pdf; 2749076-SSFC-1.csv; 2749076-1.zip

Hi,

The results from the sample I delivered to Hill Laboratory yesterday detected white and brown asbestos. This sample was found in CPT204(E) @ 1m bgl during hydro excavation.

Please see the **attached** results for full details.

Cheers,

Alliance Engineering Geologist



From:
Sent: Monday, 18 October 2021 5:26 PM
To:
Cc:

Subject: Eastern Busway - Possible ACM found

Hi,

We came across some possible fragments of asbestos board today during the hydrovac of CPT204(E) - located by the public walkway at the end of Seven Oaks Dr.

I double bagged the pieces that were found at approximately 1m deep. There appeared to be some more smaller fragments at the base of the hole but we had stopped work. The hole was then backfilled with pea gravel. I have heard this CPT will now be completed on SEART road corridor under the night works lane closure.

has asked if we could take the sample to Hills Laboratory. I will call them tomorrow to arrange a drop off time for this week on my way home from site.

Please let me know if you need any further details. Feel free to forward this email if I missed anyone.

Kind regards,



Asbestos

Please place this bag into a second bag to hold contents securely.

Client: **EB**

Ref: _____


Sample ID: **CPT204E**

Date/Time: **18/10/21 10:50**

Sampled By: **GS**

500mL s
100mL s
and 50m
Asbestos
minimum

DANGER:
H350 (May
H372 (Cau
ough pro
exposure)



Melbourne: 03 8564 5000 Sydney: 02 9900 8400 Adelaide: 08 8154 3100
Brisbane: 07 3902 4600 Darwin: 08 8154 3103 Newcastle: 02 9900 849







Certificate of Analysis

Page 1 of 2

Client:	AECOM New Zealand Limited	Lab No:	2749076	A2Pv1
Contact:	Grace Sturgess C/- AECOM New Zealand Limited PO Box 4241 Shortland Street Auckland 1140	Date Received:	29-Oct-2021	
		Date Reported:	29-Oct-2021	
		Quote No:	82501	
		Order No:	60644113/1.2	
		Client Reference:	60644113/1.2	
		Add. Client Ref:	Sampled: 18/10/21	
		Submitted By:	Grace Sturgess	

Sample Type: Building Material

Sample Name	Lab Number	Sample Category	Sample Weight on receipt (g)	Asbestos Presence / Absence	Description of Asbestos in Non Homogeneous Samples
CPT204 (E) @ 1m bgl	2749076.1	Fibre Cement	173.82	Amosite (Brown Asbestos) detected. Chrysotile (White Asbestos) detected.	N/A

Glossary of Terms

- Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
- Trace - Trace levels of asbestos, as defined by AS4964-2004.

For further details, please contact the Asbestos Team.

Analyst's Comments

Appendix No.1 - Chain of Custody

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Building Material

Test	Method Description	Default Detection Limit	Sample No
Asbestos in Bulk Material			
Sample Category	Assessment of sample type. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	-	1
Sample Weight on receipt	Sample weight. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.01 g	1
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1
Description of Asbestos in Non Homogenous Samples	Form, dimensions and/or weight of asbestos fibres present. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	1



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 29-Oct-2021. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

A handwritten signature in blue ink, appearing to read 'Danielle Carter', with a stylized flourish at the end.

Danielle Carter BSc, PGDipSci, MSc
Laboratory Technician - Asbestos

Appendix G: Reeves Road Flyover Pile Location Plan



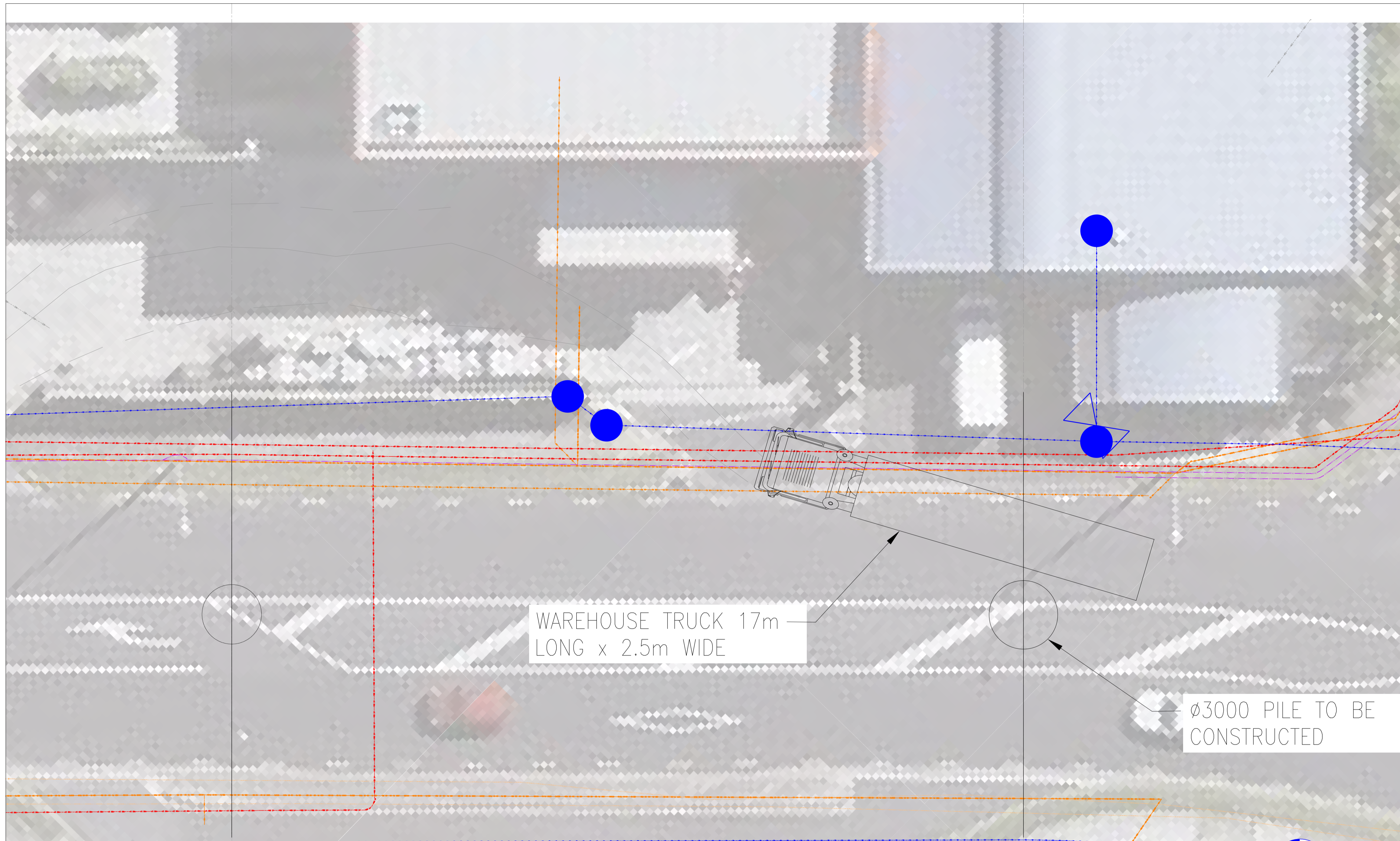
No.	Date	Revision	By
-	8.4.21	CONCEPT ONLY	SP

Design	-	-
Drawn	-	-
Dsg Chk	-	-
Dwg Chk	-	-
Approved	-	-
For Construction	By	Date



PROJECT: EASTERN BUSWAY ZONE 2
REEVES ROAD FLY OVER

TITLE: ϕ 3m PILE
GENERAL ARRANGEMENT



No.	Date	Revision	By
-	8.4.21	CONCEPT ONLY	SP

Design	-	-
Drawn	-	-
Dsg Chk	-	-
Dwg Chk	-	-
Approved For Construction	-	-
By		Date

Appendix H: 1R Dale Crescent Soil Quality Assessment

Eastern Busway 1R Dale Crescent

Soil Quality Assessment



1R Dale Crescent

Document History and Status			
Rev	Date	Author	Status
A	24/03/2022	Harry Jones	Final

Document Approval					
Rev	Action	Name	Position	Date	Signature
A	Reviewed by	Emilie Eddington / Shannon Holroyd	SQEP	28/03/2022	On file
1	Approved by	Roger McDonald	Principal Alliance Planner	27/07/2022	On file

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List of Abbreviations and Definitions

Abbreviation and Definitions	Description
AEE	Assessment of Environmental Effects
AC	Auckland Council
AT	Auckland Transport
AUP(OP)	Auckland Unitary Plan (Operative in part) 2016
BPO	Best practicable option
CEMP	Construction Environmental Management Plan
CMA	Coastal Marine Area
EB1	Eastern Busway 1 (Panmure to Pakuranga)
EB2	Eastern Busway 2 (Pakuranga Town Centre)
EB3 - Commercial	Eastern Busway 3 (Ti Rakau Bridge to Botany)
EB3 - Residential	Eastern Busway 3 (Pakuranga to Ti Rakau Bridge)
EB4	Eastern Busway 4 (Botany Town Centre Station)
EBA	Eastern Busway Alliance
HNZPT	Heritage New Zealand Pouhere Taonga
HNZPTA	Heritage New Zealand Pouhere Taonga Act 2014
km	Kilometre(s)
m	Metre(s)
m ²	Square Metre(s)
m ³	Cubic Metre(s)
MCA	Multi Criteria Analysis
NES - CS	Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011
NES - FW	Resource Management (National Environmental Standards for Freshwater) Regulations 2020
NPS - FM	National Policy Statement for Freshwater Management 2020
NPS - UD	National Policy Statement for Urban Development 2020
NZCPS	New Zealand Coastal Policy Statement 2010
NoR	Notice of Requirement
AUP(OP)	Auckland Unitary Plan (Operative in part) 2016
PWA	Public Works Act 1981
RTN	Rapid Transit Network
RRF	Reeves Road Flyover
RMA	Resource Management Act 1991

1 Introduction

1.1 Preface

This report has been prepared for Auckland Council (AC) by the Eastern Busway Alliance (EBA) in accordance with the proposal dated 21 October 2021 and details a soil quality assessment completed at 1R Dale Crescent, Pakuranga, Auckland (the Site).

The location of the Site is shown in **Figure 1** in **Annexure A**.

1.2 Background

EBA understands that AC wish to investigate soil quality related to the transfer of land (the Site) from Waka Kotahi to AC to better understand the potential soil quality liabilities associated with the transfer. It is understood that the Site will be used as part of the proposed development of the Eastern Busway Project once the transfer is complete.

Based on information provided by AC it is understood the Site may contain fill material deposited during the construction of the Pakuranga Highway.

1.3 Objective

EBA understands that AC would like to understand potential soil quality liabilities associated with the transfer of land (the Site) from Waka Kotahi to AC. Therefore, the objective of the works were to:

- Provide general information on the concentrations and distribution of likely potential contaminants of concern in soils at the Site, sufficient to establish the general contamination status of the Site.

1.4 Scope of Works

The following scope of works was undertaken:

- Review of service plans obtained from the Before U Dig service, followed by on-site service clearance with mark-up completed in accordance with EBAs procedures.
- Five test pits were advanced with an excavator to a maximum depth of 2.0 metres below ground level (m bgl).
- Logging of soil lithology, collection of soil samples and field screening of soil samples for volatile organic compounds (VOCs) using a photo-ionization detector (PID) at each test pit location.
- Locations were backfilled and re-instated in the approximate order that they were advanced / excavated.
- Soil samples were submitted to IANZ accredited laboratory, RJ Hill Laboratories Limited (Hill Laboratories) for analysis.
- Preparation of this factual report, including a comparison of analytical results to applicable guidelines.

2 Existing Environment

2.1 General

The Site identification details are provided in **Table 1**.

Table 1 Summary of Site Identification Details

Item	Detail
Address	1R Dale Crescent, Pakuranga, Auckland
Legal Descriptions	SEC 33 SO 70581, PT LOT 41 DP 52096, PT LOT 40 DP 52096, PT LOT 39 DP 52096, PT LOT 38 DP 52096, PT LOT 37 DP 52096, SEC 17 SO 70581
NZTM Map Reference	5912914 N 1766339 E
Zoning	Open Space - Informal Recreation Zone (west end) and Residential - Mixed Housing Urban Zone (west end) ¹
Current Owner	Waka Kotahi
Current Landuse	Public Reserve
Regulatory Authorities	Auckland Council

2.2 Site Layout

The Site can be accessed via Dale Crescent along the northern site boundary. Pakuranga Highway is located adjacent to the southern site boundary. At the time of investigation, the site was being used as a public reserve. The site was predominately grassed and featured a few trees and shrubs. A wire post and baton fence intersected the site parallel to Pakuranga Highway near the southern site boundary.

2.3 Site Setting

Neighbouring land use is summarised in **Table 2**.

Table 2 Surrounding Land Use

Direction	Description
North	Dale Crescent, beyond which are residential properties.
South	Pakuranga Highway
East	Seven Oaks Drive, beyond which are residential properties
West	Paul Place Reserve

2.4 Site Topography and Drainage

The Site is generally flat with a gentle slope from northeast to southwest. The nearest surface water body is a tributary of the Tamaki River, located approximately 50 m southwest of the Site at its closest point.

Four connected Council stormwater pipes intersect beneath the Site and are oriented either northwest to southeast or northeast to southwest. The stormwater pipes ultimately discharge to a tributary of the Tamaki River, located approximately 90 m southwest of the Site.

¹ <https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html> Auckland Council GIS Unitary Plan Zones, accessed 24 March 2022.

An open drainage channel runs parallel to the site along the south boundary, adjacent to the Pakuranga Highway.

2.5 Geology and Hydrogeology

The 1:250 000 scale geological map² indicates that the Site is underlain by Holocene river deposits from the Tauranga Group which consist of sand, silt, mud and clay with local gravel and peat beds.

2.6 Site History and Previous Environmental Investigations

2.6.1 Previous Environmental Investigations

2.6.1.1 Assessment of Old Landfills for Manukau City Council, prepared by GHD Limited (GHD), dated June 2000.

During their 2000 assessment, GHD reviewed the closed landfills throughout the Manukau City region to ensure the necessary resource consents were in place. From information provided by the Manukau City Council (MCC), historical records revealed that 39 closed landfill sites existed within the MCC owned property. GHD evaluated each site to determine the potential for adverse environmental effects in order to clarify which sites may require resource consents from the Auckland Regional Council (ARC).

The assessment was carried out based on the following key criteria:

- Age of the landfill,
- Type of fill,
- Leachate discharge,
- Proximity to water courses,
- Hydraulics, water level and rainfall,
- Leachate toxicity risk factor (LRF).

During the assessment, GHD used the LRF as one of the key indicators for identifying sites that may pose significant risk to the environment and may require resource consent for discharge of leachate. The LRF is the measured concentrations of contaminants in the leachate expressed as a ratio of relevant standards or guidelines to assess the relative risks to the environment from the landfill discharges. In the case of this report, GHD used the following five parameters: cadmium, chromium, lead, ammonia-nitrogen and total nitrate levels.

The investigation and monitoring were carried with regard to the Australia and New Zealand Environmental and Conservation Council (ANZECC) guidelines for contaminated sites, leading to more targeted and detailed investigations on those sites that required further work. Preliminary investigations involved a screening process in which surface water and groundwater samples were collected from selected sites between August 1994 and November 1996.

Following the screening process, GHD selected high priority landfills based on the key indicators, with subsequent groundwater bores installed on sites between December 1995 and February 1996. GHD monitored landfill gases during drilling to ensure the concentrations were lower than the lower explosive limit (LEL), the concentration of gas required to support combustion. At no times did the gas levels recorded in any bore exceed the LEL.

² GNS Science, New Zealand Geology Web Map 1:250,000. Accessed via GNS Science website, 24 March 2022. <https://data.gns.cri.nz/geology/>

Further details on the investigation methodology are included in the report in **Annexure B**.

From the sites evaluated in the report, the Site located at 1R Dale Crescent was identified as a former landfill.

The key findings and conclusions of the assessment that are relevant to the Site are as follows:

- There was no record of any landfills having a specifically engineered clay cap, liner or base.
- Anecdotal evidence suggests that the landfills were established on top of existing ground, which was confirmed during the drilling of the groundwater bores.
- All landfills were generally underlain to a variable depth and with variable quality of silt or clay type medium of unknown permeability.
- There was no leachate collection system installed at Dale Crescent during infilling.
- The fill type at Dale Crescent was listed as cleanfill and gravel.
- Four bores were advanced at Dale Crescent. During bore drilling, soil materials consisted of gravel, silt and clay to depths between 1 and 1.25 m bgl. Groundwater was intercepted at depth greater than 2 m bgl.
- Dale Crescent was given an LRF of 7.5, above the maximum acceptable value (MAV) of 5. It was noted the ammonia levels and landfill gases at this site were higher than most of the other evaluated. This was unexpected given no refuse was encountered during drilling. However, bore logs indicated the presence of organic material beneath the imported fill of the natural base of the landfill. which may have influenced leachate concentrations and gas emissions. GHD concluded that considering Dale Crescent was filled with cleanfill and gravel only and is not in close proximity to any watercourses, any environmental risk from the site is considered to be not significant and should be excluded from any need for resource consent.

2.6.1.2 Asbestos sampling (EBA) - 2021

During geotechnical investigation works associated with EBA during October 2021, an EBA Engineering Geologist discovered fragments of building material suspected to be comprised of Asbestos Containing Materials (ACM). The building material was collected at a depth of 1 m bgl by a public walkway at the end of Seven Oaks Drive (a residential area in Pakuranga), approximately 130 m east of the Site.

The fragments of building material were double bagged and sent to Hill Laboratories for bulk material identification, which confirmed the presence of amosite (brown) asbestos and chrysotile (white) asbestos. Following the discovery of ACM, the geotechnical works were abandoned in the area of Seven Oaks Drive. The lab report and photographs of the sample location are included in **Annexure B**.

2.7 Potential Contaminants of Concern

Based on a review of the previous environmental investigation report and activities, the Site has been identified as a former landfill. The GHD (2000) report concluded that the environmental risk from filling activities is unlikely to be significant due to Dale Crescent being listed as cleanfill, however as a precautionary measure the Site is subject to the following potential contaminants of concern (PCoC) associated with former landfill sites:

- Heavy metals,
- Petroleum hydrocarbons, and
- Semi-volatile organic compounds.

Based on the accidental discovery of asbestos at Seven Oaks Drive, the additional potential contaminant of concern include:

- Asbestos.

3 Intrusive Investigation

3.1 Investigation Methodology

In preparation for intrusive works (test pit excavations), an underground utility location request was made to the Before U Dig service, and available utility plans were acquired from various providers. Underground utility locations in the vicinity of the proposed test pit locations were verified and marked-out on site on 1 March 2022 by Wood & Partners Consultants Ltd (Woods) using a combination of ground penetrating radar (GPR) and cable avoidance tool (CAT) scanning.

Intrusive works were undertaken on 2 and 3 March 2022 and included the advancement of five test pits (TP1 to TP5) to a maximum depth of 2.0 m bgl with an excavator. TP5 was terminated at 1.60 m bgl as groundwater was encountered. The locations of test pits are shown in **Figure 2** in **Annexure A**.

Test pits were logged by an EBA Contaminated Land Specialist. Soil samples were collected directly into laboratory supplied jars, from depths representative of fill and natural soils, at approximately every 0.5 m to the base of the test pits. Sub samples were tested in the field for the presence of headspace VOCs using a PID. Test pit logs are presented in **Annexure C**. Site photographs from the Site walkover and test pitting works are included in **Annexure D**.

Soil samples were chilled, packed in cool boxes and transported to Hill Laboratories in Hamilton under standard Chain of Custody procedures.

3.2 Laboratory Analysis

Twenty-nine soil samples were submitted to Hill Laboratories, of which two were analysed for asbestos via semi-quantitative methodology, five for heavy metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc), five for total petroleum hydrocarbons (TPH) and two for semi-volatile organic compounds (SVOCs).

Chain of custody documents and laboratory reports as received are presented in **Annexure E**.

4 Investigation Results

4.1 Field Observations / Soils Encountered

Soils encountered during intrusive works generally comprised the following sequence:

- All test pits had grass cover and topsoil to 0.2 m bgl – 0.3 m bgl;
- Soils generally consisted of clays or silty clays from 0.3 m bgl to the maximum extent of the excavations.
- Minor silty sands were noted at 1.4 m bgl in TP2 and at 0.8 m bgl in TP4.
- Dark brown/black silty clay was noted across all test pit locations between depths of 1.1 m bgl to 2.0 m bgl.
- A large metal fragment was discovered in TP4 between a depth of 0.0 m bgl and 0.4 m bgl.

Soil headspace VOC concentrations in bagged samples ranged between 0.0 ppm and 2.0 ppm. No visual or olfactory evidence of impact was noted in soil samples collected from the test pits.

No fragments of potential ACM were noted in any of the fill material within the test pits.

Groundwater was not encountered during the excavation of TP1-TP4. Groundwater was encountered at 1.6 m bgl at TP5.

4.2 Applicable Guidelines for Analysis

For assessment purposes the analytical results were compared to:

- National Environmental Standard, 2011. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Soil Contaminant Standard Recreation and Commercial / Industrial (Unpaved). (NES - CS).
- Ministry for the Environment (MfE), 1999 (revised 2011). Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand. Tier 1 Soil Acceptance Criteria. All Pathways Soil Acceptance for a Commercial / Industrial land use with sand, sandy silt, silty clay and clay soil types and depths of contamination between < 1 m bgl and 1 to 4 m bgl. (Oil Industry Guidelines).
- Auckland Regional Council, 2002. Background Concentrations of Inorganic Elements in Soil from the Auckland Region. Background ranges for metals in non-volcanic range soils. (Auckland Background Criteria).
- Auckland Council, 2013 (updated July 2018). Auckland Unitary Plan (Operative in Part) (AUP(OP)). Table E30.6.1.4.1 Permitted Activity Soil Acceptance Criteria. (AC Permitted Activity Criteria).
- Building Research Association of New Zealand, 2017. New Zealand Guidelines for Assessing and Managing Asbestos in Soil. All land uses (combined fibrous asbestos and asbestos fines as % of total sample) and commercial / industrial (asbestos in ACM as % of total sample). (BRANZ Guidelines).

4.3 Results

The analytical results for soil samples collected from the test pits are presented in **Table 3** and **Table 4** in **Annexure F**. The results are summarised as follows:

- C₁₅-C₃₆ range hydrocarbons were detected at concentrations of 112 and 66 mg/kg in samples EBA_TP1_2.0 and EBA_TP5_1.5, respectively. Results complied with the Oil Industry Guidelines.

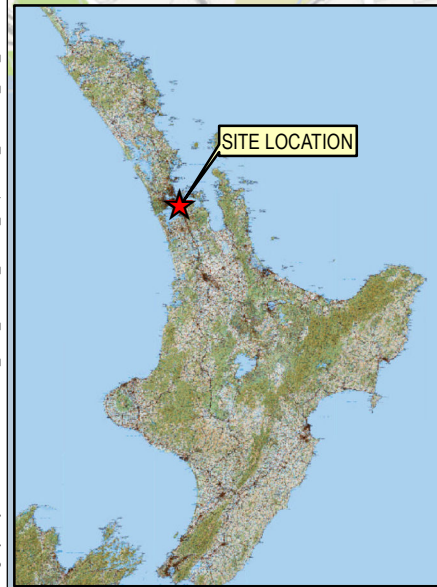
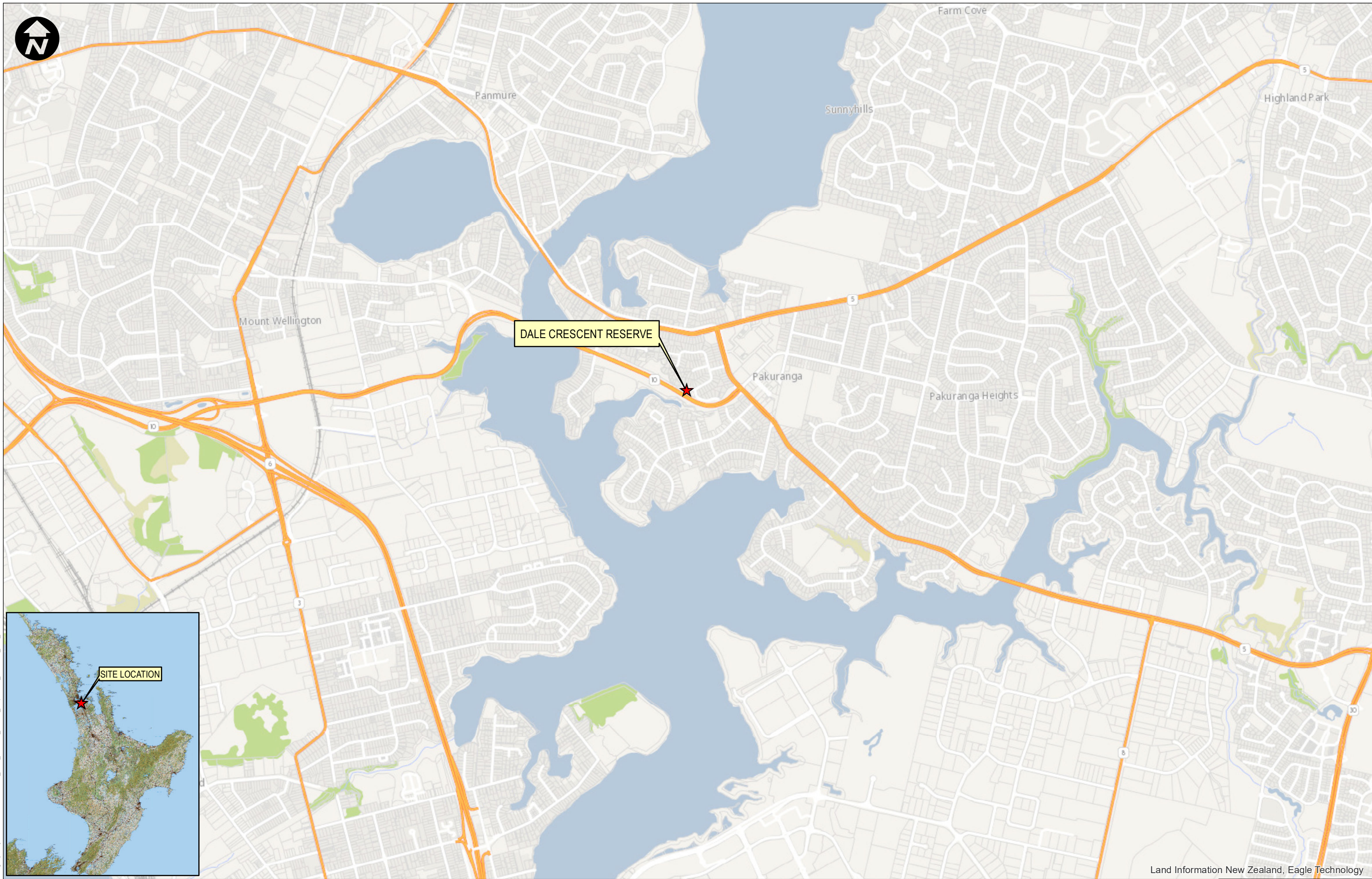
- Copper was detected in sample EBA_TP1_1.8 at a concentration (49 mg/kg) that exceeded the Auckland Background Criteria.
- Nickel was detected in soil samples EBA_TP1_1.8, EBA_TP2_1.5 and EBA_TP4_0.0-0.15 at concentrations (59 mg/kg, 42 mg/kg and 41 mg/kg, respectively) which exceed the Auckland Background Criteria.
- Concentrations of heavy metals detected in soil samples collected and analysed from across the Site complied with the NES CS for recreation and commercial/industrial landuse and the AC Permitted Activity Criteria.
- Concentrations of SVOCs were not detected above the laboratory limit of reporting in soil samples EBA_TP2_0.75 and EBA_TP5_0.4.
- Asbestos was not detected in soil samples TP1_0.0-0.15 and TP4_0.0-0.15.

5 Summary

EBA completed a soil quality assessment for the Site located at 1R Dale Crescent, Pakuranga. Intrusive works (test pit excavations) at the Site were undertaken on 2 and 3 March 2022.

Concentrations of contaminants of concern detected in soil samples collected and analysed complied with applicable guideline criteria and concentrations were generally within the Auckland Background Criteria, indicating that the site is suitable for ongoing recreation or commercial/industrial use.

Annexure A – Figures



Land Information New Zealand, Eagle Technology

1	29/03/2022	S. Sokolov	FINAL
REV	DATE	DRAWN	REVISION DESCRIPTION

DRAWN	S. Sokolov	DRAWING CHECK	H. Jones
DESIGNED	S. Sokolov	DESIGN REVIEW	
APPROVED		APPROVED DATE	

0 0.125 0.25 0.5 0.75 1 km

SCALE 1:20,000

This drawing is confidential and shall only be used for the purpose of this project. The signing of this title block confirms the design and drafting of this project have been prepared and checked in accordance with the Alliance quality assurance system to ISO 9001. Printed copies of this document are UNCONTROLLED. Do not scale from this drawing.

**AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)**



DRAWING STATUS FINAL		NOT FOR CONSTRUCTION	
DRAWING TITLE 1R DALE CRESCENT RESERVE SITE LOCATION PLAN			
SCALE 1:20,000	SHEET SIZE A3	DRAWING No	REV A1
FIGURE 1			



Annexure B – Previous Environmental Investigations

FOO3324267

MANUKAU CITY COUNCIL

ASSESSMENTS OF OLD LANDFILLS
SITES REPORTS (copies)