

Technical Memorandum

Kainga Ora – Waikowhai

Hand Auger Geotechnical Investigation WK-045 Block
Harrison Grierson

TO: Harrison Grierson
FROM: Vincent Choi

REF: J7425-2
DATE: 1 May 2026

INTRODUCTION

This memorandum presents the factual results of a hand auger geotechnical investigation undertaken at Block WK-045, Waikowhai, for Harrison Grierson. The investigation undertaken is detailed below, and results appended to this memo.

SCOPE

The scope of work comprised the completion of two (2) hand augers to a target depth of approximately 4.0 m below ground level. The locations of the boreholes are shown on the attached site plan (Appendix A). The investigation included:

- A site walkover.
- Visual soil descriptions.
- Shear vane testing at nominal 0.5 m depth intervals.
- Scala penetrometer testing at the base of each hand auger.
- Groundwater conditions were observed during drilling where applicable.

SITE DESCRIPTION

The investigation was undertaken at 1213 Dominion Road, Auckland. At the time of investigation, the site was generally grassed and near level, with existing structures present within the site area. Localised ponding of surface water was observed in some locations following rainfall.

The local geology below the site is mapped as East Coast Bays Formation residual soils of the Waitemata Group.

SUBSURFACE CONDITIONS

Soil conditions encountered in the two hand augers were broadly similar and generally comprised materials consistent with the East Coast Bays Formation. The soils typically consisted of silty clay and clayey silt, generally brownish orange in colour at shallow depths, grading to light grey with increasing depth. Hand shear vane test results obtained during the investigation ranged from approximately 129 kPa to UTP.

Scala penetrometer testing at the base of BH1 indicated refusal at approximately 5.3 m below ground level, with recorded blows exceeding 20. At BH2, refusal was encountered at approximately 5.35 m below ground level, with 10 blows recorded on three consecutive tests.

Detailed descriptions of the materials encountered, together with shear vane and scala penetrometer test results, are provided on the hand auger logs included in Appendix B.

LIMITATIONS

This report has been prepared for the sole benefit of **Harrison Grierson** as our Client, and their appointed representatives, according to their instructions, for the specific objectives described herein. This report is qualified in its entirety and should be considered in the light of our Terms of Engagement with the Client and the following:

- a. Data or opinions contained within the report may not be used in other contexts or for any other purpose without our prior review and written agreement. Any reliance will be at the parties' sole risk.
- b. No responsibility is assumed for inaccuracies in reporting by the information providers. In no event, regardless of whether GWE's consent has been provided, does GWE accept any liability, whether directly or indirectly, for any liability or loss suffered or incurred by any third party to whom this report is disclosed placing any reliance on this report, in part or in full.
- c. GWE has relied on information provided by the Client and by third parties to produce this document and arrive at its conclusions. GWE has not verified information provided (unless specifically noted otherwise) and we assume no responsibility and make no representations with respect to the adequacy, accuracy, or completeness of such information. No responsibility is assumed for inaccuracies in reporting by the information providers.
- d. Only a finite amount of information has been collected to meet the specific financial and technical requirements of the Client's brief and this report does not purport to completely describe all the site characteristics and properties. Due to the inherent variability in natural soils and subsurface conditions, it is unlikely that the results, assumptions, and conclusions set out in this report represent the extremes of conditions at any location removed in time and/or place from the specific points of sampling. The nature and continuity of the ground between test locations has been inferred using experience and judgement and it must be appreciated that actual conditions could vary from the assumed model.
- e. Subsurface conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual data provided. They should perform any additional tests as necessary for their own purposes.

- f. Subsurface conditions, such as groundwater levels, can change over time. This should be borne in mind, particularly if the report is used after a protracted delay.

Prepared by:

Vincent Choi
Graduate Geotechnical Engineer

Reviewed and Approved by:

Cameron Lee
Engineering Geologist

enc Appendix A: Site Plan
 Appendix B: Borehole Logs
 Appendix C: Site Photos

I:\Kainga Ora\KO-Stage 4+4B Waikowhai-J7425\02-GEO\Reports\TM01v1-WK-045-1213 Dominion Rd-Factual Summary.Docx

APPENDIX A
SITE PLAN


Plot Date : 11:31 am, 01 May 2026

Filename : I:\Kainga Ora\KO Stage 4-4B Waikowhai\J7425\08-Drawings\01-CAD\01-DWG\J7425-2 WK-045 Block (1213 Dominion Road) D6W G-100 Site Plan.dwg




LEGEND


APPROXIMATE LOCATION OF BOREHOLE

 BH


WASTEWATER PIPE



WATER PIPE



STORMWATER CATCHMENT



NOTES

1. ADDITIONAL DATA FROM AUCKLAND COUNCIL GEOMAPS (CAPTURED 28/04/2026).

2. LOCATIONS OF FEATURES ARE INDICATIVE ONLY.

0m2m4m6m8m10m

A3 SCALE = 1 : 200

0	FIRST ISSUE	VC	VC	CL	28/04/26
REV	AMENDMENT	CAD	ENG	APPD	DATE
PLOT STATUS:		FOR CONSENT			

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GWE CONSULTING LIMITED

G FLOOR OCEANBRIDGE HOUSE

25 ANZAC STREET TAKAPUNA

AUCKLAND 0622

P:+64 9 445 8338

www.gwe.co.nz

PROJECT:

Kainga Ora - Waikowhai

Block WK-045

TITLE:




GEOTECHNICAL SITE PLAN



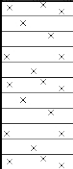
Block WK-045 (1213 Dominion Rd)

CLIENT:		Harrison Grierson
SCALE:	1:200	A3
PROJECT No :	J7425-2	REV
DRAWING No :	G100	
		0

APPENDIX B

BOREHOLE LOGS

		<h1 style="text-align: center;">HAND AUGER BOREHOLE LOG</h1>				Job No.: J7425-2	
						No.: BH1	
						Sheet: 1 of 1	
Client: Harrison Grierson				Coordinates: 1754652mE, 5912616mN		Date: 24/04/26	
Project: 1213 Dominion Road, Block WK-045				Surface Conditions: Grassed; near level		MAMSL: 0m	
Stratigraphy	Graphic Log	Geological Interpretation	Depth (m)	BH1 Scala Penetrometer (Blows / 50mm) 2 4 6 8 10 12 14 16 18		Groundwater	
				Peak Shear Vane Residual (kPa) 50 100 150 200 Values			
TOPS OIL		Silty CLAY, with trace gravel; dark brown. High plasticity; moist.	0.2				
East Coast Bays Formation		Silty CLAY; brownish orange. Very stiff; high plasticity; moist.	0.4			171	
			0.6			14	
			0.8				
			1.0			129	
		Clayey SILT; brownish orange. Very stiff; moderate plasticity; moist to wet.	1.2			55	
			1.4				
		Silty CLAY; brownish orange. Very stiff to hard; high plasticity; moist to wet.	1.6			UTP	
		1.7m: Becomes light grey and mottled orange, red streaks.	1.8			-	
			2.0			192+	
			2.2			-	
			2.4			192+	
			2.6			-	
			2.8				
			3.0			192+	
		3.2			-		
		3.4					
		3.6			175		
		3.8			96		
		4.0			137		
		4.2			62		
		4.4					
		4.6					
		4.8					
		5.0					
		5.2					
		5.4					
		5.6					
		5.8					
E.O.B.: 4.00m Target Depth Achieved		Shear Vane No.: 3155	Logged By: VC	Checked By: CL	Observations/Comments: Groundwater unconfirmed. Hole filling up with water after drilling		

		<h1 style="text-align: center;">HAND AUGER BOREHOLE LOG</h1>				Job No.: J7425-2	
						No.: BH2	
						Sheet: 1 of 1	
Client: Harrison Grierson				Coordinates: 1754656mE, 5912599mN		Date: 24/04/26	
Project: 1213 Dominion Road, Block WK-045				Surface Conditions: Generally Grassed; near level		MAMSL: 0m	
Stratigraphy	Graphic Log	Geological Interpretation	Depth (m)	BH2 Scala Penetrometer (Blows / 50mm) 2 4 6 8 10 12 14 16 18			Groundwater
				Peak Shear Vane Residual (kPa) 50 100 150 200 Values			
TOPSOIL		Silty CLAY; dark brown. High plasticity; moist.	0.2				
East Coast Bays Formation		Silty CLAY; brownish orange. Very stiff; high plasticity; moist.	0.4				162
			0.6				69
			0.8				
			1.0				165
		1.1m: Becomes light grey.	1.2				62
			1.4				
		Clayey SILT; white, red and brown streaks. Very stiff; moderate plasticity; moist.	1.6				192+
			1.8				-
			2.0				192+
			2.2				-
		2.4					
		2.6				192+	
		2.8				-	
		3.0				192+	
		3.2				-	
		3.4					
		3.6				143	
		3.8				85	
		4.0				152	
			4.2			74	
			4.4				
			4.6				
			4.8				
			5.0				
			5.2				
			5.4				
			5.6				
			5.8				
E.O.B.: 4.00m Target Depth Achieved		Shear Vane No.: 3155	Logged By: VC + JJ	Checked By: CL	Observations/Comments: Groundwater encountered 3.8 m		

24/04/2026

Dynamic Cone (Scala) Penetrometer Results

Blows per 50 mm of Penetration

Job Name:	KO Waikowhai
Date:	24 April 2026
Tested By:	VC + JJ

Hand Auger No.	BH1	BH2						
Start Depth	4.10 m	4.00 m						
50	1.0	1.0						
100	1.0	1.0						
150	1.0	1.0						
200	1.0	2.0						
250	1.5	2.0						
300	2.5	2.0						
350	2.0	2.5						
400	4.0	2.5						
450	4.0	3.0						
500	5.0	3.0						
550	4.0	4.0						
600	5.0	5.0						
650	6.0	5.0						
700	7.0	6.0						
750	7.0	6.0						
800	6.0	7.0						
850	6.0	6.0						
900	9.0	8.0						
950	8.0	9.0						
1000	8.0	7.0						
1050	10.0	10.0						
1100	14.0	10.0						
1150	10.0	7.0						
1200	20+	8.0						
1250		10.0						
1300		10.0						
1350		10.0						
1400								
1450								
1500								
1550								
1600								
1650								
1700								
1750								
1800								
1850								
1900								
1950								
2000								
End Depth	5.30 m	5.35 m						

APPENDIX C
SITE PHOTOS

Observed Ponding



BH1



Observed Ponding



BH1 after drilling



Observed Ponding



BH2



