

# **REPORT**

## **Level One Inspection and Testing Services**

**Meridian Estate Stage 6, Clyde North  
Lot's 601 to 609 and 618 to 656**

**Prepared for:**

**Grosvenor Lodge Pty Ltd**

**August 2017**

**Our Ref: 3807351 Stage 6.v1**



**CHADWICK  
GEOTECHNICS**

**Distribution:**

Grosvenor Lodge Pty Ltd

pdf

Chadwick Geotechnics Pty Ltd (FILE)

1 copy

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## 1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) has been engaged by Grosvenor Lodge Pty Ltd. to provide Level 1 inspection and testing services for the earthworks (including stripping, proof rolling and associated works) for the Meridian Estate Stage 6 in Clyde North.

The inspection and testing of earthworks has been carried out in accordance with AS3798-2007 Table 8.1<sup>1</sup>, 'Guidelines on earthworks for commercial and residential developments', with a frequency of field density tests as per Type 1 project (large scale operations).

## 2 Project details

The project earthworks included the filling of Lot's 601 to 609 and 618 to 656 at the Meridian Estate Stage 6. The specification required the earthworks to be completed under Level 1 Supervision and Testing. Chadwick Geotechnics field technicians were onsite during the earthworks.

The inspection and testing of earthworks has been carried out in accordance with AS3798-2007, 'Guidelines on earthworks for commercial and residential developments', with a frequency of field density tests as per Type 1 project (large scale operations).

Compaction control laboratory testing was undertaken in our NATA accredited Dandenong South laboratory in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

The location of the site is shown in **Figure 1** below.



**Figure 1: Approximate Site Location** (Image sourced from [nearmap.com.au](http://nearmap.com.au))

<sup>1</sup> AS 3798 – 2007 (Incorporating Amendment No. 1), Guidelines on earthworks for commercial and residential developments

### 3 Geology

Published information<sup>2</sup> shows that the site is underlain by various geologies listed as follows;

- Quaternary Age Unnamed dune deposits Formation (Qd1) comprising of sand, clay and calcareous sand.
- Quaternary Age Unnamed swamp and lake deposits Formation (Qm1) comprising of silt and clay.
- Palaeozoic Age Murrindindi Supergroup (Sm) comprising of mudstone and sandstone
- Neogene Age Baxter Sandstone Formation (Nxx) comprising of sandstone, conglomerate, siltstone and ironstone.

### 4 Specification

A summary of the specification is shown below:

<b>Compaction Requirement</b>	<b>95% Standard Compaction</b>
-------------------------------	--------------------------------

### 5 Inspection and testing

Prior to any fill being placed at the site the stripped surface of the fill areas were inspected. The Initial stripped surface inspections were performed by experienced Chadwick Geotechnics staff. The inspections were performed in accordance with the Level 1 guidelines presented in AS 3798–2007 Section 5.5. No soft spots were encountered during the inspections and the areas were firm and free of vegetation and other deleterious material.

Full time Level 1 inspection and testing of the filling operations commenced on the 3<sup>rd</sup> May 2016 and was completed on the 16<sup>th</sup> December 2016. During this period, the Chadwick Geotechnics field technician observed all works related to the construction including the supply of material, conditioning of material (moisture conditioning and oversize removal), placement and compaction of the fill.

All fill material was placed in lift sequences and the Chadwick Geotechnics field technician verified that the surface of the stripped surface and additional lifts were thoroughly scarified and moisture conditioned prior to placement to prevent delamination at the layer interface.

Visual inspections of the fill materials were carried out at regular intervals throughout works, and where required, the contractor removed unsuitable material.

Field density and moisture content testing was carried out using a calibrated nuclear density gauge in accordance with AS 1289.5.8.1<sup>3</sup>. The HILF rapid compaction test was used for peak converted wet density determinations in accordance with AS 1289.5.7.1. The test locations were recorded using a handheld GPS unit. A site plan showing the field density and moisture content test locations is provided in **Appendix A**.

<sup>2</sup> BIBBY, L.M., 2004. Simplified 1: 4 000 000 Geology of Victoria. Geological Survey of Victoria Special Publication. GeoScience Victoria.

<sup>3</sup> AS 1289.5.8.1-2007: Methods of testing soils for engineering purposes – Soil compaction and density tests – Determination of field density and field moisture content of a soil using a nuclear surface moisture Density gauge – direct transmission mode

The filling works for Stages 6 was not continuous resulting in breaks in time on site. The filling process also caused a break in the sequential numbering of the density and moisture content test reports. The summary page attached within the appendix includes test results that relate to other stages of earthworks within the Meridian Estate.

The testing results show that one test failed to meet the specified density limit for the project. The earthworks contractor was advised of the test that failed and the fill relevant to the area was reworked, reconditioned, re-compacted and subsequently retested.

The final results show the tests achieved the specified minimum density at a moisture content of between  $\pm 3.0\%$  of the soils optimum moisture content. A summary table of HILF density tests is provided in **Appendix B** and the laboratory test reports are provided in **Appendix C**.

## 6 Conclusion

On the basis of our direct supervision and after considering all test results relating to the project, it is our opinion, so far as it is able to be determined, that:

- The materials used by the earthworks contractor met the geotechnical property requirements of the specification.
- The sourced fill was considered to be natural and clean and suitable for use at the site.
- The fill material placed was tested at a suitable frequency in accordance with AS 3798-2007-Table 8.1 and the results indicate the compacted clay achieved the density and moisture requirements of the specification.
- Given the consistent construction practices followed by the earthworks contractor and as witnessed by the Chadwick Geotechnics field technician, combined with the satisfactory verification of test results achieved, it is inferred that areas of the site between test locations were performed to the same standard as those areas that have been tested.

It is our opinion that the earthworks undertaken in the Meridian Estate Stage 6 in Clyde North have been performed in accordance with the requirements of Section 8.2 Level 1 Inspection and testing AS 3798-2007.

The Controlled Fill Certificates for the filling works are provided in **Appendix D**.

## 7 Applicability

This report has been prepared in good faith and in accordance with the Chadwick Geotechnics quality system for the earthworks filling within Stage 6 of the Meridian Estate in Clyde North.

This report is based on the nature of the project and the conditions present in, or factors affecting the soil as at the time of inspection, namely the 3<sup>rd</sup> May 2016 and was completed on the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted, and Chadwick Geotechnics is indemnified to the full extent permitted by law in respect of the use of this report where there has been a change in the nature of the project or the conditions on site that may alter or affect the conclusions of this report.

Should you require any further information regarding this report, please do not hesitate to contact the undersigned on (03) 8796 7900.

Chadwick Geotechnics Pty Ltd

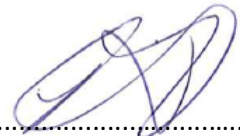
Report prepared by:

Authorised for Chadwick Geotechnics Pty Ltd by:



Robert Barden

Geotechnical Engineer



Timothy Chadwick

Project Director

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[www.chadwickgeotechnics.com.au](http://www.chadwickgeotechnics.com.au)

## **Appendix A: Density test location plan**

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T:\Dandenong\Geo Projects\38073516 Stage 6\WorkingMaterial\CAD\38073561.006-F1.1.dwg F1 11/08/2017 3:22:09 p.m.


**LEGEND**

- Stage boundary
- ⊗ Hilf density test location

Notes:  
 1. Aerials sourced from Nearmap data; date flown 08.03.2017 (Images Copyright 2017).

SCALE 1:750

0 10 20 30 40 50 (m)



**CHADWICK GEOTECHNICS**  
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 Dandenong South, VIC  
 Ph: (03) 8796 7900  
 www.chadwickt.com.au

DRAWN	LJD	Aug. 17
DRAFTING CHECKED		
APPROVED		
CADFILE : \\38073561.006-F1.1.dwg		
SCALES (AT A3 SIZE)		
AS SHOWN		
PROJECT No. 380735 1.006		

**GREENRIDGE PROPERTIES PTY LTD**  
 LEVEL 1 INSPECTION AND TESTING  
 MERIDIAN ESTATE – STAGE 6  
 Level 1 Hilf Test Location Plan

FIG. No. **Figure 1**

REV. 0
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## **Appendix B: Table of field density test results**

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## Meridian Estate Stage 6 - 380735.006

Chadwick Geotechnics  
25 Metcalf Street  
Dandenong South VIC 3175

Tel : (03) 8796 7900  
Fax: (03) 8796 7944

Report No	Sample No	Date	Test Number	Location [N]	Location [E]	Layer	Density Ratio HILF test (%)	Moisture Variation From OMC	Pass / Fail	Remarks
15	1605854	42493	52	5782321	355089	1	106	omc	Pass	
	1605855		53	5782295	355089	1	102	omc	Pass	
	1605856		54	5782267	355065	1	104	0.5 dry	Pass	
17	1606059	42496	58	5782362	355095	-	104	1.5 dry	Pass	
	1606060		59	5782359	355059	-	102	2 dry	Pass	
	1606063		62	5782301	355046	-	100	2 dry	Pass	
	1606064		63	5782339	355042	-	102.5	0.5 dry	Pass	
18	1606318	42502	64	5782313	355103	2	102.5	2 dry	Pass	
	1606319		65	5782271	355095	2	100	omc	Pass	
19	1606359	42503	66	5782278	355074	2	102	1 dry	Pass	
28	1606594	42509	92	5782372	355077	2	102.5	0.5 wet	Pass	
	1606595		93	5782347	355082	2	97	1 wet	Pass	
	1606596		94	5782320	355058	2	100.5	2 dry	Pass	
	1606597		95	5782346	355043	2	99.5	2 wet	Pass	
	1606699		102	5782322	355055	2	101	2 dry	Pass	
31	1607086	42521	105	5782269	355091	3	100	2.5 wet	Pass	
	1607087		106	5782265	355077	3	103	0.5 wet	Pass	
	1607088		107	5782248	355053	3	101	0.5 wet	Pass	
32	1607147	42522	110	5782292	355091	3	104	1.5 dry	Pass	
	1607148		111	5782284	355063	3	101	0.5 wet	Pass	
	1607151		114	5782289	355061	3	96.5	omc	Pass	
33	1607200	42523	116	5782329	355095	3	99	2 wet	Pass	
	1607201		117	5782318	355053	3	102.5	omc	Pass	
	1607202		118	5782323	355052	3	100.5	1 dry	Pass	
78	1613589	42711	257	5782165	355166	1	98	0.5 wet	Pass	
80	1613600	42711	261	5782165	355130	1	97	3.5 wet	Pass	with oversize adjustment test pass moisture.
	1613601		262	5782145	355135	2	96.5	1.0 wet	Pass	
	1613602		263	5782168	355165	2	96.5	1.0 wet	Pass	



## **Appendix C: NATA endorsed laboratory test reports**

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 15

Report Date: 10/05/16

C.G Order No: **151736**

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1605854	1605855	1605856						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	3/05/2016	3/05/2016	3/05/2016						
Time Sampled:	pm	pm	pm						
Date Tested:	4/05/2016	4/05/2016	4/05/2016						
Material Source:	Site Derived	Site Derived	Site Derived						
Material Description:	Clay	Clay	Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	E 355078 N 5782321 Layer 1	E 355089 N 5782295 Layer 1	E 355065 N 5782267 Layer 1						
Layer Depth (mm):	175	175	175						
Test Depth (mm):	150	150	150						
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)						
Max Size (mm):	19.0	19.0	19.0						
Oversize Wet (%):	0	0	0						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.09</b>	<b>2.06</b>	<b>2.10</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.97</b>	<b>2.02</b>	<b>2.02</b>						
APCWD (t/m <sup>3</sup> ):	-	-	-						
O.M.C (%) AS1289.5.7.1:	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-						
Moisture Variation (of omc):	<b>omc</b>	<b>omc</b>	<b>0.5% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>106.0</b>	<b>102.0</b>	<b>104.0</b>						
Min Hilf Density Ratio (%):	95	95	95						

**Remarks:**



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Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 17

Report Date: 10/05/16

C.G Order No: **151738**

Test Method: AS1289.5.7.1

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## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1606059	1606060	1606061	1606062	1606063	1606064				
ID No.:	1	2	3	4	5	6				
Lot No.:	-	-	-	-	-	-				
Date Sampled:	6/05/2016	6/05/2016	6/05/2016	6/05/2016	6/05/2016	6/05/2016				
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm	am/pm				
Date Tested:	9/05/2016	9/05/2016	7/05/2016	7/05/2016	9/05/2016	9/05/2016				
Material Source:	On site derived	On site derived	On site derived	On site derived	On site derived	On site derived				
Material Description:	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay				
To Be Used As	Lot fill	Lot fill	Lot fill	Lot fill	Lot fill	Lot fill				
Sample Location :	355095E 5782362N	355059E 5782359N	355025E 5782270N	355018E 5782240N	355046E 5782301N	355042E 5782339N				
Layer Depth (mm):	175	175	175	175	175	175				
Test Depth (mm):	150	150	150	150	150	150				
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)				
Max Size (mm):	19.0	19.0	19.0	19.0	19.0	19.0				
Oversize Wet (%):	0	0	0	0	0	0				
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.03</b>	<b>2.01</b>	<b>1.97</b>	<b>2.01</b>	<b>1.99</b>	<b>2.04</b>				
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-				
PCWD (t/m <sup>3</sup> ):	<b>1.95</b>	<b>1.97</b>	<b>1.98</b>	<b>2.02</b>	<b>1.99</b>	<b>1.99</b>				
APCWD (t/m <sup>3</sup> ):	-	-	-	-	-	-				
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-				
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-				
Moisture Variation (of omc):	<b>1.5% (dry)</b>	<b>2% (dry)</b>	<b>1.5% (dry)</b>	<b>2% (dry)</b>	<b>2% (dry)</b>	<b>0.5% (dry)</b>				
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-				
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard				
<b>Hilf Density Ratio (%):</b>	<b>104.0</b>	<b>102.0</b>	<b>99.5</b>	<b>99.0</b>	<b>100.0</b>	<b>102.5</b>				
Min Hilf Density Ratio (%):	95	95	95	95	95	95				

**Remarks:**



Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

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Issue Date: 19/02/2013

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735 - 18**

Report Date: 17/05/16

C.G Order No: -

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

<b>Sample No.:</b>	<b>1606318</b>	<b>1606319</b>								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	12/05/2016	12/05/2016								
Time Sampled:	am/pm	-								
Date Tested:	13/05/2016	13/05/2016								
Material Source:	Site Derived	Site Derived								
Material Description:	Clay	Clay								
To Be Used As	-	-								
Sample Location :	E 355103 N 5782313 Layer 2	E 355095 N 5782271 Layer 2								
Layer Depth (mm):	175	175								
Test Depth (mm):	150	150								
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)								
Max Size (mm):	19.0	19.0								
Oversize Wet (%):	0	0								
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.07</b>	<b>2.07</b>								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m <sup>3</sup> ):	<b>2.02</b>	<b>2.07</b>								
APCWD (t/m <sup>3</sup> )	-	-								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	<b>2% (dry)</b>	<b>omc</b>								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
<b>Hilf Density Ratio (%):</b>	<b>102.5</b>	<b>100.0</b>								
Min Hilf Density Ratio (%):	95	95								

**Remarks:**



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## HILF DENSITY RATIO REPORT

Report Number: **380735 - 19**

Report Date: 17/05/16

C.G Order No: **151741**

Test Method: AS1289.5.7.1

Page: 1 of 1

Customer: Grosevnor Lodge Pty Ltd  
Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175  
Project: Meridian Estate  
Location: Clyde North  
Customer Order No.: -

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1606359	1606360	1606361	1606362					
ID No.:	1	2	3	4					
Lot No.:	-	-	-	-					
Date Sampled:	13/05/2016	13/05/2016	13/05/2016	13/05/2016					
Time Sampled:	am/pm	am/pm	am/pm	am/pm					
Date Tested:	16/05/2016	16/05/2016	16/05/2016	16/05/2016					
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived					
Material Description:	Clay	Clay	Clay	Clay					
To Be Used As	-	-	-	-					
Sample Location :	E 355074 N 5782278 Layer 2	E 354940 N 5782223 Layer 1	E 354922 N 5782296 Layer 1	E 354925 N 5782264 Layer 1					
Layer Depth (mm):	175	175	175	175					
Test Depth (mm):	150	150	150	150					
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)					
Max Size (mm):	19.0	19.0	19.0	19.0					
Oversize Wet (%):	0	0	0	0					
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.07</b>	<b>1.99</b>	<b>2.04</b>	<b>1.96</b>					
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-					
PCWD (t/m <sup>3</sup> ):	<b>2.02</b>	<b>1.92</b>	<b>2.06</b>	<b>2.00</b>					
APCWD (t/m <sup>3</sup> )	-	-	-	-					
O.M.C (%) AS1289.5.7.1:	-	-	-	-					
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-					
Moisture Variation (of omc):	<b>1% (dry)</b>	<b>2% (dry)</b>	<b>0.5% (wet)</b>	<b>omc</b>					
Adjusted Moisture Variation (of omc):	-	-	-	-					
Compactive Effort:	Standard	Standard	Standard	Standard					
<b>Hilf Density Ratio (%):</b>	<b>102.0</b>	<b>103.5</b>	<b>99.0</b>	<b>97.5</b>					
Min Hilf Density Ratio (%):	95	95	95	95					

**Remarks:**



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## HILF DENSITY RATIO REPORT

Report Number: **380735 - 28**

Report Date: 23/05/16

C.G Order No: **151746**

Test Method: AS1289.5.7.1

Page: 1 of 1

Customer: Grosevnor Lodge Pty Ltd  
Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175  
Project: Meridian Estate  
Location: Clyde North  
Customer Order No.: -

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1606594	1606595	1606596	1606597	1606598	1606599			
ID No.:	1	2	3	4	5	6			
Lot No.:	-	-	-	-	-	-			
Date Sampled:	19/05/2016	19/05/2016	19/05/2016	19/05/2016	19/05/2016	19/05/2016			
Time Sampled:	am	am	am	am	am	am			
Date Tested:	20/05/2016	20/05/2016	20/05/2016	20/05/2016	20/05/2016	19/05/2016			
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived			
Material Description:	Clay	Clay	Clay	Clay	Clay	Clay			
To Be Used As	Fill	Fill	Fill	Fill	Fill	Fill			
Sample Location :	Meridian E355077 N5782372 Layer 2	Meridian E355082 N5782347 Layer 2	Meridian E355058 N5782320 Layer 2	Meridian E355043 N5782346 Layer 2	Meridian E355029 N5782311 Layer 2	Meridian E355022 N5782260 Layer 2			
Layer Depth (mm):	175	175	175	175	175	175			
Test Depth (mm):	150	150	150	150	150	150			
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)			
Max Size (mm):	19.0	19.0	19.0	19.0	19.0	19.0			
Oversize Wet (%):	0	8	0	0	0	0			
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.13</b>	<b>2.04</b>	<b>2.04</b>	<b>2.10</b>	<b>2.19</b>	<b>2.01</b>			
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-			
PCWD (t/m <sup>3</sup> ):	<b>2.08</b>	-	<b>2.02</b>	<b>2.11</b>	<b>2.12</b>	<b>2.02</b>			
APCWD (t/m <sup>3</sup> ):	-	<b>2.11</b>	-	-	-	-			
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-			
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-			
Moisture Variation (of omc):	<b>0.5% (wet)</b>	<b>1% (wet)</b>	<b>2% (dry)</b>	<b>2% (wet)</b>	<b>0.5% (wet)</b>	<b>1% (wet)</b>			
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-			
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard			
<b>Hilf Density Ratio (%):</b>	<b>102.5</b>	<b>97.0</b>	<b>100.5</b>	<b>99.5</b>	<b>103.5</b>	<b>99.5</b>			
Min Hilf Density Ratio (%):	95	95	95	95	95	95			

Remarks:



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APPROVED SIGNATORY

M.Robinson

Form No.: **CG.315.002**

Issue Date: 19/02/2013

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 31

Report Date: 02/06/16

C.G Order No: **152051**

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1607086	1607087	1607088	1607089	1607090				
ID No.:	1	2	3	4	5				
Lot No.:	-	-	-	-	-				
Date Sampled:	31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016				
Time Sampled:	pm	pm	pm	pm	pm				
Date Tested:	1/06/2016	1/06/2016	1/06/2016	1/06/2016	1/06/2016				
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived				
Material Description:	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay				
To Be Used As	Fill	Fill	Fill	Fill	Fill				
Sample Location :	E 355091 N 5782269 Layer 3	E 355077 N 5782265 Layer 3	E 355053 N 5782248 Layer 3	E 355035 N 5782239 Layer 3	E 355011 N 5782230 Layer 3				
Layer Depth (mm):	150	150	150	150	150				
Test Depth (mm):	125	125	125	125	125				
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)				
Max Size (mm):	19.0	19.0	19.0	19.0	19.0				
Oversize Wet (%):	0	0	5	3	5				
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.06</b>	<b>2.11</b>	<b>2.14</b>	<b>2.12</b>	<b>2.13</b>				
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-				
PCWD (t/m <sup>3</sup> ):	<b>2.07</b>	<b>2.04</b>	-	-	-				
APCWD (t/m <sup>3</sup> )	-	-	<b>2.11</b>	<b>2.11</b>	<b>2.06</b>				
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-				
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-				
Moisture Variation (of omc):	<b>2.5% (wet)</b>	<b>0.5% (wet)</b>	<b>0.5% (wet)</b>	<b>omc</b>	<b>omc</b>				
Adjusted Moisture Variation (of omc):	-	-	-	-	-				
Compactive Effort:	Standard	Standard	Standard	Standard	Standard				
<b>Hilf Density Ratio (%):</b>	<b>100.0</b>	<b>103.0</b>	<b>101.0</b>	<b>100.5</b>	<b>103.5</b>				
Min Hilf Density Ratio (%):	95	95	95	95	95				

**Remarks:**



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M. Robinson

Form No.: **CG.315.002**

Issue Date: 19/02/2013

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 32

Report Date: 03/06/16

C.G Order No: **152052**

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1607147	1607148	1607149	1607150	1607151	1607152			
ID No.:	1	2	3	4	5	6			
Lot No.:	-	-	-	-	-	-			
Date Sampled:	1/06/2016	1/06/2016	1/06/2016	1/06/2016	1/06/2016	1/06/2016			
Time Sampled:	am	am	am	am	am	am			
Date Tested:	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016			
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived			
Material Description:	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay			
To Be Used As	Fill	Fill	Fill	Fill	Fill	Fill			
Sample Location :	E 355091 N 5782292 Layer 3	E 355063 N 5782284 Layer 3	E 355036 N 5782277 Layer 3	E 355013 N 5782266 Layer 3	E 355061 N 5782289 Layer 3	E 355034 N 5782280 Layer 3			
Layer Depth (mm):	150	150	150	150	150	150			
Test Depth (mm):	125	125	125	125	125	125			
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)			
Max Size (mm):	19.0	19.0	19.0	19.0	19.0	19.0			
Oversize Wet (%):	0	3	0	0	7	2			
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.10</b>	<b>2.13</b>	<b>2.08</b>	<b>2.07</b>	<b>2.06</b>	<b>2.01</b>			
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-			
PCWD (t/m <sup>3</sup> ):	<b>2.02</b>	-	<b>2.02</b>	<b>2.05</b>	-	-			
APCWD (t/m <sup>3</sup> ):	-	<b>2.11</b>	-	-	<b>2.13</b>	<b>2.01</b>			
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-			
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-			
Moisture Variation (of omc):	<b>1.5% (dry)</b>	<b>0.5% (wet)</b>	<b>1.5% (dry)</b>	<b>0.5% (wet)</b>	<b>omc</b>	<b>2% (dry)</b>			
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-			
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard			
<b>Hilf Density Ratio (%):</b>	<b>104.0</b>	<b>101.0</b>	<b>103.0</b>	<b>101.0</b>	<b>96.5</b>	<b>100.0</b>			
Min Hilf Density Ratio (%):	95	95	95	95	95	95			

**Remarks:**



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M. Robinson

Form No.: **CG.315.002**

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 33

Report Date: 06/06/16

C.G Order No: -

Test Method: AS1289.5.7.1

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## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1607200	1607201	1607202	1607203	1607204	1607205			
ID No.:	1	2	3	4	5	6			
Lot No.:	-	-	-	-	-	-			
Date Sampled:	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016			
Time Sampled:	pm	pm	pm	pm	pm	pm			
Date Tested:	3/06/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016			
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived			
Material Description:	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay			
To Be Used As	Fill	Fill	Fill	Fill	Fill	Fill			
Sample Location :	E 355095 N 5782329 Layer 3	E 355053 N 5782318 Layer 3	E 355052 N 5782323 Layer 3	E 355009 N 5782311 Layer 3	E 355029 N 5782330 Layer 3	E 355031 N 5782334 Layer 3			
Layer Depth (mm):	175	175	175	175	175	175			
Test Depth (mm):	150	150	150	150	150	150			
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)			
Max Size (mm):	19.0	19.0	19.0	19.0	19.0	19.0			
Oversize Wet (%):	0	0	0	0	0	0			
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.05</b>	<b>2.11</b>	<b>2.04</b>	<b>2.13</b>	<b>2.12</b>	<b>2.03</b>			
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-			
PCWD (t/m <sup>3</sup> ):	<b>2.08</b>	<b>2.05</b>	<b>2.03</b>	<b>2.04</b>	<b>2.03</b>	<b>2.03</b>			
APCWD (t/m <sup>3</sup> )	-	-	-	-	-	-			
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-			
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-			
Moisture Variation (of omc):	<b>2% (wet)</b>	<b>omc</b>	<b>1% (dry)</b>	<b>2% (dry)</b>	<b>2% (dry)</b>	<b>1.5% (dry)</b>			
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-			
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard			
<b>Hilf Density Ratio (%):</b>	<b>99.0</b>	<b>102.5</b>	<b>100.5</b>	<b>104.5</b>	<b>104.5</b>	<b>99.5</b>			
Min Hilf Density Ratio (%):	95	95	95	95	95	95			

**Remarks:**



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M. Robinson

Form No.: **CG.315.002**

Issue Date: 19/02/2013

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735 -78**

Report Date: 07/12/16

C.G Order No: -

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

<b>Sample No.:</b>	<b>1613589</b>									
ID No.:	1									
Lot No.:	-									
Date Sampled:	7/12/2016									
Time Sampled:	am									
Date Tested:	7/12/2016									
Material Source:	Site derived									
Material Description:	Clay									
To Be Used As	Fill									
Sample Location :	355166 E									
	5782165 N									
	Layer 1									
Layer Depth (mm):	175									
Test Depth (mm):	150									
Sampling Procedure:	AS1289.1.2.1.6.4(b)									
Max Size (mm):	19.0									
Oversize Wet (%):	9									
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.18</b>									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m <sup>3</sup> ):	-									
APCWD (t/m <sup>3</sup> )	<b>2.22</b>									
O.M.C (%) AS1289.5.7.1:	-									
Moisture Ratio (%) AS1289.5.4.1:	-									
Moisture Variation (of omc):	<b>0.5% (wet)</b>									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
<b>Hilf Density Ratio (%):</b>	<b>98.5</b>									
Min Hilf Density Ratio (%):	95									

**Remarks:**



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APPROVED SIGNATORY

**M. Robinson**

Form No.: **CG.315.002**

Issue Date: 19/02/2013

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Customer: Grosevnor Lodge Pty Ltd

Report Number: **380735 - 80**

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Report Date: 09/12/16

Project: Meridian Estate

## HILF DENSITY RATIO REPORT

C.G Order No: -

Location: Clyde North

Test Method: AS1289.5.7.1

Customer Order No.: -

Page: 1 of 1

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1613600	1613601	1613602						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	7/12/2016	7/12/2016	7/12/2016						
Time Sampled:	pm	pm	pm						
Date Tested:	8/12/2016	8/12/2016	8/12/2016						
Material Source:	Site derived	Site derived	Site derived						
Material Description:	Clay	Clay	Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	355130 E	355135 E	355165 E						
	5782165 N	5782145 N	5782168 N						
	Layer 1	Layer 2	Layer 2						
Layer Depth (mm):	175	175	175						
Test Depth (mm):	150	150	150						
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)						
Max Size (mm):	19.0	19.0	19.0						
Oversize Wet (%):	10	9	12						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.16</b>	<b>2.17</b>	<b>2.17</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	-	-	-						
APCWD (t/m <sup>3</sup> )	<b>2.22</b>	<b>2.25</b>	<b>2.25</b>						
O.M.C (%) AS1289.5.7.1:	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-						
Moisture Variation (of omc):	<b>3.5% (wet)</b>	<b>1% (wet)</b>	<b>1% (wet)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>97.0</b>	<b>96.5</b>	<b>96.5</b>						
Min Hilf Density Ratio (%):	95	95	95						

Remarks:



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M. Robinson

Form No.: CG.315.002

Issue Date: 19/02/2013

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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735 - 81**

Report Date: 12/12/16

C.G Order No: 0

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1613708	1613709	1613710	1613711	1613712					
ID No.:	1	2	3	4	5					
Lot No.:	-	-	-	-	-					
Date Sampled:	9/12/2016	9/12/2016	9/12/2016	9/12/2016	9/12/2016					
Time Sampled:	am / pm	am / pm	am / pm	am / pm	am / pm					
Date Tested:	10/12/2016	10/12/2016	8/12/2016	10/12/2016	10/12/2016					
Material Source:	Site derived	Site derived	Site derived	Site derived	Site derived					
Material Description:	Clay	Clay	Clay	Clay	Clay					
To Be Used As	Fill	Fill	Fill	Fill	Fill					
Sample Location :	355137 E 5782224 N Layer 1	355165 E 5782225 N Layer 1	355109 E 5782258 N Layer 1	355118 E 5782314 N Layer 1	355137 E 5782292 N Layer 1					
Layer Depth (mm):	150	150	150	150	150					
Test Depth (mm):	AS1289.1.2.1.6.4(b)AS1289.1.2.1.6.4(b)AS1289.1.2.1.6.4(b)AS1289.1.2.1.6.4(b)AS1289.1.2.1.6.4(b)									
Sampling Procedure:	-	-	-	-	-					
Max Size (mm):	19.0	19.0	19.0	19.0	19.0					
Oversize Wet (%):	9	9	8	7	9					
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.23</b>	<b>2.13</b>	<b>2.18</b>	<b>2.14</b>	<b>2.14</b>					
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-					
PCWD (t/m <sup>3</sup> ):	-	-	-	-	-					
APCWD (t/m <sup>3</sup> )	<b>2.22</b>	<b>2.23</b>	<b>2.23</b>	<b>2.20</b>	<b>2.25</b>					
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-					
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-					
Moisture Variation (of omc):	<b>1.5% (wet)</b>	<b>2% (wet)</b>	<b>0.5% (wet)</b>	<b>1.5% (wet)</b>	<b>1.5% (wet)</b>					
Adjusted Moisture Variation (of omc):	-	-	-	-	-					
Compactive Effort:	Standard	Standard	Standard	Standard	Standard					
<b>Hilf Density Ratio (%):</b>	<b>100.5</b>	<b>95.5</b>	<b>98.0</b>	<b>97.0</b>	<b>95.5</b>					
Min Hilf Density Ratio (%):	95	95	95	95	95					

**Remarks:**



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APPROVED SIGNATORY

S.Gilbert

Form No.: **CG.315.002**

Issue Date: 19/02/2013



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Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 82

Report Date: 12/12/16

C.G Order No: -

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1613718	1613719								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	12/12/2016	12/12/2016								
Time Sampled:	am	am								
Date Tested:	12/12/2016	10/12/2016								
Material Source:	Site derived	Site derived								
Material Description:	Clay	Clay								
To Be Used As	Fill	Fill								
Sample Location :	E 355109	E 355180								
	N 5782258	N 5782187								
	Layer 2	Layer 2								
Layer Depth (mm):	175	175								
Test Depth (mm):	150	150								
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)								
Max Size (mm):	19.0	19.0								
Oversize Wet (%):	10	12								
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.08</b>	<b>2.15</b>								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m <sup>3</sup> ):	-	-								
APCWD (t/m <sup>3</sup> )	<b>2.24</b>	<b>2.24</b>								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	<b>1% (wet)</b>	<b>3% (wet)</b>								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
<b>Hilf Density Ratio (%):</b>	<b>93.0</b>	<b>95.5</b>								
Min Hilf Density Ratio (%):	95	95								

**Remarks:**



Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

APPROVED SIGNATORY

M. Robinson

Form No.: **CG.315.002**

Issue Date: 19/02/2013

Head Office  
25 Metcalf Street  
DANDENONG SOUTH VIC 3175

Ph: +61 3 8796 7900  
Fax: +61 3 8796 7944



Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 83

Report Date: 12/12/16

C.G Order No: -

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1613823	1613824	1613825						
ID No.:	3	4	5						
Lot No.:	-	-	-						
Date Sampled:	12/12/2016	12/12/2016	12/12/2016						
Time Sampled:	pm	pm	pm						
Date Tested:	13/12/2016	13/12/2016	13/12/2016						
Material Source:	Site derived	Site derived	Site derived						
Material Description:	Clay	Clay	Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	355140E 5782187N Layer 2	355144E 5782259N Layer 2	355132E 5782306N Layer 2						
Layer Depth (mm):	175	175	175						
Test Depth (mm):	150	150	150						
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)						
Max Size (mm):	19.0	19.0	19.0						
Oversize Wet (%):	10	9	5						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.24</b>	<b>2.14</b>	<b>2.19</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	-	-	-						
APCWD (t/m <sup>3</sup> ):	<b>2.20</b>	<b>2.23</b>	<b>2.20</b>						
O.M.C (%) AS1289.5.7.1:	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-						
Moisture Variation (of omc):	<b>1.5% (dry)</b>	<b>omc</b>	<b>0.5% (wet)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>102.0</b>	<b>96.0</b>	<b>99.5</b>						
Min Hilf Density Ratio (%):	95	95	95						

Remarks:



Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

APPROVED SIGNATORY

J Lamont

Form No.: **CG.315.002**

Issue Date: 19/02/2013

Head Office  
25 Metcalf Street  
DANDENONG SOUTH VIC 3175

Ph: +61 3 8796 7900  
Fax: +61 3 8796 7944



Customer: Grosevnor Lodge Pty Ltd

Report Number: **380735 -84**

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Report Date: 20/12/16

Project: Meridian Estate

## HILF DENSITY RATIO REPORT

C.G Order No: -

Location: Clyde North

Test Method: AS1289.5.7.1

Customer Order No.: -

Page: 1 of 1

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1613888	1613889	1613890	1613891						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	13/12/2016	13/12/2016	13/12/2016	13/12/2016						
Time Sampled:	am/pm	am/pm	am/pm	am/pm						
Date Tested:	16/12/2016	16/12/2016	16/12/2016	16/12/2016						
Material Source:	Site derived	Site derived	Site derived	Site derived						
Material Description:	Silty Clay	Silty Clay	Silty Clay	Silty Clay						
To Be Used As	Fill	Fill	Fill	Fill						
Sample Location :	E 355134 N 5782190 Layer 2	E 355134 N 5782189 Layer 2	E 355158 N 5782279 Layer 2	E 355181 N 5782273 Layer 2						
Layer Depth (mm):	175	175	175	175						
Test Depth (mm):	150	150	150	150						
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)						
Max Size (mm):	19.0	19.0	19.0	19.0						
Oversize Wet (%):	0	0	0	8						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.11</b>	<b>2.05</b>	<b>2.10</b>	<b>2.21</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>2.03</b>	<b>2.07</b>	<b>2.15</b>	-						
APCWD (t/m <sup>3</sup> ):	-	-	-	<b>2.22</b>						
O.M.C (%) AS1289.5.7.1:	-	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-						
Moisture Variation (of omc):	<b>omc</b>	<b>omc</b>	<b>omc</b>	<b>omc</b>						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>104.0</b>	<b>99.0</b>	<b>97.5</b>	<b>99.5</b>						
Min Hilf Density Ratio (%):	95	95	95	95						

Remarks:



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APPROVED SIGNATORY

M. Robinson

Form No.: CG.315.002

Issue Date: 19/02/2013

Head Office  
25 Metcalf Street  
DANDENONG SOUTH VIC 3175

Ph: +61 3 8796 7900  
Fax: +61 3 8796 7944



Customer: Grosevnor Lodge Pty Ltd

Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735 -85**

Report Date: 20/12/16

C.G Order No: -

Test Method: AS1289.5.7.1

Page: 1 of 1

## HILF DENSITY RATIO REPORT

Testing performed and reported at our Dandenong South Laboratory 21712

Sample No.:	1614103	1614104	1614105	1614106	1614107	1614108				
ID No.:	1	2	3	4	5	6				
Lot No.:	-	-	-	-	-	-				
Date Sampled:	16/12/2016	16/12/2016	16/12/2016	16/12/2016	16/12/2016	16/12/2016				
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm	am/pm				
Date Tested:	17/12/2016	17/12/2016	17/12/2016	17/12/2016	17/12/2016	17/12/2016				
Material Source:	Site derived	Site derived	Site derived	Site derived	Site derived	Site derived				
Material Description:	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay				
To Be Used As	Fill	Fill	Fill	Fill	Fill	Fill				
Sample Location :	355185 E 5782330 N Layer 1	355142 E 5782370 N Layer 1	355124 E 5782343 N Layer 2	355168 E 5782298 N Layer 3	355171 E 5782261 N Layer 3	355174 E 5782325 N Layer 2				
Layer Depth (mm):	175	175	175	175	175	175				
Test Depth (mm):	150	150	150	150	150	150				
Sampling Procedure:	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)	AS1289.1.2.1.6.4(b)				
Max Size (mm):	19.0	19.0	19.0	19.0	19.0	19.0				
Oversize Wet (%):	0	5	0	9	4	0				
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.21</b>	<b>2.11</b>	<b>2.08</b>	<b>2.16</b>	<b>2.17</b>	<b>2.05</b>				
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-				
PCWD (t/m <sup>3</sup> ):	<b>2.13</b>	-	<b>2.13</b>	-	-	<b>2.09</b>				
APCWD (t/m <sup>3</sup> ):	-	<b>2.16</b>	-	<b>2.21</b>	<b>2.12</b>	-				
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-				
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-				
Moisture Variation (of omc):	<b>omc</b>	<b>0.5% (dry)</b>	<b>0.5% (wet)</b>	<b>1.5% (dry)</b>	<b>0.5% (wet)</b>	<b>0.5% (wet)</b>				
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-				
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard				
<b>Hilf Density Ratio (%):</b>	<b>103.5</b>	<b>97.5</b>	<b>98.0</b>	<b>98.0</b>	<b>102.0</b>	<b>98.0</b>				
Min Hilf Density Ratio (%):	95	95	95	95	95	95				

Remarks:



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APPROVED SIGNATORY

M Di Meglio

Form No.: **CG.315.002**

Issue Date: 19/02/2013

## **Appendix D: Controlled fill certificates**

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 601  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 602  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 603  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 604  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 605  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 606

Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 607  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 3<sup>rd</sup> May 2016 to the 16<sup>th</sup> December 2016. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 608  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

---

### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 609  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 618  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 619  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 620  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 621  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 622  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 623  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 624  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 625  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 626

**Chadwick Geotechnics REF** : 3807351 STG6

Meridian Estate Stage 6

Clyde North VIC

**CLIENT** : Grosvenor Lodge Pty Ltd

**DATE** : August 2017

PO Box 4136

DANDENONG SOUTH VIC 3164

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### SUMMARY

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**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 627  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 628  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 629

**Chadwick Geotechnics REF** : 3807351 STG6

Meridian Estate Stage 6

Clyde North VIC

**CLIENT** : Grosvenor Lodge Pty Ltd

**DATE** : August 2017

PO Box 4136

DANDENONG SOUTH VIC 3164

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### SUMMARY

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 630

**Chadwick Geotechnics REF** : 3807351 STG6

Meridian Estate Stage 6

Clyde North VIC

**CLIENT** : Grosvenor Lodge Pty Ltd

**DATE** : August 2017

PO Box 4136

DANDENONG SOUTH VIC 3164

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 631  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 632  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 633  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 634  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 635  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 636  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 637  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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Geotechnical Engineer



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Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 638  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 639  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 640  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 641  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 642  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 643  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 644  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 645  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 646  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 647  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### LIMITATIONS

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 648  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 649  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

So far as it is able to be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1). The moisture content of the soils tested was between 3.0% wet to 3.0% dry of the soils optimum moisture content (OMC).

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 650  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 651  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 652  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 653  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

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**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 654

**Chadwick Geotechnics REF** : 3807351 STG6

Meridian Estate Stage 6

Clyde North VIC

**CLIENT** : Grosvenor Lodge Pty Ltd

**DATE** : August 2017

PO Box 4136

DANDENONG SOUTH VIC 3164

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 655  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 656  
Meridian Estate Stage 6  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG6

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164

**DATE** : August 2017

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### SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing AS3798-2007, *Guidelines on earthworks for commercial and residential developments*, during the filling of the Meridian Estate Stage 6 in Clyde North.

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**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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