

JAS Civil Ltd

CIVIL ENGINEERING CONSULTANTS

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16 March 2022

Angela Cook
15 Ash Grove
Mungaturoto

Dear Angela

Re 15 Ash Grove- Lot 9 DP 186956– Site Suitability Report

A report on the above property was requested for the purpose building a dwelling to the site.

Please find attached Scala Penetrometer results for the above address.
Four tests were carried out as shown on the attached site plan.

As per NZS 3604:2011 3.3.7 Ultimate bearing capacity.
The results show a consistent firm layer below 400mm depth.

As can be seen from the attached results that the number of blows (averaged) exceeds 3 which correlates to ultimate bearing capacity of 300kPa. The results show that “good ground” is indicated from 400mm depth and is consistent across the site.

Soil

Reference to the 1:100,000 scale soil map (Maungaturoto-Kaipara) published by the Department of Lands and Survey, (NZMS 290 Sheet P08/09) confirm site investigation that the site consists of “Motatau/Whaka/Arapohue Clay Loam”. (See attached bore log)

The site is well draining, on a 3 deg slope slightly raised above adjacent drive and drain.

The site is sloping gently to the north and there are no signs of land movement on or around the property (see attached photos) and the adjacent houses show no sign of movement over the past 20 years (see attached photos). Piles should be placed to a minimum of 400mm depth and anchor piles to 800mm depth.

STEVE GWILLIAM B Eng Tech (Civil) NZCE, REA - Mobile 0274 394 987, After Hours 09 438 5993

JOHN SMITH BE (Civil) - Mobile 027 278 8807, After Hours 09 434 8065

Conclusion

The Proposed dwelling is a lightweight building (Steel Frame Modular) therefore I have no problem with placing a house on the site as per above recommendations.

Yours faithfully



Andrew Bax CPEng, MIPENZ

JAS Civil Ltd

Civil Engineering Consultants

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Site Plan & Scala Penetrometer Locations

Print Date: 11/27/2020
 Print Time: 2:14:00 PM

Local Maps Print



Scale: 1:500
 Original Sheet Size: A4

Projection: NZGD 2000 New Zealand Transverse Mercator
 Bounds: 1,721,300.4984 6,002,589.9837
 1,721,399.9949 6,002,462.4107

Scala Penetrometer Tests

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Scala Penetrometer Results

Job No.	C002	Location	15. N/Ln Gm
Date	27.11.12	Tested by	AJA

Chainage	Position	depth (mm)	blows per 100 mm	CBR
	①	0-100	2	
		100-200	3	
		200-300	3	Good
		300-400	3	Good
		400-500	2	
		500-600	4	
		600-700	3	
		700-800	4	
		800-900	4	
		900-1000		
		1000-1100		
		1100-1200		
		1200-1300		
		1300-1400		
		1400-1500		
		1500-1600		
		1600-1700		
		1700-1800		
		1800-1900		
		1900-2000		

Chainage	Position	depth (mm)	blows per 100 mm	CBR
	②	0-100	1	
		100-200	2	
		200-300	3	Good
		300-400	3	Good
		400-500	3	
		500-600	3	
		600-700	6	
		700-800	3	
		800-900	3	
		900-1000		
		1000-1100		
		1100-1200		
		1200-1300		
		1300-1400		
		1400-1500		
		1500-1600		
		1600-1700		
		1700-1800		
		1800-1900		
		1900-2000		

Chainage	Position	depth (mm)	blows per 100 mm	CBR
	③	0-100	1	
		100-200	1	
		200-300	2	
		300-400	4	Good
		400-500	3	Good
		500-600	2	
		600-700	1	
		700-800	2	
		800-900	4	
		900-1000		
		1000-1100		
		1100-1200		
		1200-1300		
		1300-1400		
		1400-1500		
		1500-1600		
		1600-1700		
		1700-1800		
		1800-1900		
		1900-2000		

Chainage	Position	depth (mm)	blows per 100 mm	CBR
	④	0-100	1	
		100-200	2	
		200-300	2	
		300-400	3	Good
		400-500	3	Good
		500-600	3	
		600-700	6	
		700-800	3	
		800-900	3	
		900-1000		
		1000-1100		
		1100-1200		
		1200-1300		
		1300-1400		
		1400-1500		
		1500-1600		
		1600-1700		
		1700-1800		
		1800-1900		
		1900-2000		

Chainage	Position	depth (mm)	blows per 100 mm	CBR
		0-100		
		100-200		
		200-300		
		300-400		
		400-500		
		500-600		
		600-700		
		700-800		
		800-900		
		900-1000		
		1000-1100		
		1100-1200		
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		1500-1600		
		1600-1700		
		1700-1800		
		1800-1900		
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Chainage	Position	depth (mm)	blows per 100 mm	CBR
		0-100		
		100-200		
		200-300		
		300-400		
		400-500		
		500-600		
		600-700		
		700-800		
		800-900		
		900-1000		
		1000-1100		
		1100-1200		
		1200-1300		
		1300-1400		
		1400-1500		
		1500-1600		
		1600-1700		
		1700-1800		
		1800-1900		
		1900-2000		

CBR Equivalent

no. blows	3	4	5	6	7	8	9	10	11	12
CBR	5.8	8	10.3	12.6	15	17.4	19.9	22.4	25	27.6
Allowable kPa	100	125	155	178	200	230	250	270		
Ultimate kPa	300	375	465	534	600	690	750	810		
Dependable kPa	150	187.5	232.5	267	300	345	375	405		



Project:	Cook	Project Number:	Client:	Cook	Boring No.	1
Address, City	15 Ash Gr	Drilling Contractor:	Drill Rig Type:			
Logged By:	A.Bax	Date	Started:	Bit Type:	Diameter: 50mm	
			Completed:			
			Backfilled:			
Groundwater Depth:			Elevation:		Total Depth of Boring:	

Depth (meters)	Sample Type	Sample Number	Blow Counts (blows/100mm)	Graphic Log	Lithology	Dry Density (pcf)	Moisture Content (%)	Additional Test
					Lithology Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors Rock Description: modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
0.2			1		Silty topsoil- trace roots			
			2					
			3		Clayey loam - grey			
			3					
0.6			3					
			4		Clay - high plasticity			
0.8			4					
1.0			4					
2.0								

