

# **REPORT**

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

**Meridian Estate Stage 4, Clyde North  
Lot's 401 to 416 and 419 to 436**

**Prepared for:**

**Grosvenor Lodge Pty Ltd**

**June 2017**

**Our Ref: 3807351 Stage 4.v1**



**CHADWICK  
GEOTECHNICS**

**Distribution:**

Grosvenor Lodge Pty Ltd

pdf

Chadwick Geotechnics Pty Ltd (FILE)

1 copy

## Table of contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Project details</b>	<b>1</b>
<b>3</b>	<b>Geology</b>	<b>2</b>
<b>4</b>	<b>Specification</b>	<b>2</b>
<b>5</b>	<b>Inspection and testing</b>	<b>2</b>
<b>6</b>	<b>Conclusion</b>	<b>3</b>
<b>7</b>	<b>Applicability</b>	<b>4</b>

**Appendix A: Density test location plan**

**Appendix B: Table of field density test results**

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

**Appendix D: Controlled fill certificates**

## 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 4 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 401 to 416 and 419 to Lot 436 at the Meridian Estate Stage 4. 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 8<sup>th</sup> April 2016 and was completed on the 21<sup>st</sup> February 2017. 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 4 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 a number of tests failed to meet the specified density limits. The earthworks contractor was advised of the tests that failed and the fill relevant to those areas was reworked, reconditioned, re-compacted and subsequently retested. This procedure was repeated at times until the earthwork lift was compliant with the specification requirements.

The final results show the tests achieved the specified minimum density at a moisture content of between  $\pm 3.5\%$  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 4 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 4 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 8<sup>th</sup> April 2016 and was completed on the 21<sup>st</sup> February 2017. 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

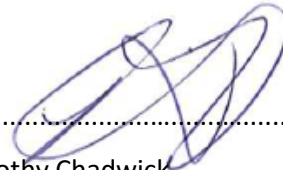
Report prepared by:

Authorised for Chadwick Geotechnics Pty Ltd by:



Robert Barden

Geotechnical Engineer



Timothy Chadwick

Project Director

© Chadwick Geotechnics Pty Ltd.

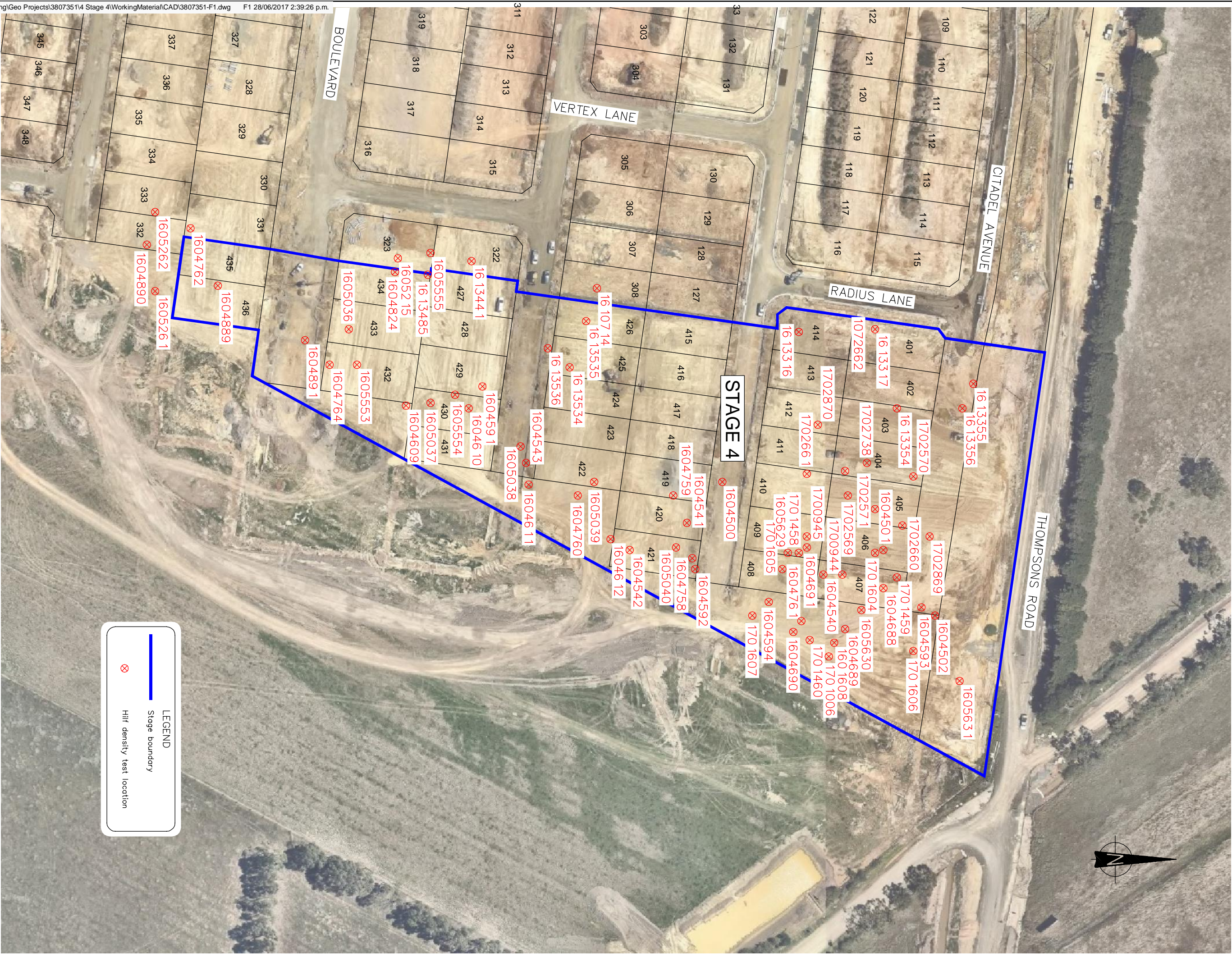
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[www.chadwickgeotechnics.com.au](http://www.chadwickgeotechnics.com.au)

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

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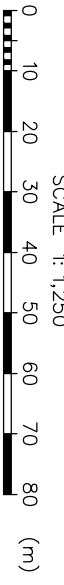




**LEGEND**

- Stage boundary
- X Hill density test location

- Notes:
- Aerials sourced from Neoterm data; date flown 08.03.2017 (Images Copyright 2017).
  - Base plan supplied by Brown Property Group - Dwg. Ref: 8129-4-E-RD\_D.dwg; received on 22.06.2017. Base plan has been manually rectified based on aerial imagery and is for information only.



**CHADWICK GEOTECHNICS**

25 Metcalf Street  
Dandenong South, VIC  
Ph: (03) 8796 7900  
www.chadwick.com.au

DRAWN	LJD	Jun. 17
DRAFTING CHECKED		
APPROVED		
CADFILE :	3807351-F1.dwg	
SCALES (at A3 size)	AS SHOWN	
PROJECT No.	3807351	

**GREENRIDGE PROPERTIES PTY LTD**

LEVEL 1 INSPECTION AND TESTING  
MERIDIAN ESTATE - STAGE 4  
Level 1 Hill Test Location Plan

FIG. No. Figure 1

REV. 0

## **Appendix B: Table of field density test results**

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# Meridian Estate Stage 4 - 380735.001

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
1	1604500	8/04/2016	1	5782645	355319	-	101.5	omc	Pass	
	1604501		2	5782704	355344	-	97	1 dry	Pass	
	1604502		3	5782723	355368	-	93.5	0.5 dry	Fail	Retested see 1604540
2	1604540	9/04/2016	4	5782682	355353	-	108	2 dry	Pass	Retest of 1604502
	1604541		5	5782632	355334	-	103	2.5 dry	Pass	
	1604542		6	5782611	355344	-	98.5	2 dry	Pass	
	1604543		7	5782573	355312	-	99.5	0.5 dry	Pass	
3	1604591	11/04/2016	8	5782557	355284	-	96.5	omc	Pass	
	1604592		9	5782635	355351	-	96.5	2 dry	Pass	
	1604593		10	5782718	355365	-	100.5	2 dry	Pass	
	1604594		11	5782662	355363	-	96	omc	Pass	
4	1604609	12/04/2016	12	5782529	355291	-	95	2.5 dry	Pass	
	1604610		13	5782552	355292	-	100	2 dry	Pass	
	1604611		14	5782574	355320	-	99	1.5 dry	Pass	
	1604612		15	5782604	355340	-	101.5	1.5 dry	Pass	
5	1604688	13/04/2016	16	5782704	355358	3	97.5	2.5 dry	Pass	
	1604689		17	5782690	355373	3	90.5	omc	Fail	Retested see 1604761
	1604690		18	5782671	355374	3	99	1 wet	Pass	
	1604691		19	5782676	355343	3	98	2 dry	Pass	
6	1604758	14/04/2016	20	5782634	355347	3	96	2 dry	Pass	
	1604759		21	5782627	355324	3	95.5	2.5 dry	Pass	
	1604760		22	5782592	355324	3	99	1 wet	Pass	
	1604761		23	5782674	355370	3	96.5	2 dry	Pass	Retest of 1604689
	1604762		24	5782450	355226	3	95	1.5 dry	Pass	
	1604763		25	5782398	355217	3	96.5	3 dry	Pass	
	1604764	26	5782501	355276	3	93.5	1 dry	Fail	Retested see 1604891	



# Meridian Estate Stage 4 - 380735.001

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
7	1604824	15/04/2016	27	5782525	355242	1	96.5	2 dry	Pass	
	1604825		28	5782486	355210	1	98	1.5 dry	Pass	
	1604826		29	5782448	355203	1	97	1.5 dry	Pass	
8	1604889	15/04/2016	30	5782460	355247	2	98.5	2.5 dry	Pass	
	1604890		31	5782434	355232	2	100.5	1.5 dry	Pass	
	1604891		32	5782492	355267	3	96.5	2 dry	Pass	Retest of 1604764
	1605036		18/04/2016	33	5782508	355263	4	102.5	3 dry	Pass
1605037	34	5782538		355290	4	106	3 dry	Pass		
1605038	35	5782571		355306	3	99.5	2.5 dry	Pass		
1605039	36	5782598		355319	4	97.5	2 dry	Pass		
	1605040		37	5782628	355343	4	101.5	3 dry	Pass	
11	1605215	20/04/2016	41	5782526	355237		99.5	1.5 dry	Pass	
12	1605261	21/04/2016	42	5782437	355249	3	99	2.5 dry	Pass	
	1605262		43	5782437	355220	3	102.5	omc	Pass	
	1605263		44	5782467	355207	2	101	3 dry	Pass	
	1605264		45	5782445	355181	2	101	3 dry	Pass	
	13		1605553	26/04/2016	46	5782511	355276	5	98.5	0.5 dry
	1605554	47	5782547		355287	5	100.5	2 dry	Pass	
	1605555	48	5782538		355235	4	104.5	1.5 dry	Pass	
14	1605629	28/04/2016	49	5782669	355345	4	95	1.5 dry	Pass	
	1605630		50	5782696	355366	4	99	omc	Pass	
	1605631		51	5782732	355392	4	98	2 dry	Pass	
	51		1610714		172	5782599	355248	1	95	0.5 wet
	1610715		173	5782602	355231	1	100.5	0.5 dry	Pass	
	1610716		174	5782593	355239	2	98.5	1 wet	Pass	
	1610717		175	5782597	355210	2	97.5	omc	Pass	
74	1613316	1/12/2016	245	5782673	355264	1	97	2 wet	Pass	
	1613317		246	5782701	355263	2	97.5	3 wet	Pass	
	1613318		247	5782677	354924	3	99	1 wet	Pass	
	1613319		248	5782785	354914	2	100.5	1.5 wet	Pass	



# Meridian Estate Stage 4 - 380735.001

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
75	1613352	2/12/2016	249	5782785	354914	2	100.5	2 wet	Pass	Retest of 1613221, not related to stage 4
	1613353		250	5782785	354914	4	98	0.5 wet	Pass	Retest of 1613222, not related to stage 4
	1613354		251	5782709	355292	4	96	2 wet	Pass	
	1613355		252	5782737	355283	5	99	0.5 wet	Pass	
	1613356		253	5782733	355292	6	96.5	0.5 dry	Pass	
76	1613441	3/12/2016	254	5782553	355238	1	99	0.5 wet	Pass	
77	1613485	5/12/2016	255	5782537	355243	1	99	omc	Pass	
	1613486		256	5782498	355209	1	99	2 wet	Pass	
78	1613589	7/12/2016	257	5782165	355166	1	98	0.5 wet	Pass	
79	1613534	6/12/2016	258	5782589	355277	1	98.5	omc	Pass	
	1613535		259	5782595	355260	2	100	0.5 wet	Pass	
	1613536		260	5782581	355270	3	98	1.0 wet	Pass	
86	1700944	24/01/2017	284	5782689	355353	1	100	1 wet	Pass	
	1700945		285	5782676	355339	1	102.5	3.5 dry	Pass	
87	1701006	25/01/2017	286	5782684	355383	1	101	1.5 dry	Pass	
88	1701458	30/01/2017	287	5782673	355345	2	104	1.5 dry	Pass	
	1701459		288	5782709	355354	2	101.5	2 dry	Pass	
	1701460		289	5782677	355377	2	100.5	omc	Pass	



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

Head Office  
25 Metcalf Street  
DANDENONG SOUTH VIC 3175

Ph: +61 3 8796 7900  
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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** - 1

Report Date: 08/04/16

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.:	1604500	1604501	1604502							
ID No.:	1	2	3							
Lot No.:	-	-	-							
Date Sampled:	8/04/2016	8/04/2016	8/04/2016							
Time Sampled:	am/pm	am/pm	am/pm							
Date Tested:	8/04/2016	8/04/2016	8/04/2016							
Material Source:	Site Derived	Site Derived	Site Derived							
Material Description:	Silty Clay	Silty Clay	Silty Clay							
To Be Used As	Fill	Fill	Fill							
Sample Location :	E 355319 N 5782645	E 355344 N 5782704	E 355368 N 5782723							
Layer Depth (mm):	150	150	150							
Test Depth (mm):	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)							
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>1.93</b>	<b>1.90</b>	<b>1.86</b>							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m <sup>3</sup> ):	<b>1.89</b>	<b>1.95</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>omc</b>	<b>1% (dry)</b>	<b>0.5% (dry)</b>							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
<b>Hilf Density Ratio (%):</b>	<b>101.5</b>	<b>97.0</b>	<b>93.5</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

M. Robinson

Form No.: **CG.315.002**

Issue Date: 19/02/2013



Head Office  
25 Metcalf Street  
DANDENONG SOUTH VIC 3175

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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** - 2

Report Date: 12/04/16

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.:	1604540	1604541	1604542	1604543						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	9/04/2016	9/04/2016	9/04/2016	9/04/2016						
Time Sampled:	am/pm	am/pm	am/pm	am/pm						
Date Tested:	11/04/2016	11/04/2016	11/04/2016	11/04/2016						
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 355353 N 5782682 Layer 1	E 355334 N 5782632 Layer 1	E 355344 N 5782611 Layer 1	E 355312 N 5782573 Layer 1						
Layer Depth (mm):	150	150	150	150						
Test Depth (mm):	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)						
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>2.05</b>	<b>1.95</b>	<b>1.85</b>	<b>1.95</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.90</b>	<b>1.89</b>	<b>1.88</b>	<b>1.96</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>2.5% (dry)</b>	<b>2% (dry)</b>	<b>0.5% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>108.0</b>	<b>103.0</b>	<b>98.5</b>	<b>99.5</b>						
Min Hilf Density Ratio (%):	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.

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** - 3

Report Date: 12/04/16

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.:	1604591	1604592	1604593	1604594					
ID No.:	1	2	3	4					
Lot No.:	-	-	-	-					
Date Sampled:	11/04/2016	11/04/2016	11/04/2016	11/04/2016					
Time Sampled:	am/pm	am/pm	am/pm	am/pm					
Date Tested:	12/04/2016	12/04/2016	12/04/2016	12/04/2016					
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived					
Material Description:	Clay	Clay	Clay	Clay					
To Be Used As	Fill	Fill	Fill	Fill					
Sample Location :	E 355284 N 5782557 Layer 1	E 355351 N 5782635 Layer 2	E 355365 N 5782718 Layer 2	E 355363 N 5782662 Layer 2					
Layer Depth (mm):	150	150	150	150					
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>1.91</b>	<b>1.86</b>	<b>1.87</b>	<b>1.88</b>					
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-					
PCWD (t/m <sup>3</sup> ):	<b>1.98</b>	<b>1.92</b>	<b>1.86</b>	<b>1.96</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>2% (dry)</b>	<b>2% (dry)</b>	<b>omc</b>					
Adjusted Moisture Variation (of omc):	-	-	-	-					
Compactive Effort:	Standard	Standard	Standard	Standard					
<b>Hilf Density Ratio (%):</b>	<b>96.5</b>	<b>96.5</b>	<b>100.5</b>	<b>96.0</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

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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 - 4**

Report Date: 13/04/16

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.:	1604609	1604610	1604611	1604612						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	12/04/2016	12/04/2016	12/04/2016	12/04/2016						
Time Sampled:	am/pm	am/pm	am/pm	am/pm						
Date Tested:	12/04/2016	12/04/2016	12/04/2016	12/04/2016						
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 355291 N 5782529	E 355292 N 5782552	E 355320 N 5782574	E 355340 N 5782604						
Layer Depth (mm):	150	150	150	150						
Test Depth (mm):	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)						
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>1.78</b>	<b>1.93</b>	<b>1.89</b>	<b>1.88</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.87</b>	<b>1.93</b>	<b>1.91</b>	<b>1.85</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>2.5% (dry)</b>	<b>2% (dry)</b>	<b>1.5% (dry)</b>	<b>1.5% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>95.0</b>	<b>100.0</b>	<b>99.0</b>	<b>101.5</b>						
Min Hilf Density Ratio (%):	95	95	95	95						

**Remarks:**



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APPROVED SIGNATORY

M. Robinson

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Customer: Grosevnor Lodge Pty Ltd

Report Number: **380735** - 5

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

Report Date: 14/04/16

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.:	1604688	1604689	1604690	1604691						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	13/04/2016	13/04/2016	13/04/2016	13/04/2016						
Time Sampled:	pm	pm	pm	pm						
Date Tested:	13/04/2016	13/04/2016	13/04/2016	13/04/2016						
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 355358 N 5782704 Layer 3	E 355373 N 5782690 Layer 3	E 355374 N 5782671 Layer 3	E 355343 N 5782676 Layer 3						
Layer Depth (mm):	150	150	150	150						
Test Depth (mm):	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)						
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>1.87</b>	<b>1.81</b>	<b>2.02</b>	<b>1.89</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.92</b>	<b>2.00</b>	<b>2.04</b>	<b>1.92</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>2.5% (dry)</b>	<b>omc</b>	<b>1% (wet)</b>	<b>2% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>97.5</b>	<b>90.5</b>	<b>99.0</b>	<b>98.0</b>						
Min Hilf Density Ratio (%):	95	95	95	95						

Remarks:



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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** - 6

Report Date: 15/04/16

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.:	1604758	1604759	1604760	1604761	1604762	1604763	1604764		
ID No.:	1	2	3	4	5	6	7		
Lot No.:	-	-	-	-	-	-	-		
Date Sampled:	14/04/2016	14/04/2016	14/04/2016	14/04/2016	14/04/2016	14/04/2016	14/04/2016		
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm	am/pm	am/pm		
Date Tested:	15/04/2016	15/04/2016	15/04/2016	15/04/2016	15/04/2016	15/04/2016	15/04/2016		
Material Source:	Site Derived	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	Silty Clay		
To Be Used As	Fill	Fill	Fill	Fill	Fill	Fill	Fill		
Sample Location :	E 355347 N 5782634 Layer 3	E 355324 N 5782627 Layer 3	E 355324 N 5782592 Layer 3	E 355370 N 5782674 Layer 3	E 355226 N 5782450 Layer 3	E 355217 N 5782398 Layer 3	E 355276 N 5782501 Layer 3		
Layer Depth (mm):	150	150	150	150	150	150	150		
Test Depth (mm):	125	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)	AS1289.1.2.1.6.4(b)		
Max Size (mm):	19.0	19.0	19.0	19.0	19.0	19.0	19.0		
Oversize Wet (%):	0	0	0	0	0	0	0		
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>1.85</b>	<b>1.87</b>	<b>1.99</b>	<b>1.89</b>	<b>1.88</b>	<b>1.88</b>	<b>1.88</b>		
Fld. Moisture Content (%) AS1289.2.1.1.1:	-	-	-	-	-	-	-		
PCWD (t/m <sup>3</sup> ):	<b>1.93</b>	<b>1.96</b>	<b>2.01</b>	<b>1.96</b>	<b>1.98</b>	<b>1.94</b>	<b>2.01</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>2.5% (dry)</b>	<b>1% (wet)</b>	<b>2% (dry)</b>	<b>1.5% (dry)</b>	<b>3% (dry)</b>	<b>1% (dry)</b>		
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-	-		
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard	Standard		
Hilf Density Ratio (%):	<b>96.0</b>	<b>95.5</b>	<b>99.0</b>	<b>96.5</b>	<b>95.0</b>	<b>96.5</b>	<b>93.5</b>		
Min Hilf Density Ratio (%):	95	95	95	95	95	95	95		

Remarks:



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APPROVED SIGNATORY

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** - 7

Report Date: 15/04/16

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.:	1604824	1604825	1604826						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	15/04/2016	15/04/2016	15/04/2016						
Time Sampled:	am	am	am						
Date Tested:	15/04/2016	15/04/2016	15/04/2016						
Material Source:	Site Derived	Site Derived	Site Derived						
Material Description:	Silty Clay	Silty Clay	Silty Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	E 355242 N 5782525 Layer 1	E 355210 N 5782486 Layer 1	E 355203 N 5782448 Layer 1						
Layer Depth (mm):	150	150	150						
Test Depth (mm):	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)						
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>1.89</b>	<b>1.87</b>	<b>1.88</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.96</b>	<b>1.91</b>	<b>1.94</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>1.5% (dry)</b>	<b>1.5% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>96.5</b>	<b>98.0</b>	<b>97.0</b>						
Min Hilf Density Ratio (%):	95	95	95						

**Remarks:**



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APPROVED SIGNATORY

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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** - 8

Report Date: 20/04/16

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.:	1604889	1604890	1604891						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	15/04/2016	15/04/2016	15/04/2016						
Time Sampled:	pm	pm	pm						
Date Tested:	18/04/2016	18/04/2016	18/04/2016						
Material Source:	Insitu	Insitu	Insitu						
Material Description:	Site Derived	Site Derived	Site Derived						
To Be Used As	Silty Clay	Silty Clay	Silty Clay						
Sample Location :	E 355247 N 5782460 Layer 2	E 355232 N 5782434 Layer 2	E 355267 N 5782492 Layer 3						
Layer Depth (mm):	150	150	150						
Test Depth (mm):	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)						
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>1.89</b>	<b>1.94</b>	<b>1.90</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.91</b>	<b>1.93</b>	<b>1.97</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>2.5% (dry)</b>	<b>1.5% (dry)</b>	<b>2% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>98.5</b>	<b>100.5</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 - 9**

Report Date: 20/04/16

C.G Order No: 151727

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.:	1605036	1605037	1605038	1605039	1605040				
ID No.:	1	2	3	4	5				
Lot No.:	-	-	-	-	-				
Date Sampled:	18/04/2016	18/04/2016	18/04/2016	18/04/2016	18/04/2016				
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm				
Date Tested:	19/04/2016	19/04/2016	18/04/2016	18/04/2016	18/04/2016				
Material Source:	Site Derived	Site Derived	Site Derived	Site Derived	Site Derived				
Material Description:	Clay	Clay	Clay	Clay	Clay				
To Be Used As	-	-	-	-	-				
Sample Location :	E 355263 N 5782508 Layer 4	E 355290 N 5782538 Layer 4	E 355306 N 5782571 Layer 3	E 355319 N 5782598 Layer 4	E 355343 N 5782628 Layer 4				
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	0	0	0				
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>1.89</b>	<b>1.89</b>	<b>1.88</b>	<b>1.88</b>	<b>1.94</b>				
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-				
PCWD (t/m <sup>3</sup> ):	<b>1.85</b>	<b>1.77</b>	<b>1.89</b>	<b>1.92</b>	<b>1.92</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>3% (dry)</b>	<b>3% (dry)</b>	<b>2.5% (dry)</b>	<b>2% (dry)</b>	<b>3% (dry)</b>				
Adjusted Moisture Variation (of omc):	-	-	-	-	-				
Compactive Effort:	Standard	Standard	Standard	Standard	Standard				
<b>Hilf Density Ratio (%):</b>	<b>102.5</b>	<b>106.0</b>	<b>99.5</b>	<b>97.5</b>	<b>101.5</b>				
Min Hilf Density Ratio (%):									

**Remarks:**



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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** - 11

Report Date: 21/04/16

C.G Order No: **151729**

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.:	<b>1605215</b>									
ID No.:	1									
Lot No.:	-									
Date Sampled:	20/04/2016									
Time Sampled:	pm									
Date Tested:	21/04/2016									
Material Source:	Site Derived									
Material Description:	Silty Clay									
To Be Used As	Fill									
Sample Location :	E 355237 N 5782526									
Layer Depth (mm):	150									
Test Depth (mm):	125									
Sampling Procedure:	AS1289.1.2.1.6.4(b)									
Max Size (mm):	19.0									
Oversize Wet (%):	0									
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>1.92</b>									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m <sup>3</sup> ):	<b>1.93</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>									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
<b>Hilf Density Ratio (%):</b>	<b>99.5</b>									
Min Hilf Density Ratio (%):	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** - 12

Report Date: 23/04/16

C.G Order No: **151730**

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.:	1605261	1605262	1605263	1605264						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	21/04/2016	21/04/2016	21/04/2016	21/04/2016						
Time Sampled:	am	am	am	am						
Date Tested:	22/04/2016	22/04/2016	22/04/2016	22/04/2016						
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 355249 N 5782437 Layer 3	E 355220 N 5782437 Layer 3	E 355207 N 5782467 Layer 2	E 355181 N 5782445 Layer 2						
Layer Depth (mm):	150	150	150	150						
Test Depth (mm):	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)						
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>1.96</b>	<b>1.97</b>	<b>1.93</b>	<b>1.94</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.98</b>	<b>1.93</b>	<b>1.91</b>	<b>1.93</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>2.5% (dry)</b>	<b>omc</b>	<b>3% (dry)</b>	<b>3% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>99.0</b>	<b>102.5</b>	<b>101.0</b>	<b>101.0</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

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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** - 13

Report Date: 10/05/16

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

Sample No.:	1605553	1605554	1605555						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	26/04/2016	26/04/2016	26/04/2016						
Time Sampled:	am/pm	am/pm	am/pm						
Date Tested:	27/04/2016	27/04/2016	27/04/2016						
Material Source:	Site Derived	Site Derived	Site Derived						
Material Description:	Silty Clay	Silty Clay	Silty Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	E 355276 N 5782511 Layer 5	E 355287 N 5782547 Layer 5	E 355235 N 5782538 Layer 4						
Layer Depth (mm):	150	150	150						
Test Depth (mm):	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)						
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>1.95</b>	<b>2.00</b>	<b>2.08</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.98</b>	<b>1.98</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>0.5% (dry)</b>	<b>2% (dry)</b>	<b>1.5% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>98.5</b>	<b>100.5</b>	<b>104.5</b>						
Min Hilf Density Ratio (%):	95	95	95						

**Remarks:**



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M. Robinson

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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** - 14

Report Date: 10/05/16

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

Sample No.:	1605629	1605630	1605631						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	28/04/2016	28/04/2016	28/04/2016						
Time Sampled:	am	am	am						
Date Tested:	29/04/2016	27/04/2016	27/04/2016						
Material Source:	Site Derived	Site Derived	Site Derived						
Material Description:	Silty Clay	Silty Clay	Silty Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	E 355345 N 5782669 Layer 4	E 355366 N 5782696 Layer 4	E 355392 N 5782732 Layer 4						
Layer Depth (mm):	150	150	150						
Test Depth (mm):	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)						
Max Size (mm):	19.0	19.0	19.0						
Oversize Wet (%):	7	0	0						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>1.90</b>	<b>1.91</b>	<b>1.90</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	-	<b>1.93</b>	<b>1.94</b>						
APCWD (t/m <sup>3</sup> ):	<b>1.99</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>2% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>95.0</b>	<b>99.0</b>	<b>98.0</b>						
Min Hilf Density Ratio (%):	95	95	95						

**Remarks:**



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## HILF DENSITY RATIO REPORT

Report Number: **380735 - 51**

Report Date: 12/09/16

C.G Order No: -

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.:	1610714	1610715	1610716	1610717						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	10/09/2016	10/09/2016	10/09/2016	10/09/2016						
Time Sampled:	am/pm	am/pm	am/pm	am/pm						
Date Tested:	12/09/2016	12/09/2016	12/09/2016	12/09/2016						
Material Source:	Insitu	Insitu	Insitu	Insitu						
Material Description:	Clay	Clay	Clay	Clay						
To Be Used As	Fill	Fill	Fill	Fill						
Sample Location :	355248E 5782599N Layer 1	355231E 5782602N Layer 1	355239E 5782593N Layer 2	355210E 5782597N Layer 2						
Layer Depth (mm):	200	200	200	200						
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 (%):	6	0	0	7						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>1.94</b>	<b>1.98</b>	<b>1.99</b>	<b>2.01</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m <sup>3</sup> ):	-	<b>1.97</b>	<b>2.02</b>	-						
APCWD (t/m <sup>3</sup> )	<b>2.04</b>	-	-	<b>2.06</b>						
O.M.C (%) AS1289.5.7.1:	-	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-						
Moisture Variation (of omc):	<b>0.5% (wet)</b>	<b>0.5% (dry)</b>	<b>1% (wet)</b>	<b>omc</b>						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>95.0</b>	<b>100.5</b>	<b>98.5</b>	<b>97.5</b>						
Min Hilf Density Ratio (%):	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 - 74**

Report Date: 02/12/16

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.:	1613316	1613317	1613318	1613319					
ID No.:	1	2	3	4					
Lot No.:	-	-	-	-					
Date Sampled:	1/12/2016	1/12/2016	1/12/2016	1/12/2016					
Time Sampled:	am/pm	am/pm	am/pm	am/pm					
Date Tested:	2/12/2016	2/12/2016	2/12/2016	2/12/2016					
Material Source:	Site derived	Site derived	Site derived	Site derived					
Material Description:	Clay	Clay	Clay	Clay					
To Be Used As	Fill	Fill	Fill	Fill					
Sample Location :	N 5782673 E 355264 Layer 1	N 5782701 E 355263 Layer 2	N 5782677 E 354924 Layer 3	N 5782785 E 354914 Layer 2					
Layer Depth (mm):	200	200	200	200					
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 (%):	3	3	3	3					
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.07</b>	<b>2.11</b>	<b>2.12</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>2.14</b>	<b>2.17</b>	<b>2.15</b>	<b>2.14</b>					
O.M.C (%) AS1289.5.7.1:	-	-	-	-					
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-					
Moisture Variation (of omc):	<b>2% (wet)</b>	<b>3% (wet)</b>	<b>1% (wet)</b>	<b>1.5% (wet)</b>					
Adjusted Moisture Variation (of omc):	-	-	-	-					
Compactive Effort:	Standard	Standard	Standard	Standard					
<b>Hilf Density Ratio (%):</b>	<b>97.0</b>	<b>97.5</b>	<b>99.0</b>	<b>100.5</b>					
Min Hilf Density Ratio (%):	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** - 75

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

Sample No.:	1613352	1613353	1613354	1613355	1613356					
ID No.:	1	2	3	4	5					
Lot No.:	-	-	-	-	-					
Date Sampled:	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016					
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm					
Date Tested:	5/12/2016	5/12/2016	5/12/2016	5/12/2016	5/12/2016					
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 :	N 5782785 E 354914 Layer 2	N 5782785 E 354914 Layer 4	N 5782709 E 355292 Layer 4	N 5782737 E 355283 Layer 5	N 5782733 E 355292 Layer 6					
Layer Depth (mm):	200	200	200	200	200					
Test Depth (mm):	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)					
Max Size (mm):	19.0	19.0	19.0	19.0	19.0					
Oversize Wet (%):	2	0	4	4	3					
Fld. Wet Density ( $t/m^3$ ) AS 1289.5.8.1:	<b>2.11</b>	<b>2.06</b>	<b>2.04</b>	<b>2.13</b>	<b>2.08</b>					
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-					
PCWD ( $t/m^3$ ):	-	<b>2.10</b>	-	-	-					
APCWD ( $t/m^3$ ):	<b>2.10</b>	-	<b>2.12</b>	<b>2.15</b>	<b>2.16</b>					
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-					
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-					
Moisture Variation (of omc):	<b>2% (wet)</b>	<b>0.5% (wet)</b>	<b>2% (wet)</b>	<b>0.5% (wet)</b>	<b>0.5% (dry)</b>					
Adjusted Moisture Variation (of omc):	-	-	-	-	-					
Compactive Effort:	Standard	Standard	Standard	Standard	Standard					
<b>Hilf Density Ratio (%):</b>	<b>100.5</b>	<b>98.0</b>	<b>96.0</b>	<b>99.0</b>	<b>96.5</b>					
Min Hilf Density Ratio (%):	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 - 76**

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>1613441</b>									
ID No.:	1									
Lot No.:	-									
Date Sampled:	3/12/2016									
Time Sampled:	am/pm									
Date Tested:	5/12/2016									
Material Source:	Site derived									
Material Description:	Clay									
To Be Used As	Fill									
Sample Location :	355238 E 5782553 N Layer 1									
Layer Depth (mm):	200									
Test Depth (mm):	150									
Sampling Procedure:	AS1289.1.2.1.6.4(b)									
Max Size (mm):	19.0									
Oversize Wet (%):	2									
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.11</b>									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m <sup>3</sup> ):	-									
APCWD (t/m <sup>3</sup> )	<b>2.13</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>99.0</b>									
Min Hilf Density Ratio (%):	95									

**Remarks:**



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APPROVED SIGNATORY

M.ROBINSON

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## HILF DENSITY RATIO REPORT

Report Number: **380735 - 77**

Report Date: 07/12/16

C.G Order No: -

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.:	1613485	1613486							
ID No.:	1	2							
Lot No.:	-	-							
Date Sampled:	5/12/2016	5/12/2016							
Time Sampled:	am/pm	am/pm							
Date Tested:	6/12/2016	6/12/2016							
Material Source:	Site Derived	Site Derived							
Material Description:	Clay	Clay							
To Be Used As	Fill	Fill							
Sample Location :	355243 E 5782537 N Layer 1	355209 E 5782498 N Layer 1							
Layer Depth (mm):	200	200							
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>2.05</b>	<b>2.04</b>							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-							
PCWD (t/m <sup>3</sup> ):	<b>2.07</b>	<b>2.06</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>2% (wet)</b>							
Adjusted Moisture Variation (of omc):	-	-							
Compactive Effort:	Standard	Standard							
<b>Hilf Density Ratio (%):</b>	<b>99.0</b>	<b>99.0</b>							
Min Hilf Density Ratio (%):	95	95							

**Remarks:**



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Customer: Grosevnor Lodge Pty Ltd

Report Number: **380735 -78**

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

Report Date: 07/12/16

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

<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:**



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

Report Number: **380735** - 79

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.:	1613534	1613535	1613536						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	6/12/2016	6/12/2016	6/12/2016						
Time Sampled:	am/pm	am/pm	am/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 :	355277 E	355260 E	355270 E						
	5782589 N	5782595 N	5782591 N						
	Layer 1	Layer 2	Layer 3						
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 (%):	3	3	10						
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.09</b>	<b>2.18</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>2.12</b>	<b>2.17</b>	<b>2.23</b>						
O.M.C (%) AS1289.5.7.1:	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-						
Moisture Variation (of omc):	<b>omc</b>	<b>0.5% (wet)</b>	<b>1% (wet)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>98.5</b>	<b>100.5</b>	<b>98.0</b>						
Min Hilf Density Ratio (%):	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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Ph: +61 3 8796 7900  
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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 - 86**

Report Date: 28/01/17

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.:	1700944	1700945								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	24/01/2017	24/01/2017								
Time Sampled:	pm	pm								
Date Tested:	25/01/2017	25/01/2017								
Material Source:	Site Derived	Site Derived								
Material Description:	Clay	Clay								
To Be Used As	Fill	Fill								
Sample Location :	E355353 N5782689 Layer 1	E355339 N5782676 Layer 1								
Layer Depth (mm):	200	200								
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>2.00</b>	<b>1.96</b>								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m <sup>3</sup> ):	<b>2.00</b>	<b>1.91</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% (wet)</b>	<b>3.5% (dry)</b>								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
<b>Hilf Density Ratio (%):</b>	<b>100.0</b>	<b>102.5</b>								
Min Hilf Density Ratio (%):	95	95								

Remarks:



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APPROVED SIGNATORY

J Lamont

Form No.: **CG.315.002**

Issue Date: 19/02/2013

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25 Metcalf Street  
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Ph: +61 3 8796 7900  
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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 - 87**

Report Date: 30/01/17

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>1701006</b>									
ID No.:	1									
Lot No.:	-									
Date Sampled:	25/01/2017									
Time Sampled:	am									
Date Tested:	27/01/2017									
Material Source:	Site Derived									
Material Description:	Clay									
To Be Used As	Fill									
Sample Location :	Clay Fill E 355383 N 5782684 Layer 1									
Layer Depth (mm):	200									
Test Depth (mm):	150									
Sampling Procedure:	AS1289.1.2.1.6.4(b)									
Max Size (mm):	19.0									
Oversize Wet (%):	0									
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.07</b>									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m <sup>3</sup> ):	<b>2.04</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>									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
<b>Hilf Density Ratio (%):</b>	<b>101.0</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

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

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735 - 88**

Report Date: 31/01/17

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.:	1701458	1701459	1701460						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	30/01/2017	30/01/2017	30/01/2017						
Time Sampled:	am/pm	am/pm	am/pm						
Date Tested:	31/01/2017	31/01/2017	31/01/2017						
Material Source:	Site Derived	Site Derived	Site Derived						
Material Description:	Clay	Clay	Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	E355345 N5782673 Layer 2	E355354 N5782709 Layer 2	E355377 N5782677 Layer 2						
Layer Depth (mm):	200	200	200						
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>2.15</b>	<b>2.07</b>	<b>2.11</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>2.07</b>	<b>2.04</b>	<b>2.10</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>omc</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>104.0</b>	<b>101.5</b>	<b>100.5</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

Report Number: **380735 - 89**

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

Report Date: 02/02/17

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.:	1701604	1701605	1701606	1701607	1701608					
ID No.:	1	2	3	4	5					
Lot No.:	-	-	-	-	-					
Date Sampled:	1/02/2017	1/02/2017	1/02/2017	1/02/2017	1/02/2017					
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm					
Date Tested:	2/02/2017	2/02/2017	2/02/2017	2/02/2017	2/02/2017					
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 :	E355345 N5782701 Layer 3	E355351 N5782667 Layer 3	E355381 N5782715 Layer 3	E355368 N5782656 Layer 4	E355378 N5782686 Layer 4					
Layer Depth (mm):	200	200	200	200	200					
Test Depth (mm):	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)					
Max Size (mm):	19.0	19.0	19.0	19.0	19.0					
Oversize Wet (%):	0	0	0	0	0					
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.18</b>	<b>2.14</b>	<b>2.06</b>	<b>2.10</b>	<b>2.10</b>					
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-					
PCWD (t/m <sup>3</sup> ):	<b>2.12</b>	<b>2.08</b>	<b>2.01</b>	<b>2.12</b>	<b>2.06</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>0.5% (dry)</b>	<b>1.5% (dry)</b>	<b>2.5% (dry)</b>	<b>omc</b>	<b>0.5% (dry)</b>					
Adjusted Moisture Variation (of omc):	-	-	-	-	-					
Compactive Effort:	Standard	Standard	Standard	Standard	Standard					
<b>Hilf Density Ratio (%):</b>	<b>103.0</b>	<b>102.5</b>	<b>102.0</b>	<b>99.0</b>	<b>102.0</b>					
Min Hilf Density Ratio (%):	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

Report Number: **380735 - 90**

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

Report Date: 22/02/17

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.:	1702569	1702570	1702571						
ID No.:	1	2	3						
Lot No.:	-	-	-						
Date Sampled:	16/02/2017	16/02/2017	16/02/2017						
Time Sampled:	am/pm	am/pm	am/pm						
Date Tested:	17/02/2017	17/02/2017	17/02/2017						
Material Source:	Site Derived	Site Derived	Site Derived						
Material Description:	Clay	Clay	Clay						
To Be Used As	Fill	Fill	Fill						
Sample Location :	E355324	E355317	E355329						
	N5782691	N5782715	N5782701						
	trench	Layer 1	Layer 1						
Layer Depth (mm):	200	200	200						
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>1.92</b>	<b>1.94</b>	<b>1.93</b>						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m <sup>3</sup> ):	<b>1.97</b>	<b>1.97</b>	<b>1.91</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>0.5% (wet)</b>	<b>omc</b>	<b>1.5% (dry)</b>						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
<b>Hilf Density Ratio (%):</b>	<b>98.0</b>	<b>98.5</b>	<b>101.0</b>						
Min Hilf Density Ratio (%):	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

Report Number: **380735 - 91**

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

Report Date: 22/02/17

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.:	1702660	1702661	1702662							
ID No.:	1	2	3							
Lot No.:	-	-	-							
Date Sampled:	17/02/2017	17/02/2017	17/02/2017							
Time Sampled:	am/pm	am/pm	am/pm							
Date Tested:	18/02/2017	20/02/2017	20/02/2017							
Material Source:	Site Derived	Site Derived	Site Derived							
Material Description:	Clay	Clay	Clay							
To Be Used As	Fill	Fill	Fill							
Sample Location :	E355335	E355316	E355315							
	N5782711	N5782676	N5782690							
	Layer 2	Layer 3	Layer 4							
Layer Depth (mm):	200	200	200							
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>1.96</b>	<b>1.91</b>	<b>1.97</b>							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m <sup>3</sup> ):	<b>1.94</b>	<b>1.91</b>	<b>2.01</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>1.5% (wet)</b>	<b>omc</b>							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
<b>Hilf Density Ratio (%):</b>	<b>101.0</b>	<b>100.0</b>	<b>98.0</b>							
Min Hilf Density Ratio (%):	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

Report Number: **380735 - 92**

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

Report Date: 22/02/17

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

<b>Sample No.:</b>	<b>1702738</b>									
ID No.:	1									
Lot No.:	-									
Date Sampled:	18/02/2017									
Time Sampled:	am/pm									
Date Tested:	20/02/2017									
Material Source:	Site Derived									
Material Description:	Silty Clay									
To Be Used As	Fill									
Sample Location :	355312E									
	5782698N									
	-									
	Layer 5									
Layer Depth (mm):	200									
Test Depth (mm):	150									
Sampling Procedure:	AS1289.1.2.1.6.4(b)									
Max Size (mm):	19.0									
Oversize Wet (%):	0									
Fld. Wet Density (t/m <sup>3</sup> ) AS 1289.5.8.1:	<b>2.03</b>									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m <sup>3</sup> ):	<b>2.05</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>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

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

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 93

Report Date: 25/02/17

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.:	1702869	1702870								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	21/02/2017	21/02/2017								
Time Sampled:	am/pm	am/pm								
Date Tested:	22/02/2017	22/02/2017								
Material Source:	Site Derived	Site Derived								
Material Description:	Silty Clay	Silty Clay								
To Be Used As	Fill	Fill								
Sample Location :	E355339	E355298								
	N5782721	N5782680								
	-	-								
	Layer 6	Layer 6								
Layer Depth (mm):	200	200								
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>2.13</b>	<b>2.10</b>								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m <sup>3</sup> ):	<b>1.95</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>0.5% (dry)</b>	<b>omc</b>								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
<b>Hilf Density Ratio (%):</b>	<b>109.0</b>	<b>104.0</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

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

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 401  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 4 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 3.5% wet to 3.5% 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 402  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

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**Tim Chadwick**  
Project Director

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**PROJECT** : Lot 403  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
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**PROJECT** : Lot 404  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 405  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 406  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 4 in Clyde North.

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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 407  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 408  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 409  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 411  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 414  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
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**DATE** : June 2017

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 415  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 4 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 3.5% wet to 3.5% 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).

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### Chadwick Geotechnics PTY LTD



**Robert Barden**  
Geotechnical Engineer



**Tim Chadwick**  
Project Director

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**PROJECT** : Lot 416  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

**CLIENT** : Grosvenor Lodge Pty Ltd  
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**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 419  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 420  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 421  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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### SUMMARY

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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 422  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 423  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 424  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 425  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 426  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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**PROJECT** : Lot 427  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

**CLIENT** : Grosvenor Lodge Pty Ltd  
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**DATE** : June 2017

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 428  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

**CLIENT** : Grosvenor Lodge Pty Ltd  
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**DATE** : June 2017

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Geotechnical Engineer



**Tim Chadwick**  
Project Director

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**PROJECT** : Lot 429  
Meridian Estate Stage 4  
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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 430  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
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**DATE** : June 2017

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 431  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 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 4 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 3.5% wet to 3.5% 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 8<sup>th</sup> April 2016 and was completed on the 21<sup>st</sup> February 2017. 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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Meridian Estate Stage 4  
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**Tim Chadwick**  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 433  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 434  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

**DATE** : June 2017

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Geotechnical Engineer



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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot 435  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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

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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 436  
Meridian Estate Stage 4  
Clyde North VIC

**Chadwick Geotechnics REF** : 3807351 STG4

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