DRAPERS CIVIL CONTRACTING PTY LTD

THE QUAY 2 ESTATE STAGE 4

## 1505-1535 SURF COAST HWY TORQUAY

Report On

LEVEL 1 SURVEILLANCE & COMPACTION CONTROL OF EARTHWORKS

> Carried Out By



Project No.: 1917/040



PO Box 2693, Gladstone Park, Vic 3043 PO Box 2693, Gladstone Park, Vic, 3043 ABN 51 102 571 077 PH (03) 9335-1225

9<sup>th</sup> November 2017 Project No.:1917/040

Drapers Civil Contracting Pty Ltd PO Box 287 Belmont, Vic 3216 Attention: - Mr. Matthew Jackman

Dear Sir,

## RE: The Quay 2 Estate Stage 4 – Earthworks

### Introduction & Scope

At the request of Drapers Civil Contracting Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 18<sup>th</sup> of May 2017 to the 30<sup>th</sup> of June 2017 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by Drapers Civil Contracting Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Standard Faceplan Layout Drawing No. 4R2 Version D.

General site works involved the placement of fill, using on-site derived materials, to bring the fill regions to the required finished levels as indicated on the construction drawings.

### Site Preparation

Site inspections were undertaken on the 18<sup>th</sup> of May 2017 confirming that areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Proof roll inspections were performed throughout the project duration to ensure no soft areas were present prior to filling.

### <u>Material</u>

It is understood that the fill material used was sourced from on-site, primarily from road boxing and service trench excavations. Additional material was also sourced from nearby Armstrong and Zeally Sands Estates.

The fill material is best described as a CLAY, slightly silty, brown, orangebrown, slightly moist to moist, with fine to course grained sand and occasional gravels.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with the guidelines set out in AS 3798 - 2007 Section 4.4.

### Compaction of Fill Material

A sheepsfoot compactor placed the material in horizontal loose layers of approximately 250mm–300mm. The sheepsfoot compactor also performed compaction of the fill material using a criss cross pattern where possible.

The moisture condition of the fill was closely monitored and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1). Moisture conditioning was carried out using a water cart and mixing with the grader prior to rolling.

### Compaction Testing

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of forty compaction tests were performed on the constructed allotment fill. Results are presented in Appendix A of this report.

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1** for **Large Scale Operations.** 

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential.** As a result, the compliance criteria adopted by Geotechnical Laboratories was a hilf density ratio not less than 95 percent of the maximum hilf density value as determined by the Standard Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

All test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criteria was specified.

### <u>Remarks</u>

So far as can be determined, Drapers Civil Contracting Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by Drapers Civil Contracting Pty Ltd from the 19<sup>th</sup> of May 2017 to the 30<sup>th</sup> of June 2017 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

**Note:** Test results and controlled fill certification relates only to fill placed by Drapers Civil Contracting Pty Ltd and for earthworks completed at the time of testing. Any previous or subsequent earthworks will require a separate evaluation.

Yours Faithfully, GEOTECHNICAL LABORATORIES.

Sam Loza. Laboratory Manager.

DRAPERS CIVIL CONTRACTING PTY LTD

THE QUAY 2 ESTATE STAGE 4

## 1505-1535 SURF COAST HWY TORQUAY

Report On

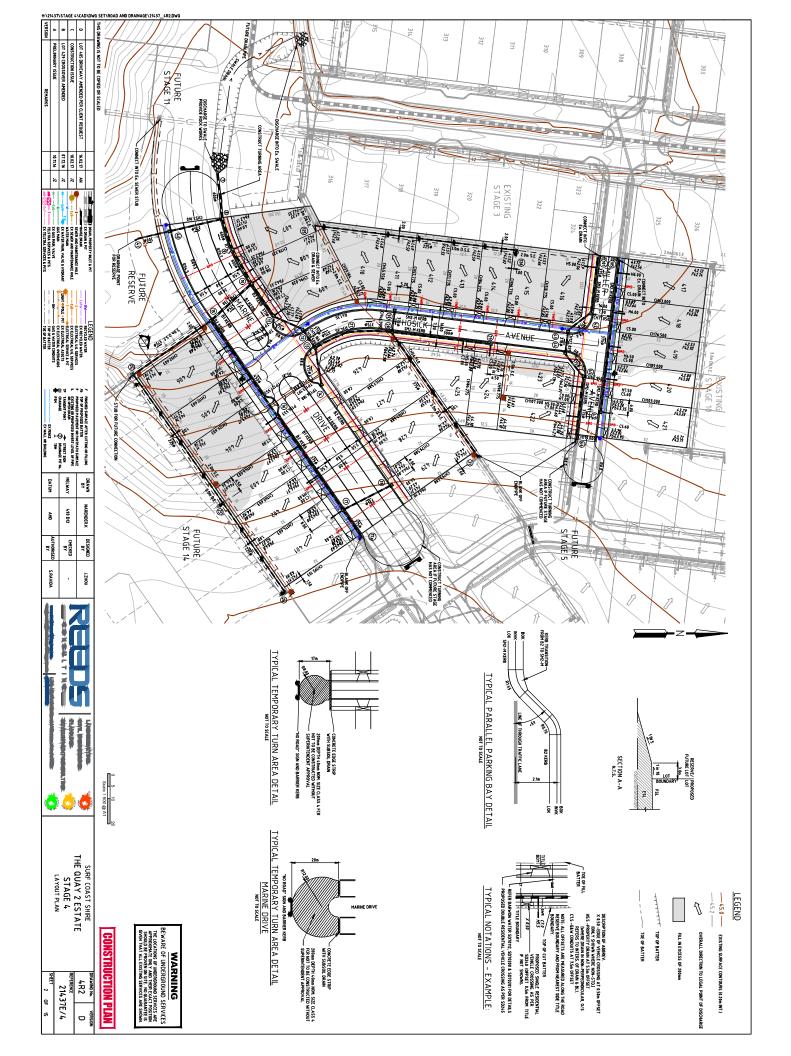
LEVEL 1 SURVEILLANCE & COMPACTION CONTROL OF EARTHWORKS

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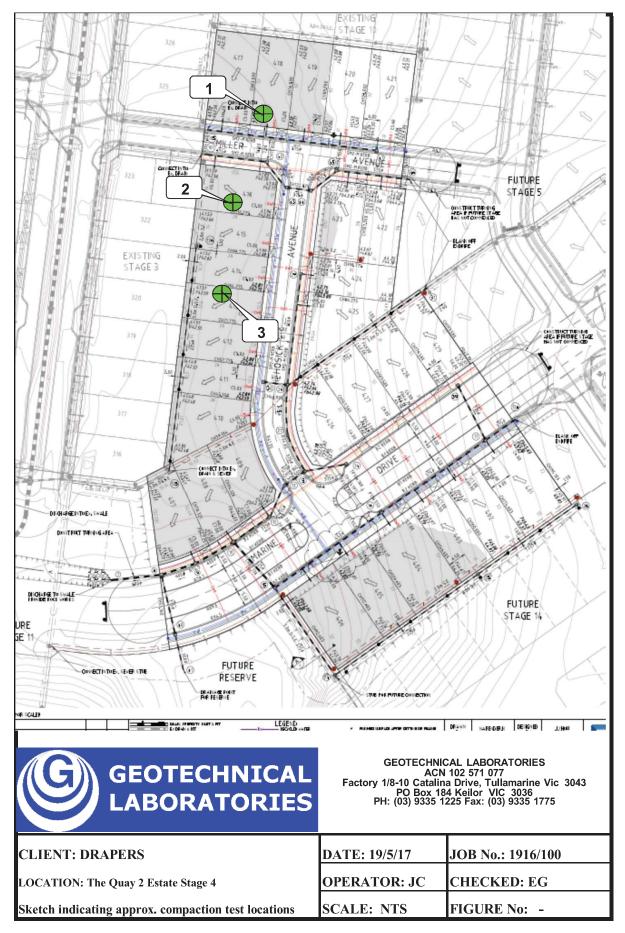


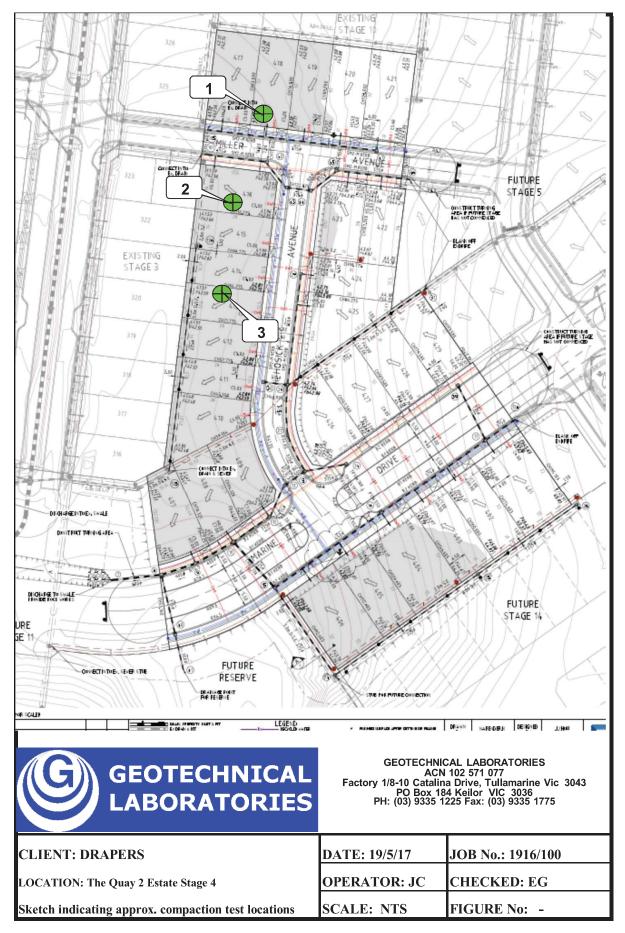
Level 1 Report The Quay 2 Stage 4



GEOTECH Factory 1/8-10 Cols DATE     DATE OF TESTS   TEST NUM.     19/05/17   1     19/05/17   2     19/05/17   3     -   -     A Hilf Rapid Cc     Soil Layer thick     Hilf Density Ra     Factory 1/8-10 Cc	Control   TEST LOCATION   REPORT NO.: #   1916/099   VIEW   DATE TEST   TEST LOCATION   REL TOP	REPOR LOC/ FIELD WET DENSITY (Vm <sup>3</sup> ) 2.00 2.15 2.15 2.15 1.98 1.98 1.98 1.98 5.15 4.4 6 4 a sample	REPORT NO.: #     LOCATION:     FIELD WET VWET (t/m³)   FIELD MOISTURE CONTENT (%)     2.00   19.0     2.15   15.0     1.98   17.5     -   - <tr td="">   -&lt;</tr>	HILF DENSITY RATIO (%) 98.0 98.0 98.0 98.0 98.0 101.0 - - - - - - - - - - - - - - - - - - -	1916/099     DRAPERS - The Quay 2 Estate, Stage 4     HILF DENSITY RATIO STANDARD (%)   STANDARD PCWD APCWD (%)   STANDARD OPTIMUM MOISTURE SETTING APCWD (%)   PROBE DEPTH MOIS SETTING CONTENT (mm)   VARI/ DEPTH MOIS SETTING CONTENT (mm)     98.0   2.04   19.0   175   0.0     101.0   2.13   14.5   175   0.0     100.5   1.97   20.0   175   0.5   0.0     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -     -   -   -   -   -   -   -     -   -   -   -   -   -   -   -	The Quay 2 Estate, Stage 4     VARI OPTIMUM MOISTURE CWD OPTIMUM CONTENT   VARI OPTIMUM DEPTH OPT SETTING DEPTH OPT (mm)   VARI OPT OPT OPT OPT (mm)     2.04   19.0   175   0.0     2.13   14.5   175   0.0     2.04   19.0   175   0.0     2.13   14.5   175   0.0     2.13   14.5   175   0.0     2.19   20.0   175   0.0     2.19   20.0   175   0.0     2.19   20.0   175   3.0     -   -   -   -   -     -   -   -   -   -     -   -   -   -   -     paction specimens sampled after   -   -   -     Ime: 11.15am   Finish Time: 1   -   -     Moisture Content:   AS 1289 5.7.1   Compaction Test:   AS 1289 5.7.1     Compaction for compliance with ISO/IEC 17025. The   Compaction Test:   AS 128	PROBE DEPTH SETTING (mm) 175 175 175 175 175 5 Samplee Finish Ti Finish Ti Finish Ti Finish Ti AS 1289 AS 1289	state, Stage 4   VARIATION PROBE CONTINUM DEPTH (mm) VARIATION FROM MOISTURE CONTENT   175 0.0 Drier 99.0   175 0.0 Drier 99.0   175 0.0 Drier 99.0   175 3.0 Drier 99.0   175 3.0 Drier 99.0   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -   - - - -	MOISTURE RATIO (%) 99.0 99.0 103.0 86.0 86.0 86.0 86.0	tabulate	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm) 400 600 
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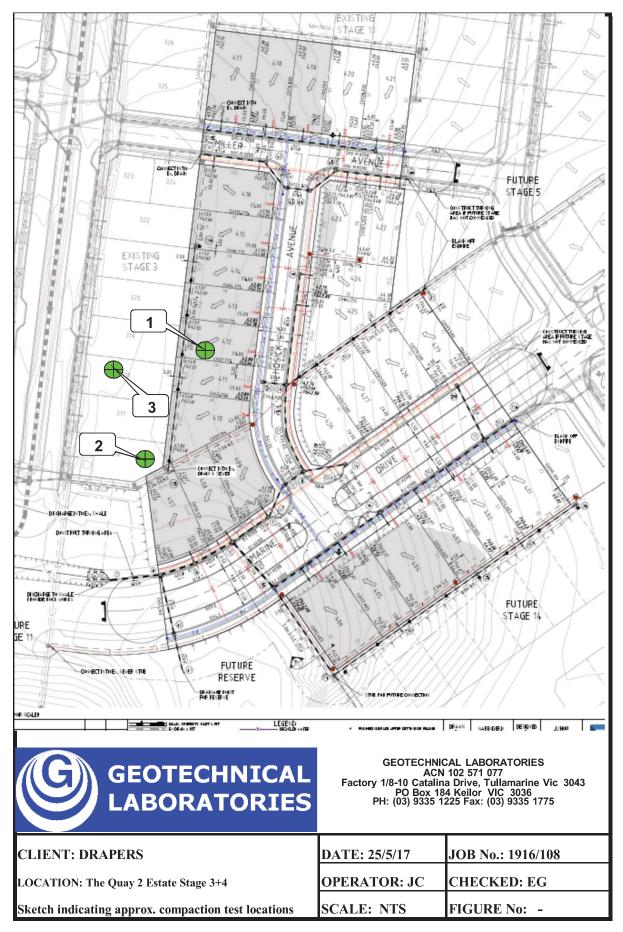
**DAILY SUMMARY - FIELD DENSITY TESTS** 





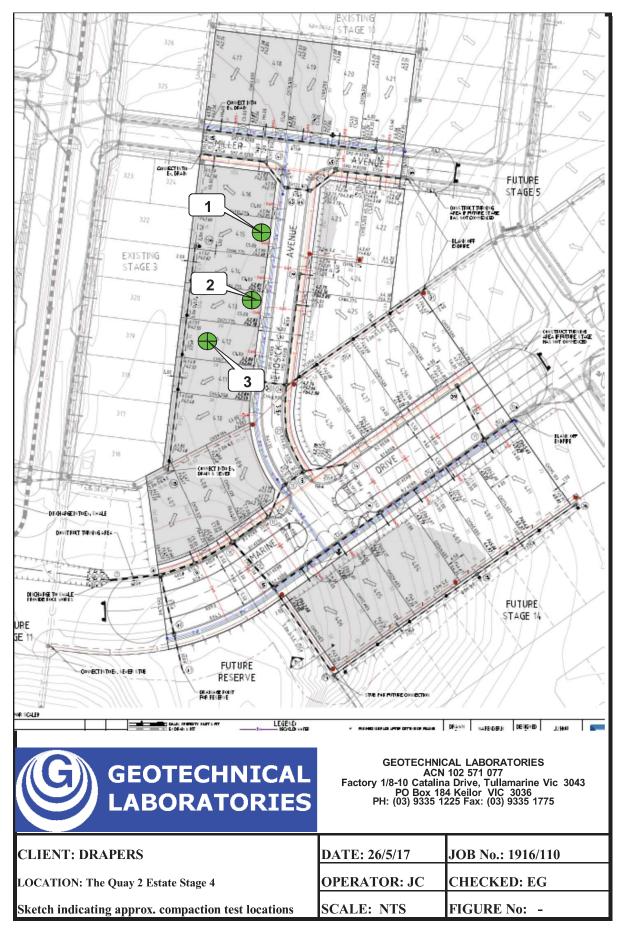
GE Factory 1/8 PO B	DTECH A( -10 Cata 203 202 PH	GEOTECHNICAL LABORATORIES ACM 102 571 077 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043 PO Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225 PH: (03) 9335 1225	REPORT NO.: LOCATION:	PORT NO.: #	1916/107 DRAPER	S - The C	1916/107 DRAPERS - The Quay 2 Estate Stage 3 + 4	ate Stac	je 3 + 4			-	
DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (Ưm³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
25/05/17	<b>_</b>		2.04	17.0	100.5	2.03	18.0	175	0.5 Drier	0 <u>.</u> 0	0	0	400
25/05/17	2		1.94	22.0	96.5	2.01	22.0	175	0.0 Drier	100.0	0	0	200
25/05/17	ω	Refer to #1916/108 for	1.94	24 <u>.</u> 0	101.0	1.91	26.5	175	2.5 Drier	90 <u>.</u> 5	0	0	0
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Hilf Density Field Dens	/ Rati ity, N	Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled - AS 1280 1.2.1 Clause 6 4/6/	f Adjustec	I (APCWD)	A Peak (P	CWD) Conv Accredited fc of the tests, c this documen		<b>Density AS</b> 1 ISO/IEC 1702 r measurement. Australian/Na	Density AS 1289 5.7.1 th ISO/IEC 17025. The results or measurements included in o Australian/National		S/A	SAM LOZA	itory)
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**DAILY SUMMARY - FIELD DENSITY TESTS** 



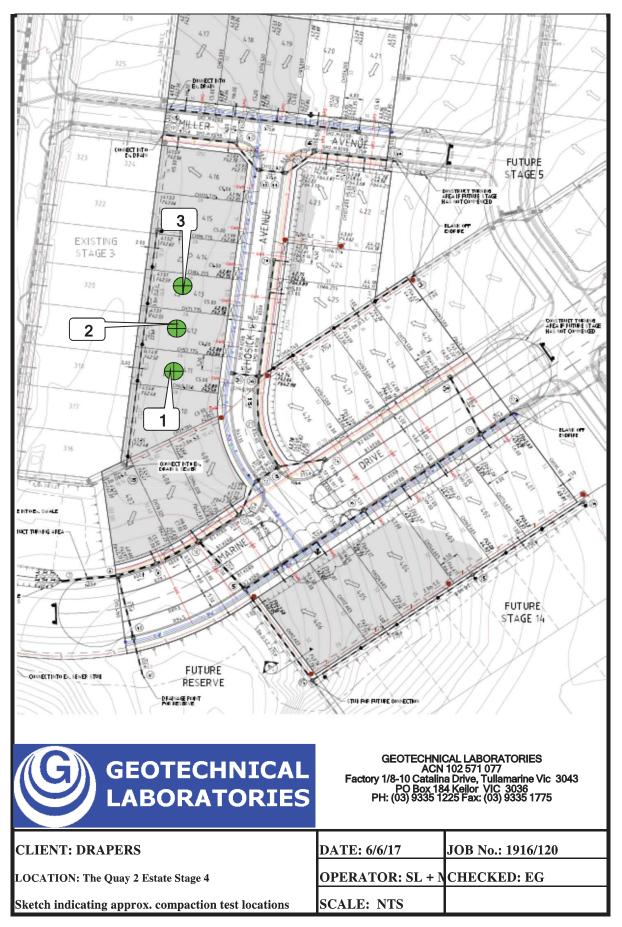
Pactory 1/ Factory 1/ DATE OF TESTS 26/05/17 26/05/17 26/05/17 26/05/17 26/05/17 26/05/17 A Hilf Rap	TEST NUM. NUM. TEST NUM. TEST NUM. PH 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Energy Lab Construction Structure	REPORT NO.: LOCATION: FIELD WET (Vm³) 2.08 2.08 2.08 2.08 2.08 1.96 26.0 1.95 20.0 1.95 20.0 - - - - - - - - - - - - -	EPORT NO.: # LOCATION: LOCATION: ET MOISTURE SITY CONTENT m <sup>3</sup> ) (%) 96 26.0 95 20.0 95 20.0 95 20.0 95 20.0	HILF DENSITY RATIO STANDARD (%) 102.5 99.0 99.0 - - - - - -	STANDARD PCWD APCWD APCWD (t/m³) 2.03 2.03 2.03 2.03 2.03 2.03 2.55 1.98 2.5 1.87 2.1.5 1.87 2.1.5 1.87 2.1.5 1.87 2.1.5 - - - - - - - - - Compaction specime Start Time: 1.35pm	1916/109     DRAPERS - The Quay 2 Estate Stage 4     NARPE DENSITY PENNIT RATIO (%)   STANDARD PCWD OR MOISTURE STANDARD PCWD OR MOISTURE STANDARD PCWD OR MOISTURE STANDARD PCWD MOISTURE STANDARD PCWD MOISTURE STANDARD STANDARD MOISTURE STANDARD STANDARD MOISTURE STANDARD MOISTURE STANDARD STANDARD MOISTURE STANDARD STANDARD STANDARD MOISTURE STANDARD S	ate Stag PROBE DEPTH SETTING (mm) 175 175 175 175 175 5 samplec Finish Tin Finish Tin	state Stage 4   VARIATION PROBE EEPTH SETTING (mm) VARIATION OPTIMUM MOISTURE CONTENT MOISTURE (%)   175 175 0.5 Wetter 102.0   175 1.5 Drier 93.5   - - - -   - - - -   - - - -   - - - -   ns sampled after compaction - -   Finish Time: 1.55pm -	MOISTURE RATIO (%) 102.0 93.5 93.5 93.5 - - - -	WET       +19mm       (%)       0       0	ed on this	APPROX. DEPTH BELOW FINISH LEVEL (mm) 400 200 200 
26/05/17	1		2.08	26.0	102.5	2.03	25.5	175	0.5 Wetter	102.0	0	0	400
26/05/17	N		1.96	26.0	99.0	1.98	24.5		1.5 Wetter	105.0	0	0	400
26/05/17	ω	Refer to #1916/110 for	1.95	20.0	104.0	1.87	21.5	175		93.5	0	0	200
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	Onsit Test s	e Clay Fill ites located - Geolab Procedure 4, P	art 4.4			Compaction Start Time:	le	s samplec Finish Tin	l after comp ne: 1.55pm	paction.			
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Soil Layer Hilf Densit	thicki y Rat	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet	f Adjustec	I (APCWD)	) & Peak (P	Compa CWD) Conv		AS 1289 : Density AS	AS 1289 5.7.1 Density AS 1289 5.7.1	-		Y	
Field Dens Materials ≎	sity, N Samp	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled ∶AS 1289 1.2.1 Clause 6.4(b) ⊛	Ċ			Accredited fo of the tests, c this documen standards. T full. <u>NATA Acc</u>		1 ISO/IEC 170: r measurement Australian/Na not be reprodu 110ry Numby	25. The results s included in tional tced except in		SA Approv Issue [	SAM LOZA (Approved Signatory) Issue Date: 2/6/2017	itory) <sup>117</sup>

**DAILY SUMMARY - FIELD DENSITY TESTS** 



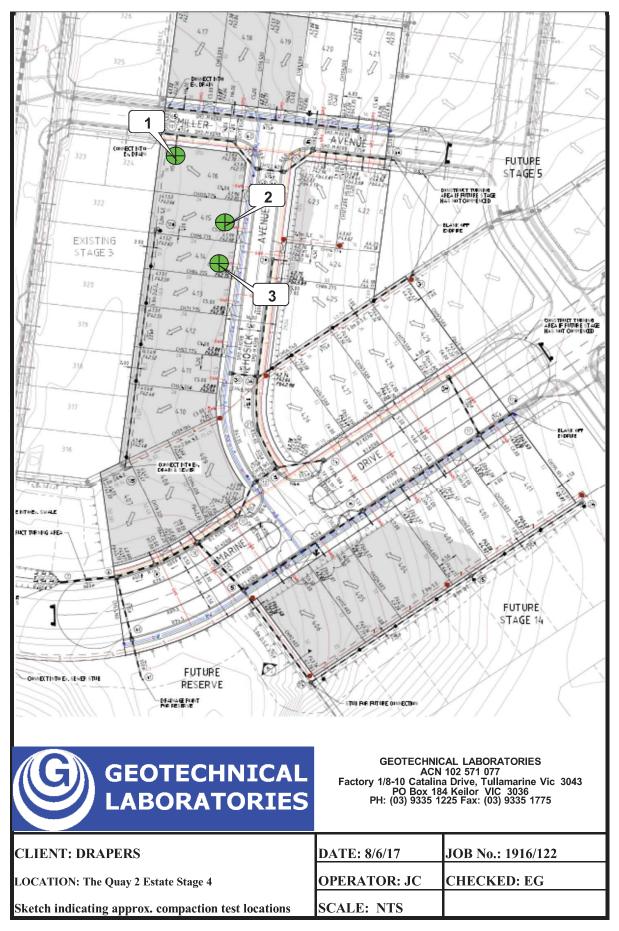
<b>GEO</b> Factory 1/8-1 PO Boo	GEOTECHNICAL LABORATORIES ACUTI2 57107: Factory 1/8-10 Catalina Drive: Tullamarine Vic 3043 PO Box 2633 Gladstone Park VIC 3043 PH: (03) 9335 1225	REPORT NO.: LOCATION:	*	1916/119 DRAPER	S - The C	1916/119 DRAPERS - The Quay 2 Estate Stage 4	ate Stac	je 4				
DATE T OF N TESTS	TEST NUM. TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
6/06/17		2.05	27.5	102.0	2.02	28.0	175	0.5 Drier	98 <u>.</u> 0	0	0	0
6/06/17		2.09	21.0	105.5	1.98	23.5	175	2.5 Drier	89 <u>.</u> 5	0	0	0
6/06/17	3 <b>Refer to #1916/120 for</b>	2.06	21.5	102.5	2.01	20.5	175	1.0 Wetter	106.0	0	0	0
	- locations.				I	ı		'		,	,	
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NOTES: C	Clay Fill Ex. Onsite Test sites located - Geolab Procedure 4, Part 4.4	art 4.4			Compaction specime Start Time: 9.00am	n specimen: 9.00am F	s samplec =inish Tim	ns sampled after compaction Finish Time: 9.20am	action.			
A Hilf Rapid	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report. $\int \int$	a sample	taken from	each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Co AS 1289 ;	mpaction P 2.1.1	arameters	tabulate	ed on thi イン	s Report.
Soil Layer th Hilf Density	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet	f Adjusted	I (APCWD)	& Peak (P	Compa CWD) Conv		AS 1289 : Density AS	AS 1289 5.7.1 Density AS 1289 5.7.1		$\leq$	Y	
Field Densit Materials Sa ☆	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled:AS 1289 1.2.1 Clause 6.4(b) ☆	, S				Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full. <u>NATA Accredited Laboratory Number 14561</u>	1 ISO/IEC 1702 r measurement Australian/Na not be reprodu atory Numbo	55. The results s included in tional uced except in e <u>r 14561</u>		SAI Approv Issue Da	SAM LOZA (Approved Signatory) Issue Date: 15/6/2017	1 <b>tory)</b> 517

**DAILY SUMMARY - FIELD DENSITY TESTS** 



GE Factory 1/8 PO B	DTECH AC DX 10 Cata OX 2693 PH:	GEOTECHNICAL LABORATORIES ACU 105 571 07: Pactory 1/8-10 Catalina Dive, Tullamarine Vic 90 Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225 PH: (03) 9335 1225	LOCATION:	#	1916/121 DRAPER	STANDARD	1916/121   DRAPERS - The Quay 2 Estate Stage 4   HILF   STANDARD   STANDARD	ate Sta	ge 4				
DATE - OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)		MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
8/06/17	<u> </u>		2.05	21.0	105.0	1.95	23.0	175	2.0 Drier	90.5	0	0	0
8/06/17	2		2.00	22.0	102.0	1.96	24.0	175	2.0 Drier	92.0	0	0	0
8/06/17	ω	Refer to #1916/122 for	2.10	21.5	106.0	1.98	24.0	175	2.5 Drier	0.06	0	0	0
	ı	locations.									ı		
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				1							ı		
NOTES: (	Dnsit	Onsite Clay Fill Test sites located - Geolab Procedure 4, Part 4.4	art 4.4			Compaction specime Start Time: 12.10pm		s samplec Finish Ti	ns sampled after compaction Finish Time: 12.30pm	action. m			
A Hilf Rapi	d Cor	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report. $\int \int$	a sample	taken from	each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Co AS 1289	mpaction P 2.1.1	arameters	tabulat	ed on this $\int_{-\infty}^{\infty}$	
Soil Layer t Hilf Density	hickr Rati	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet	f Adjustec	I (APCWD)	& Peak (P	Compa CWD) Conv		AS 1289 Density AS	AS 1289 5.7.1 Density AS 1289 5.7.1		$\leq$	Y	
Field Densi Materials S ₩	ity, N ampl	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled: AS 1289 1.2.1 Clause 6.4(b) ₩	Ċ				Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full.	) ISO/IEC 170; 7 measurement Australian/Na not be reprodi	25. The results s included in tional tced except in	 	SA Approv Issue D	SAM LOZA (Approved Signatory) Issue Date: 16/6/2017	itory) )17
*					COMPETENCE		NATA Accredited Laboratory Number 14561	utory Numb	<u>er 14561</u>				

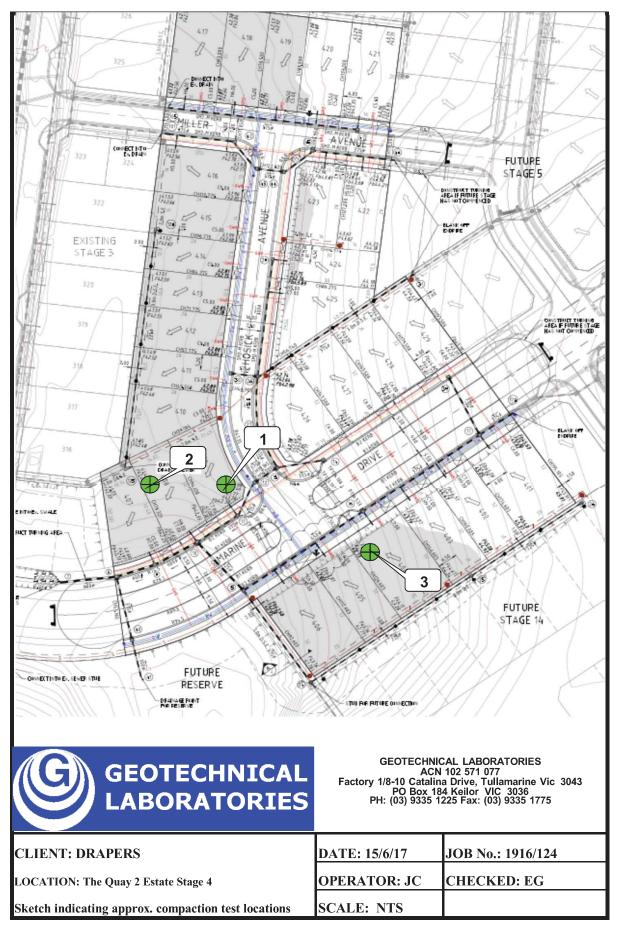
GEOTECHNICAL LABORATORIES



Rev: 13 SS3092-1 April 2017

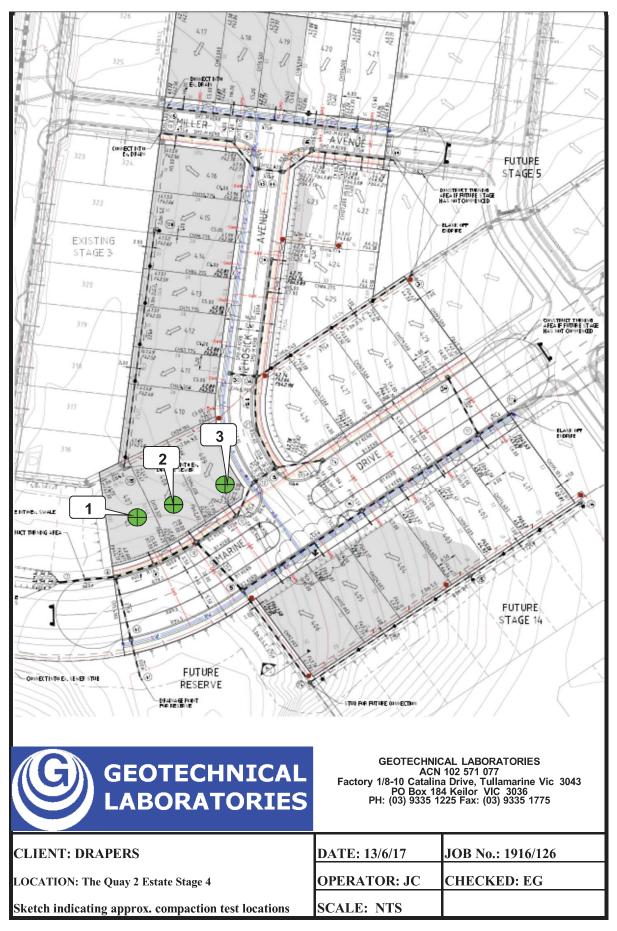
**DAILY SUMMARY - FIELD DENSITY TESTS** 

GEOTECHNICAL LABORATORIES



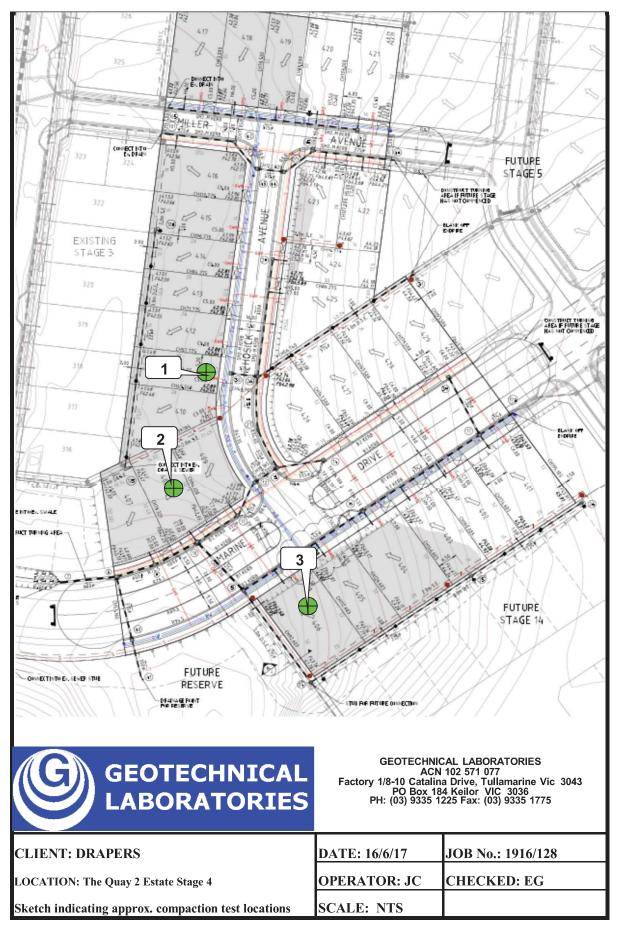
GEO Factory 1/8-1 PO Box	ECHNICA ACN 11 2693 Glad PH: (03	GEOTECHNICAL LABORATORIES ACU 102 571 0177 Pactory 1/8-10 Catalina Drive, Tullamarine Vic 3043 PO Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225	REPOR LOC/	LOCATION:	1916/125 DRAPER	S - The C	1916/125 DRAPERS - The Quay 2 Estate Stage 4	ate Stag	je 4				
DATE TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (Ưm³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (Ưm³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
13/06/17	<u> </u>		1.97	21.0	95.5	₩ 2 <u>.06</u>	21.5	175	0.5 Drier	97.5	ъ	0	1200
13/06/17	2		2.04	22.0	98.0	2.08	20.0	175	1.5 Wetter	108.5	0	0	1000
13/06/17	3 <b>R</b>	Refer to #1916/126 for	2.04	23 <u>.</u> 0	101.0	2.01	23.0	175	0.0 Drier	0 <u>.</u> 66	0	0	800
ı	I	upprox. test site locations.									ı		
ı	I										I		
ı	1			•	-	-	•	•		ı			
NOTES: O	nsite C est sites	Onsite Clay Fill Test sites located - Geolab Procedure 4, Part 4.4	art 4 <u>.</u> 4			Compaction specime Start Time: 12.45pm		s samplec Finish Ti	ns sampled after compaction Finish Time: 1.10pm	paction. n			
A Hilf Rapid	Comp	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.	a sample	taken from	ı each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Co AS 1289 ;	mpaction F 2.1.1	<sup>9</sup> arameters	tabulat	ed on this $\int_{-\infty}^{\infty}$	s Report.
Soil Layer thickness: 200mm	licknes	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet	f Adiuster		& Peak (P	Compa CWD) Comp		AS 1289 ( Density AS	AS 1289 5.7.1 Density AS 1289 5 7 1	-		4	,
Field Densit	y, Nucl	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)	) )			Accredited for of the tests, c this documen standards. T		not be reprodu	25. The results s included in tional uced except in		SA Approv	SAM LOZA (Approved Signatory)	itory)
	(				ACCREDITED FOR TECHNICAL COMPETENCE		NMTA Accredited Laboratory Number 14561	atory Numbe	er 14561				

**DAILY SUMMARY - FIELD DENSITY TESTS** 



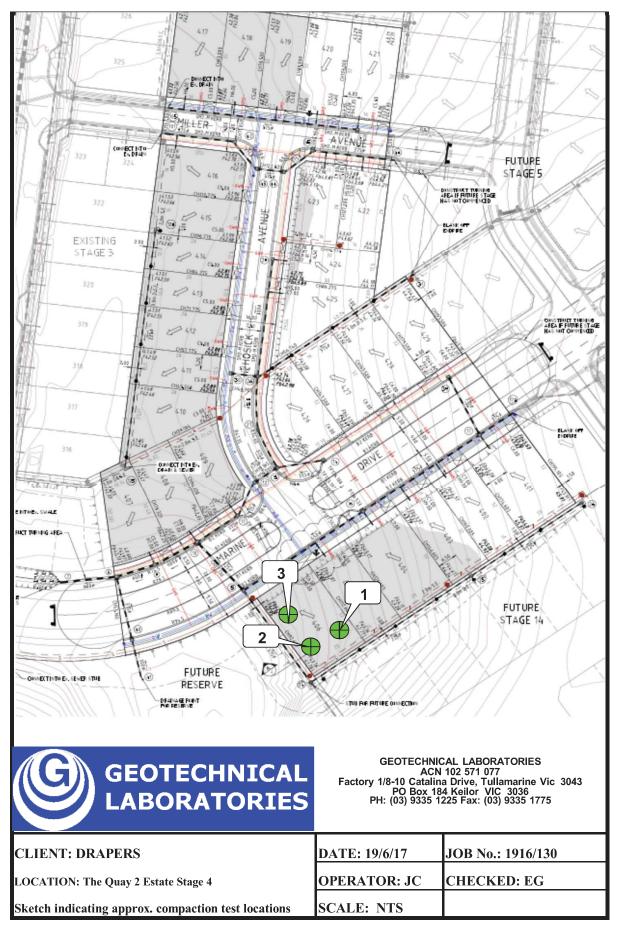
CEP Factory 18-1 DATE OF TESTS 16/06/17 16/06/17 16/06/17 16/06/17 16/06/17 16/06/17 A Hilf Rapid A Hilf Rapid Field Density	REPORT NO: # 1916/127 LOCATION: DRAME STANDARD OF TEST REPORT NO: # 1916/127 LOCATION: DRAME STANDARD OF TEST LOCATION INUM: FILD DATE INUM: FILD TEST LOCATION INUM: FILD DATE INUM: FILD TEST LOCATION INUM: FILD DENSITY CONTENT INUM: FILD DENSITY CONTENT INUM: STANDARD DENSITY (%) INUM: STANDARD OF MOISTURE CONTENT   16/06/17 1 1 Stant Time: 10:128 for 2.16 16.5 98.5 2.11 16.5   16/06/17 2 Refer to #1916/128 for 2.14 16.5 98.5 2.14 15.5   16/06/17 2 Refer to #1916/128 for 2.14 16.0 99.5 2.14 15.5   16/06/17 2 1 16.5 99.5 2.14 15.5   16/06/17 2 2.14 16.0 16.0 -   16/06/17 2 2.14 16.5 99.5 2.14 15.5   16/06/17 2 2 1	REPOF LOC FIELD WET DENSITY (Vm <sup>3</sup> ) 2.14 e 2.15 2.15 2.14 e 4 out on a sample 5.8.1	REPORT NO.: #     LOCATION:     FIELD WET (t/m³)   FIELD MOISTURE CONTENT (%)     2.08   16.5     2.15   16.5     2.14   16.0     -   -     -	HILF DENSITY RATIO STANDARD (%) 99.5 99.5 99.5 - - - - - - - - - - - - - - - - - - -	STANDARD PCWD APCWD APCWD STANDARE OPTIMUM MOISTURE CONTENT (f/m³)   2.11 16.5   2.14 15.5   2.14 15.5   2.14 15.5   2.11 16.0   2.11 16.5   2.11 16.5   2.11 15.5   2.11 15.5   2.14 15.5   2.14 15.5   2.11 16.0   2.12 16.0   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.14 15.5   2.15 -   2.16 -   2.17 -   2.18 -   2.19 -   2.10 -   2	1916/127     DRAPERS - The Quay 2 Estate Stage 4     NANDARD PCWD OR APCWD OR APCWD (Vm <sup>9</sup> )   VARIATION FROM DETHING OPTIMUM SETTING OPTIMUM SETTING OPTIMUM SETTING OPTIMUM (%)     98.5   2.11   16.5   175   0.0 Drial MOISTURE SETTING OPTIMUM S	PROBE DEPTH SETTING (mm) 175 175 175 175 175 175 5 175 175 175 1	state Stage 4PROBE DEPTH SETTING (mm)VARIATION FROM OPTIMUM (%)MOISTURE RATIO (%)WET HURATIO (%)WET HURATIO (%)WET HURATIO (%)APPROX I BELOW F BELOW F (%)1750.0Drier (%)100.000001750.0Drier (%)101.5000001750.0Wetter I101.5000001750.0Wetter I101.500001750.0Wetter I101.500001750.0Wetter I101.500001750.0Wetter I101.500001750.0Wetter I101.500001750.0Wetter I101.500001750.0Wetter I101.500001750.0I1750.0Wetter I1750.0Wetter I1750.0Wetter I1750.0Wetter I1750.0Wetter I <th>MOISTURE RATIO (%) 101.5 Parameters</th> <th>tabulate</th> <th>T     WET       10m     +37.5mm       0     0       0     0       -     -       -     -       -     -       -     -       -     -       SAM LOZA     SAM LOZA</th> <th>APPROX. DEPTH BELOW FINISH LEVEL (mm) 600 600 </th>	MOISTURE RATIO (%) 101.5 Parameters	tabulate	T     WET       10m     +37.5mm       0     0       0     0       -     -       -     -       -     -       -     -       -     -       SAM LOZA     SAM LOZA	APPROX. DEPTH BELOW FINISH LEVEL (mm) 600 600 
Soil Layer the Hilf Density Field Densite Materials Sa	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation ,Hilf Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)	tion ,Hilf Adjuste 5.8.1 se 6.4(b)	d (APCWD)	) & Peak (P	Moistu Comp CWD) Conv Accredited for a file tests, of this document	Moisture Content: AS 1289 2.1.1 Compaction Test: AS 1289 5.7.1 VD) Converted Wet Density AS 1289 5. Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National	AS 1289 AS 1289 AS 1289 Density AS Density AS the ISO/IEC 170 reasurement Australian/Na	2.1.1 2.7.1 5.7.1 5.1289 5.7 5.1289 5.7 5. The results 25. The results included in tional		Approve	(Approved Signatory)	itory)
*				COMPETENCE		NATA Accredited Laboratory Number 14561	atory Numb	<u>er 14561</u>				

DAILY SUMMARY - FIELD DENSITY TESTS



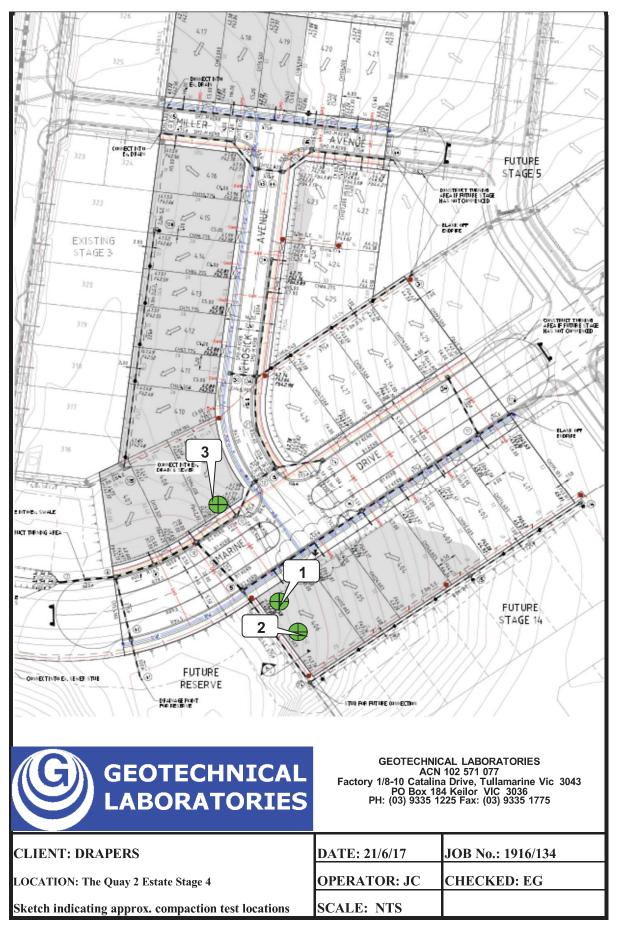
CHINCAL LABORATORIES     Cadema Drive, 102571 077     Cadema Drive, 102571 07     PH: (03) 9335 1225     PH: (03) 9335 1225     Refer to #1916/130 for     approx. test site     locations.     locations.     site Clay Fill     sites located - Geolab Procedure 4, Pactor 100     compaction test was carried out on a     compaction test was carried out on a     Nuclear Gauge: AS 1289 5.8.1	REPOR LOC/ FIELD WET DENSITY (t/m <sup>3</sup> ) 2.06 2.06 2.06 2.06 2.20 2.20 - - - - - - Adjusted	FIELD FIELD CONTENT (%) 18.5 18.5 18.5 18.5 17.0 - - - - - - - - - - - - - - - - - - -	HILF DRAPER HILF PENSITY RATIO 98.0 98.0 103.0 - - - - - - - - - - - - - - - - - - -	STANDARD PCWD APCWD (t/m <sup>3</sup> ) 2.11 2.11 2.11 2.11 2.11 2.11 2.11 2.1	STANDARD OPTIMUM MOISTURE CONTENT (%) 17.0 17.0 10.30am 10.30am action to obta re Content: re Content: re content:	PROBE DEPTH SETTING (mm) 175 175 175 175 175 175 5 Samplec Finish Ti Finish Ti AS 1289 AS 1289 AS 1289	VARIATION FROM OPTIMUM MOISTURE CONTENT (%) 0.0 Wetter 0.5 Wetter 0.0 Drier - - - - - - - - - - - - - - - - - - -	MOISTURE RATIO (%) 101.5 104.0 100.0 - - - - - - - - - - - - - - - - - -	WET +19mm (%) 0 0 0 0 0 - - - - - - - - - - - - - -	WET +37.5mm (%) 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	APPROX. DEPTH BELOW FINISH LEVEL (mm) 1000 800 
ckness: 200mm tatio and Hilf Moisture Variation ,Hilf , Nuclear Gauge: AS 1289 5.8.1 , noled : AS 1289 1.2.1 Clause 6.4(b	Adjusted	(APCWD)	& Peak (P	Moistu Compa CWD) Conv Accredited for of the tests, c this documen	re Content: action Test: /erted Wet [ alibrations and/o u are traceable to	AS 1289 AS 1289 Density AS h ISO/IEC 170. r measurement Australian/Na	2.1.1 5.7.1 S 1289 5.7. 25. The results is included in trional		SAL		, itory)
					his document may redited Labor	not be reprodi atory Numb	uced except in er 14561		Issue Da	ate: 26/6/2	017
	GEOTE CACK USE STATUS     PATE OF TEST   TEST     TESTS   TEST     19/06/17   1     19/06/17   2     19/06/17   2     19/06/17   2     19/06/17   3     Refer to #1916/130 for     19/06/17   1     19/06/17   2     Refer to #1916/130 for     19/06/17   3     Refer to #1916/130 for     19/06/17   1     19/06/17   1     19/06/17   2     Refer to #1916/130 for     19/06/17   1     19/06/17   2     Refer to #1916/130 for     19/06/17   1     19/06/17   2     Refer to #1916/130 for     19/06/17   1     19/06/17   1     Refer to #1916/130 for     Intervice   10 cattions.     Intervice   Intervice     Intervice   Intervice     Intervice   Intervice     Intervice   Intervice     Intervice   Intervice	GEOTECHNICAL LARDOPTIONES ACM de STATUT TEST   REFOR THE STATUT Season and the Park VC 3043   REPOR Subserversion per (03) 935 125   REPOR Subserversion per (03) 935 125   REPOR Subserversion per (03) 935 125   Report PER Subserversion per (03) 935 125   Report PER Subser	Construction   REPORT NOL:   #     Construction   TEST LOCATION   FIELD DENSITY   FIELD MOISTURE CONTENT   FIELD CONTENT   FIELD	Cathering SPR Cases   REPORT NO.: # 1916/12S     Cases and balance Tuber Tuber States   TEST LOCATION   FIELD VIC 1903 125   LOCATION:   DRAPER     ST   TEST LOCATION   TEST LOCATION   VIC 1910   VIC 1910   PELD DENSITY   PIELD DENSITY	CHINCAL LABORATORIES Destinations Table of State and State State Test LOCATION   REPORT NO.: # 1916/129 DRAPERS- The Q     ST MM.   TEST LOCATION   FIELD WET DENSITY   FIELD CONTENT   FIELD CONTENT   HILF STANDARD RATIO CONTENT   STANDARD RATIO STANDARD   HILF POWD OR ADOWN   STANDARD POWD (Imm)   HILF STANDARD   STANDARD POWD (Wm?)     1   TEST LOCATION   BLOCATION   FIELD (Umm?)   FIELD CONTENT   HILF STANDARD   STANDARD POWD (%)   HILF STANDARD   STANDARD POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   OR STANDARD   POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   POWD (%)   OR STANDARD   POWD (%)   OR STANDARD   POWD (%)   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   OR STANDARD   POWD (Wm?)   Stat Time: Compaction Is Stat Time: Compaction Is Stat Time: Compaction Is Stat Time: Compaction Is State State State St	Participant TEST LOCATION FIELD Previous statute FIELD TEST LOCATION FIELD Previous statute FIELD TEST LOCATION FIELD Previous statute FIELD NOSTURE TEST LOCATION FIELD Previous statute FIELD Previous statute FIELD Previous statute FIELD TAMPERS- The Quay 2 Est   006/17 19/06/17 2 1 TEST LOCATION FIELD Incentions. FIELD Previous statute FIELD Previous statute Previous Statute Previous Statute FIELD Previous Statute Previous Statute Previous Statute FIELD Previous Previous Statute Previous Statute Previous Statute FIELD Previous Previous Statute Previous Previous Statute FIELD Previous Previous Statute Previous Previous Statute FIELD Previous Previous Prev	Consist and the propertional states   REPORT NO.: #   1916/129     ST Per (00) 938 1222   TEST LOCATION   FIELD DENSITY   FIELD NI.   FIELD DENSITY   STANDARD DENSITY   STANDARD POWD OPTIMUM (Wm?)   STANDARD POWD WOISTURE (%)   STANDARD POWD WOISTURE STANDARD POWD (Wm?)   STANDARD WOISTURE STANDARD POWD WOISTURE STANDARD POWD (Wm?)   STANDARD WOISTURE STANDARD POWD WOISTURE STANDARD STANDARD POWD WOISTURE STANDARD POWD STANDARD POWD STANDARD POWD STANDARD STANDARD POWD STANDARD STANDARD POWD STANDARD STANDA	REPORT NO:: # 1916/129 DECATION: DECATION:	Ended Laboration State   REPORT NO.: #   1916/129     State State Stage 4   DCATION:   DRAPERS- The Outay 2 Estate Stage 4     State State Stage 4   DRAPERS- The Outay 2 Estate Stage 4     Test LocATION   Refer to #1916/130 for approx. test site locations.   FELD VIET   FELD (Imm)   FSTADARD CONTENT   STADARD PCVVD   State Stage 4     1   2.06   18.5   97.5   2.11   18.0   175   0.0   Weter (%)   Mostrue (%)     2   2.06   18.5   98.0   2.10   17.5   175   0.0   Weter (%)   104.0     1   -	Employation   REPORT NO:: #   1916/129     ST   TEST LOCATION   DRAPERS- The Curay 2 Estate Stage 4     ST   TEST LOCATION   FIELD WET (Wn)   FIELD (Wn)   FIELD WET (%)   FIELD NATO (%)   FIELD ENSITY (%)   FIELD ENSITY (%)   FIELD ENSITY (%)   FIELD ENSITY (%)   FIELD WET (%)   VAIATON (Wn)   PROBE PROM (Wn)   PROBE ORTMANA (Wn)   PROBE PROM (Wn)   PROBE PROM (WN)	REPORT NO:: # 1916/129     IDRAPERS- The Quay 2 Estate Stage 4     IDRAPERS- The Quay 2 Estate Stage 4     FEED Were (um?)   FEED NOISTURE (%)   HILF STANDARD STANDARD (Um?)   STANDARD OR NOISTURE (%)   STANDARD PCWD STANDARD (Um?)   STANDARD OPTIMUM (%)   PROBE PCWD NOISTURE (%)   VARIATION PCWD (%)   Were PCWD STURE (%)   VARIATION PCWD (%)   Were PCWD (%)   VARIATION PCWD (%)   VARIA

**DAILY SUMMARY - FIELD DENSITY TESTS** 



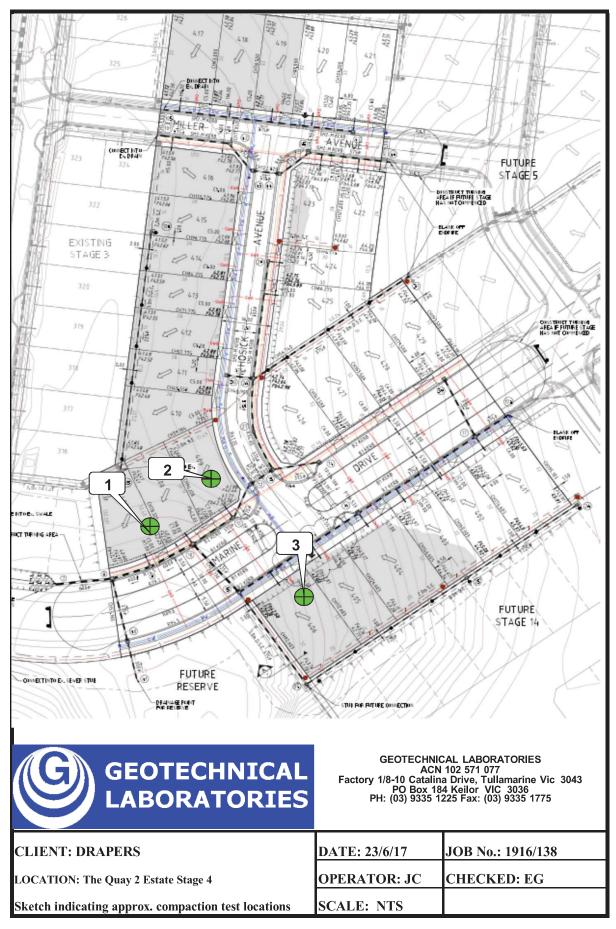
GEC Factory 1/8- PO Bo	NTECHN AC 10 Cata x 2693 x 2693 PH:	GEOTECHNICAL LABORATORIES ACN 102 571 077 Factory 18-10 Catalina Drive, Tullamarine Vic 3043 PO Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225	REPOR LOC/	REPORT NO.: # LOCATION:	1916/133 DRAPERS	S I	The Quay 2 Estate Stage 4	ate Staç	ye 4				
DATE T OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (Ưm³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
21/06/17			1.94	25 <u>.</u> 5	97.5	2.00	26.5	175	1.0 Drier	97.0	0	0	600
21/06/17	2		1.98	24.5	98.5	2.01	24.5	175	0.0 Drier	0.66	0	0	400
21/06/17	ω	Refer to #1916/134 for	1.96	23.5	100 <u>.</u> 0	1.96	25.0	175	1.0 Drier	95 <u>.</u> 0	0	0	200
•	ı	upprox. test sue locations.	ı	1	•		-	ı		•		1	ı
ı	I								•				1
1	1		1		•		•		•	•		1	I
NOTES: II	npor est si	Imported Clay Fill Ex. Armstrong Creek Test sites located - Geolab Procedure 4, Part 4.4	k art 4 <u>.</u> 4			Compaction specime Start Time: 10.02am	Compaction specimens sampled after compaction Start Time: 10.02am Finish Time: 10.21am	s samplec Finish Tir	sampled after compa Finish Time: 10.21am	n n			
A Hilf Rapio	Cor	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report. Moisture Content: AS 1289 2.1.1 $\int_{-\infty}^{\infty}$	a sample	taken from	each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Co AS 1289 ;	mpaction P 2.1.1	arameters	labulat	ed on thi アっ	s Report.
Soil Layer t Hilf Density	hickr Rati	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1	f Adjustec	I (APCWD)	& Peak (P	Compa CWD) Conv	Compaction Test: AS 1289 5.7.1 ) Converted Wet Density AS 128	AS 1289 : Density AS	5.7.1 S 1289 5.7.1		$\leq$	4	
Field Densi Materials S ₩	ampl	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled:AS 1289 1.2.1 Clause 6.4(b) ☆	Ē				Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full. <u>NATA Accredited Laboratory Number 14561</u>	1SO/IEC 170: 7 measurement: Australian/Na not be reprodu not be reprodu	55. The results s included in tional teed except in tee <u>r 14561</u>		SA Approv Issue E	SAM LOZA (Approved Signatory) Issue Date: 26/6/2017	atory) 017

GEOTECHNICAL LABORATORIES

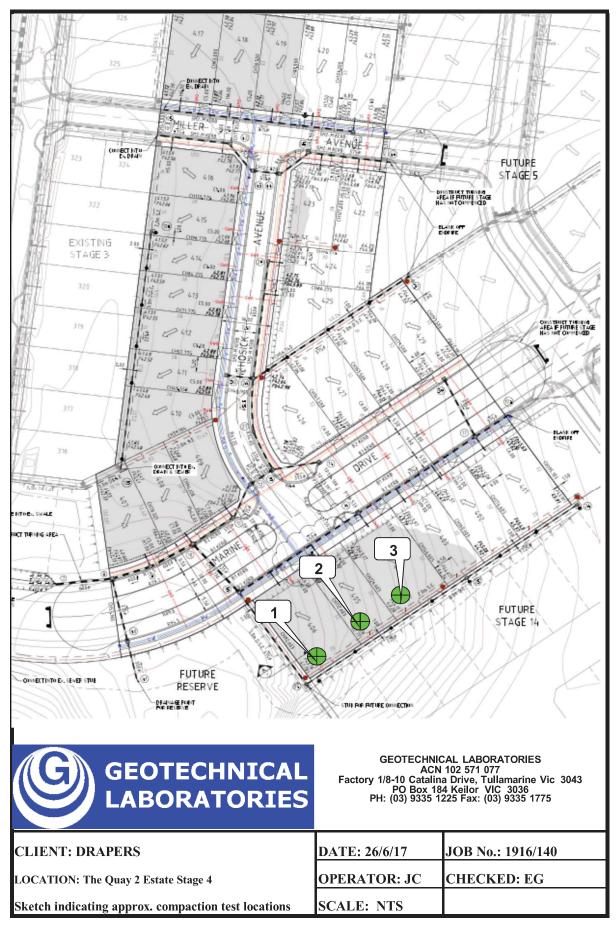


Factory 1/ PO P	<b>OTECH</b> 3-10 Cata box 2693 PH	GEOTECHNICAL LABORATORIES ACN 102 571 077 Factory 18-10 Catalina Drive, Tullamarine Vic 3043 PO Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225	REPOR	REPORT NO.: # LOCATION:	1916/137 DRAPERS -	Ŭ I	The Quay 2 Estate Stage 4	ate Stac	je 4				
DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
23/06/17	-		2.11	19 <u>.</u> 0	102.5	2.05	19.0	175	0.0 Drier	100.0	0	0	0
23/06/17	2		1.96	24.0	97.5	2.01	23.5	175	0.0 Wetter	101.0	0	0	0
23/06/17	ω	Refer to #1916/138 for	2.00	22.5	100.5	1.99	22.5	175	0.0 Drier	100.0	0	0	200
	1	<i>locations</i> .			-	-		•	•	•		1	1
	ı					I			•		1		1
I	ı		•	•	-	-	•	-	•	•	ı	1	I
NOTES:	Impo Test s	Imported Clay Fill Ex. Armstrong Estate Test sites located - Geolab Procedure 4, Part 4.4	le art 4.4			Compaction specime Start Time: 10.24am	Compaction specimens sampled after compaction Start Time: 10.24am Finish Time: 10.45am	s samplec Finish Ti	sampled after compa Finish Time: 10.45am	action. m			
A Hilf Rap	id Co	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report. Moisture Content: AS 1289 2.1.1 $\int_{-\infty}^{-\infty}$	a sample	taken from	ı each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Co AS 1289 ;	mpaction P 2.1.1	arameters	tabulat	ed on thi アっ	s Report.
Soil Layer Hilf Densit	thickr y Rat	Soil Layer thickness: 200mm Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1	f Adjustec	I (APCWD)	& Peak (P	Compa CWD) Conv	Compaction Test: AS 1289 5.7.1 ) Converted Wet Density AS 128	AS 1289 : Density AS	5.7.1 \$ 1289 5.7.1		$\leq$	Y	
Field Dens Materials \$ ₩	sity, N Samp	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled:AS 1289 1.2.1 Clause 6.4(b) ☆	Č				Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full. <u>NATA Accredited Laboratory Number 14561</u>	1 ISO/IEC 170: r measurement Australian/Na not be reprodu not be reprodu	55. The results s included in tional teed except in <u>er 14561</u>		SA Approv Issue I	SAM LOZA (Approved Signatory) Issue Date: 3/7/2017	atory) 917

GEOTECHNICAL LABORATORIES

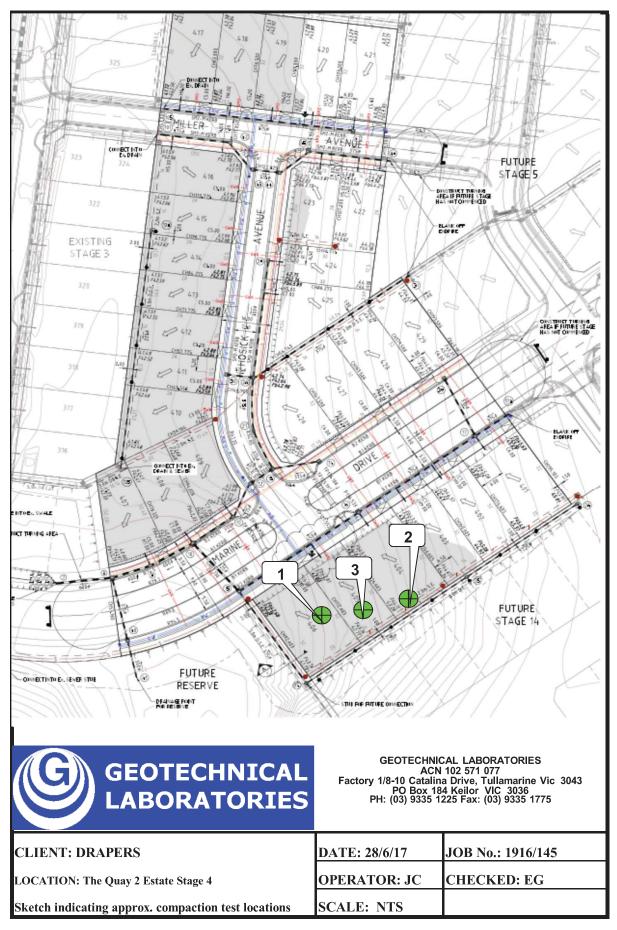


GEOTECHNICAL LABORATORIES



GE Factory 1/8 PO E	:OTECHI A0 2693-10 Cata box 2693 PH	GEOTECHNICAL LABORATORIES ACU 102 571 07: Pactory 1/8-10 Catalina Drive, Tullamarine Vic 90 Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225 PH: (03) 9335 1225		LOCATION: #	1916/144 DRAPER	STANDARD	1916/144 DRAPERS - The Quay 2 Estate Stage 4 HILF STANDARD STANDARD DECE	ate Stag	Je 4				
DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
28/06/17	-		2.20	15 <u>.</u> 5	106.5	2.06	16.5	175	1.0 Drier	94.5	0	0	600
28/06/17	2		2.10	13.0	101.5	2.07	14.5	175	1.5 Drier	90.5	0	0	200
28/06/17	ω	Refer to #1916/145 for	2.22	16 <u>.</u> 0	104.5	2.13	16.0	175	0.0 Drier	100.0	0	0	0
	I	locations.				I	ı	ı	ı	ı	ı	ı	
	т					I	ı	ı	1	ı	ı	1	
	т					I			1				
NOTES:	Onsit Test s	Onsite Clay Fill Test sites located - Geolab Procedure 4, Part 4.4	art 4.4			Compaction specime Start Time: 10.00am	n specimen: 10.00am	s samplec Finish Tir	ns sampled after compaction Finish Time: 10.27am	oaction. m			
A Hilf Rapi	id Co	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report. $\int \int$	a sample	taken from	ı each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Co AS 1289 ;	mpaction F 2.1.1	arameters	tabulat	ed on thi	s Report.
Soil Layer Hilf Densit	thickr y Rati	Compaction Test Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet	f Adjustec	I (APCWD)	& Peak (P	Compa CWD) Conv		AS 1289 : Density AS	AS 1289 5.7.1 Density AS 1289 5.7.1	<u> </u>	$\langle$	F	
Field Dens Materials ≎ ₩	iity, N Samp	Field Density, Nuclear Gauge: AS 1289 5.8.1 Materials Sampled:AS 1289 1.2.1 Clause 6.4(b) ☆	Ċ				Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full.	h ISO/IEC 1703 r measurement Australian/Na not be reprodu	5. The results s included in tional iced except in		SA Approv Issue [	SAM LOZA (Approved Signatory) Issue Date: 6/7/2017	atory) )17

**DAILY SUMMARY - FIELD DENSITY TESTS** 



GEO: Factory 1/8-1 PO Bo	GEOTECHNICAL LABORATORIES ACUT 102 571 077 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043 PO Box 2693 Gladstone Park VIC 3043 PH: (03) 9335 1225	REPORT LOCA	LOCATION: #	1916/148 DRAPER	S - The C	1916/148 DRAPERS - The Quay 2 Estate Stage 4	ate Sta	je 4				
DATE TI OF N TESTS N	TEST NUM. TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (Vm³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
30/06/17	<u> </u>	2.01	20.0	95 <u>.</u> 5	₩ 2 <u>.</u> 10	19.0	175	0.5 Wetter	104 <u>.</u> 0	12	0	0
30/06/17	2	2.06	17.5	0 <u>.</u> 66	2.08	17.5	175	0.0 Wetter	101.5	0	0	400
30/06/17	3 <i>Refer to #1916/149 for</i>	2 <u>.</u> 11	16 <u>.</u> 5	103 <u>.</u> 0	2.05	18.0	175	1.5 Drier	91 <u>.</u> 0	0	0	200
	- locations.							'		ı		
ı				•	ı			'	1	ı		·
1	-		•	•	-		•	•	•		•	
NOTES: O	Onsite Clay Fill Test sites located - Geolab Procedure 4, Part 4.4	art 4.4			Compaction specime Start Time: 11.25am		s samplec Finish Tii	ns sampled after compaction Finish Time: 11.49am	baction. m			
A Hilf Rapid	A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.	a sample	taken from	each Field	Density loc Moistu	sity location to obtain the Compa Moisture Content: AS 1289 2.1.1	ain the Cc AS 1289	ompaction F 2.1.1	<sup>a</sup> rameters	tabulate	ed on this P	s Report.
Soil Layer th	Soil Layer thickness: 200mm				Compa	Compaction Test: AS 1289 5.7.1	AS 1289	5.7.1		_	T	
Hilf Density Field Densit	Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Field Density, Nuclear Gauge: AS 1289 5.8.1	Adjusted	(APCWD)	& Peak (P	CWD) Conv Accredited fc of the tests, c		Density AS	Density AS 1289 5.7.1 th ISO/IEC 17025. The results or measurements included in	-	SAI	SAM LOZA	
Materials Sampled :	Materials Sampled: AS 1289 1.2.1 Clause 6.4(b) 뿊 Indicates APCWD ★	Ŭ				this document are traceable to Australian/National standards. This document may not be reproduced except in full. NATA Accredited Laboratory Number 14561	Australian/Na not be reprodu atory Numb	tional uced except in er 14561		Approv Issue Da	(Approved Signatory) Issue Date: 12/7/2017	o17

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