

REPORT

Level One Inspection and Testing Services

**Meridian Estate Stage 3, Clyde North
Lot's 306 to 308, 313 to 318 and 322 to 348**

Prepared for:

Grosvenor Lodge Pty Ltd

June 2017

Our Ref: 3807351 Stage 3.v1



**CHADWICK
GEOTECHNICS**

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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 3 in Clyde North.

The inspection and testing of earthworks has been carried out in accordance with AS3798-2007 Table 8.1¹, '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 306 to 308, 313 to 318 and 322 to Lot 348 at the Meridian Estate Stage 3. 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)

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

3 Geology

Published information² 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:

Compaction Requirement	95% Standard Compaction
------------------------	-------------------------

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 14th April 2016 and was completed on the 4th April 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 1289.5.8.1³. 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**.

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

³ 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 3 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 $\pm 4.0\%$ 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 3 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 3 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 14th April 2016 and was completed on the 4th April 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

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www.chadwickgeotechnics.com.au

Appendix A: Density test location plan



LEGEND

Stage boundary


X

Hilf density test location

Notes:
1. Aerials sourced from Nearmap data; date flown 08.03.2017 (Images Copyright 2017).
2. Base plan supplied by Brown Property Group - Dwg. Ref. 8129-3-E-RD_C.dwg; received on 22.06.2017. Base plan has been manually rectified based on aerial imagery and is for information only.

SCALE 1: 1,250

0 10 20 30 40 50 60 70 80 (m)



CHADWICK GEOTECHNICS

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Dandenong South, VIC
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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 3

Level 1 Hilf Test Location Plan

FIG. No. Figure 1

REV. 0

Appendix B: Table of field density test results



Meridian Estate Stage 3 - 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
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, not related to Stage 3
	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, not related to Stage 3
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, not related to Stage 3
10	1605098	19/04/2016	38	5782444	355181	2	102.5	omc	Pass	
	1605099		39	5782536	355216	1	98	2.5 dry	Pass	
	1605100		40	5782494	355189	2	97.5	1 wet	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	



Meridian Estate Stage 3 - 380735.001

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Dandenong South VIC 3175

Tel : (03) 8796 7900
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Report No	Sample No	Date	Test Number	Location [N]	Location [E]	Layer	Density Ratio HILF test (%)	Moisture Variation From OMC	Pass / Fail	Remarks
13	1605553	26/04/2016	46	5782511	355276	5	98.5	0.5 dry	Pass	
	1605554		47	5782547	355287	5	100.5	2 dry	Pass	
	1605555		48	5782538	355235	4	104.5	1.5 dry	Pass	
51	1610714		172	5782599	355248	1	95	0.5 wet	Pass	
	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	
52	1610978	23/09/2016	176	5782601	355244	-	100	omc	Pass	
53	1611106	27/09/2016	177	5782483	355098	1	100	1.5 dry	Pass	
	1611105		178	5782462	355108	1	98	1 wet	Pass	
	1611107		179	5782439	355128	1	95	0.5 dry	Pass	
	1611108		180	5782480	355152	1	96.5	omc	Pass	
54	1611341	7/10/2016	181	5782473	355109	-	97.5	2.5 dry	Pass	
	1611342		182	5782451	355127	-	94	2 dry	Fail	Retested see 1611916
55	1611915	26/10/2016	183	5782485	355155	-	98	2 dry	Pass	
	1611916		184	5782461	355109	-	97	omc	Pass	Retest of 1611342
56	1612003	28/10/2016	185	5782476	355151	-	102.5	2 wet	Pass	
57	1612053	2/11/2016	186	5782456	355150	-	100.5	1.5 dry	Pass	
	1612054		187	5782458	355177	-	95	1 dry	Pass	
58	1612088	3/11/2016	188	5782407	355081	1	99	omc	Pass	
	1612089		189	5782526	355187	2	98.5	1.5 dry	Pass	
	1612090		190	5782551	355195	2	95.5	0.5 wet	Pass	
59	1612115	4/11/2016	191	5782445	355177	-	99	0.5 dry	Pass	
	1612116		192	5782458	355205	-	96	0.5 dry	Pass	
	1612117		193	5782461	355121	-	98	2.5 dry	Pass	
60	1612226	7/11/2016	194	5782563	355183	-	97.5	2.5 dry	Pass	
	1612227		195	5782545	355192	-	96.5	1.5 dry	Pass	



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[illegible]

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** - 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 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 ³) AS 1289.5.8.1:	1.85	1.87	1.99	1.89	1.88	1.88	1.88			
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-	-			
PCWD (t/m ³):	1.93	1.96	2.01	1.96	1.98	1.94	2.01			
APCWD (t/m ³):	-	-	-	-	-	-	-			
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-	-			
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-	-			
Moisture Variation (of omc):	2% (dry)	2.5% (dry)	1% (wet)	2% (dry)	1.5% (dry)	3% (dry)	1% (dry)			
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-	-			
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard	Standard			
Hilf Density Ratio (%):	96.0	95.5	99.0	96.5	95.0	96.5	93.5			
Min Hilf Density Ratio (%):	95	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.

APPROVED SIGNATORY

M. Robinson

Form No.: **CG.315.002**

Issue Date: 19/02/2013

Head Office
25 Metcalf Street
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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** - 7

Report Date: 15/04/16

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.:	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 ³) AS 1289.5.8.1:	1.89	1.87	1.88							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m ³):	1.96	1.91	1.94							
APCWD (t/m ³):	-	-	-							
O.M.C (%) AS1289.5.7.1:	-	-	-							
Moisture Ratio (%) AS1289.5.4.1:	-	-	-							
Moisture Variation (of omc):	2% (dry)	1.5% (dry)	1.5% (dry)							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
Hilf Density Ratio (%):	96.5	98.0	97.0							
Min Hilf Density Ratio (%):	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** - 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^3) AS 1289.5.8.1:	1.89	1.94	1.90						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-						
PCWD (t/m^3):	1.91	1.93	1.97						
APCWD (t/m^3):	-	-	-						
O.M.C (%) AS1289.5.7.1:	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-						
Moisture Variation (of omc):	2.5% (dry)	1.5% (dry)	2% (dry)						
Adjusted Moisture Variation (of omc):	-	-	-						
Compactive Effort:	Standard	Standard	Standard						
Hilf Density Ratio (%):	98.5	100.5	96.5						
Min Hilf Density Ratio (%):	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 - 10**

Report Date: 19/04/16

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.:	1605098	1605099	1605100							
ID No.:	1	2	3							
Lot No.:	-	-	-							
Date Sampled:	19/04/2016	19/04/2016	19/04/2016							
Time Sampled:	am/pm	am/pm	am/pm							
Date Tested:	20/04/2016	20/04/2016	20/04/2016							
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 355181 N 5782444 Layer 2	E 355216 N 5782536 Layer 1	E 355189 N 5782494 Layer 2							
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 ³) AS 1289.5.8.1:	2.05	1.90	1.94							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m ³):	2.01	1.93	1.99							
APCWD (t/m ³):	-	-	-							
O.M.C (%) AS1289.5.7.1:	-	-	-							
Moisture Ratio (%) AS1289.5.4.1:	-	-	-							
Moisture Variation (of omc):	omc	2.5% (dry)	1% (wet)							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
Hilf Density Ratio (%):	102.5	98.0	97.5							
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

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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.:	1605215									
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 ³) AS 1289.5.8.1:	1.92									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m ³):	1.93									
APCWD (t/m ³)	-									
O.M.C (%) AS1289.5.7.1:	-									
Moisture Ratio (%) AS1289.5.4.1:	-									
Moisture Variation (of omc):	1.5% (dry)									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
Hilf Density Ratio (%):	99.5									
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** - 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 ³) AS 1289.5.8.1:	1.96	1.97	1.93	1.94						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m ³):	1.98	1.93	1.91	1.93						
APCWD (t/m ³):	-	-	-	-						
O.M.C (%) AS1289.5.7.1:	-	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-						
Moisture Variation (of omc):	2.5% (dry)	omc	3% (dry)	3% (dry)						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
Hilf Density Ratio (%):	99.0	102.5	101.0	101.0						
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** - 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 ³) AS 1289.5.8.1:	1.95	2.00	2.08							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m ³):	1.98	1.98	1.99							
APCWD (t/m ³):	-	-	-							
O.M.C (%) AS1289.5.7.1:	-	-	-							
Moisture Ratio (%) AS1289.5.4.1:	-	-	-							
Moisture Variation (of omc):	0.5% (dry)	2% (dry)	1.5% (dry)							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
Hilf Density Ratio (%):	98.5	100.5	104.5							
Min Hilf Density Ratio (%):	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** - 51

Report Date: 12/09/16

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.:	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 ³) AS 1289.5.8.1:	1.94	1.98	1.99	2.01						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m ³):	-	1.97	2.02	-						
APCWD (t/m ³):	2.04	-	-	2.06						
O.M.C (%) AS1289.5.7.1:	-	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-						
Moisture Variation (of omc):	0.5% (wet)	0.5% (dry)	1% (wet)	omc						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
Hilf Density Ratio (%):	95.0	100.5	98.5	97.5						
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** - 52

Report Date: 27/09/16

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.:	1610978									
ID No.:	1									
Lot No.:	-									
Date Sampled:	23/09/2016									
Time Sampled:	am/pm									
Date Tested:	26/09/2016									
Material Source:	Site Derived									
Material Description:	Clay									
To Be Used As	Fill									
Sample Location :	E 355244 N 5782601									
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 ³) AS 1289.5.8.1:	2.04									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m ³):	2.04									
APCWD (t/m ³):	-									
O.M.C (%) AS1289.5.7.1:	-									
Moisture Ratio (%) AS1289.5.4.1:	-									
Moisture Variation (of omc):	omc									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
Hilf Density Ratio (%):	100.0									
Min Hilf Density Ratio (%):	95									

Remarks:



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

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 53

Report Date: 29/09/16

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.:	1611105	1611106	1611107	1611108						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	27/09/2016	27/09/2016	27/09/2016	27/09/2016						
Time Sampled:	am	am	am	am						
Date Tested:	28/09/2016	28/09/2016	28/09/2016	28/09/2016						
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 355098 N 5782483 Layer 1	E 355108 N 5782462 Layer 1	E 355128 N 5782439 Layer 1	E 355152 N 5782480 Layer 1						
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 (%):	0	3	10	3						
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	1.96	1.98	1.98	1.98						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m ³):	1.95	-	-	-						
APCWD (t/m ³):	-	2.02	2.08	2.05						
O.M.C (%) AS1289.5.7.1:	-	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-						
Moisture Variation (of omc):	1.5% (dry)	1% (wet)	0.5% (dry)	omc						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
Hilf Density Ratio (%):	100.0	98.0	95.0	96.5						
Min Hilf Density Ratio (%):	95	95	95	95						

Remarks:



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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 - 54**

Report Date: 17/10/16

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.:	1611341	1611342								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	7/10/2016	7/10/2016								
Time Sampled:	am	am								
Date Tested:	7/10/2016	7/10/2016								
Material Source:	Site Derived	Site Derived								
Material Description:	Gravelly Clay	Gravelly Clay								
To Be Used As	Fill	Fill								
Sample Location :	E 355109 N 5782473	E 355127 N 5782451								
Layer Depth (mm):	200	200								
Test Depth (mm):	175	175								
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 (%):	3	20								
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	1.96	2.07								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m ³):	-	-								
APCWD (t/m ³)	2.01	2.20								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	2.5% (dry)	2% (dry)								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
Hilf Density Ratio (%):	97.5	94.0								
Min Hilf Density Ratio (%):	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** - 55

Report Date: 02/11/16

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.:	1611915	1611916								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	26/10/2016	26/10/2016								
Time Sampled:	am/pm	am/pm								
Date Tested:	27/10/2016	27/10/2016								
Material Source:	Site Derived	Site Derived								
Material Description:	Clay	Clay								
To Be Used As	-	-								
Sample Location :	N 5782485 E 355155	N 5782461 E 355109								
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 (%):	8	4								
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.16	2.10								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m ³):	-	-								
APCWD (t/m ³):	2.20	2.17								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	2% (dry)	omc								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
Hilf Density Ratio (%):	98.0	97.0								
Min Hilf Density Ratio (%):	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 - 56**

Report Date: 03/11/16

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.:	1612003									
ID No.:	1									
Lot No.:	-									
Date Sampled:	28/10/2016									
Time Sampled:	pm									
Date Tested:	2/11/2016									
Material Source:	Site Derived									
Material Description:	Clay									
To Be Used As	-									
Sample Location :	N 5782476 E 355151									
Layer Depth (mm):	200									
Test Depth (mm):	150									
Sampling Procedure:	AS1289.1.2.1.6.4(b)									
Max Size (mm):	19.0									
Oversize Wet (%):	5									
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.19									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m ³):	-									
APCWD (t/m ³)	2.14									
O.M.C (%) AS1289.5.7.1:	-									
Moisture Ratio (%) AS1289.5.4.1:	-									
Moisture Variation (of omc):	2% (wet)									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
Hilf Density Ratio (%):	102.5									
Min Hilf Density Ratio (%):	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** - 57

Report Date: 03/11/16

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.:	1612053	1612054								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	2/11/2016	2/11/2016								
Time Sampled:	am/pm	am/pm								
Date Tested:	3/11/2016	3/11/2016								
Material Source:	Site Derived	Site Derived								
Material Description:	Clay	Clay								
To Be Used As	-	-								
Sample Location :	N 5782456 E 355150	N 5782458 E 355177								
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	8								
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.03	2.00								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m ³):	2.02	-								
APCWD (t/m ³)	-	2.11								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	1.5% (dry)	1% (dry)								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
Hilf Density Ratio (%):	100.5	95.0								
Min Hilf Density Ratio (%):	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** - 58

Report Date: 08/11/16

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.:	1612088	1612089	1612090							
ID No.:	1	2	3							
Lot No.:	-	-	-							
Date Sampled:	3/11/2016	3/11/2016	3/11/2016							
Time Sampled:	am/pm	am/pm	am/pm							
Date Tested:	4/11/2016	4/11/2016	4/11/2016							
Material Source:	Site Derived	Site Derived	Site Derived							
Material Description:	Clay	Clay	Clay							
To Be Used As	-	-	-							
Sample Location :	N 5782407 E 355081 Layer 1	N 5782526 E 355187 Layer 2	N 5782551 E 355195 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 (%):	3	9	4							
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.03	2.10	2.01							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m ³):	-	-	-							
APCWD (t/m ³)	2.04	2.14	2.10							
O.M.C (%) AS1289.5.7.1:	-	-	-							
Moisture Ratio (%) AS1289.5.4.1:	-	-	-							
Moisture Variation (of omc):	omc	1.5% (dry)	0.5% (wet)							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
Hilf Density Ratio (%):	99.0	98.5	95.5							
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

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

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735** - 59

Report Date: 08/11/16

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.:	1612115	1612116	1612117							
ID No.:	1	2	3							
Lot No.:	-	-	-							
Date Sampled:	4/11/2016	4/11/2016	4/11/2016							
Time Sampled:	pm	pm	pm							
Date Tested:	7/11/2016	7/11/2016	7/11/2016							
Material Source:	Site Derived	Site Derived	Site Derived							
Material Description:	Clay	Clay	Clay							
To Be Used As	-	-	-							
Sample Location :	N 5782445 E 355177	N 5782458 E 355205	N 5782461 E 355121							
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 (%):	9	8	6							
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.04	2.07	2.02							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m ³):	-	-	-							
APCWD (t/m ³):	2.06	2.15	2.05							
O.M.C (%) AS1289.5.7.1:	-	-	-							
Moisture Ratio (%) AS1289.5.4.1:	-	-	-							
Moisture Variation (of omc):	0.5% (dry)	0.5% (dry)	2.5% (dry)							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
Hilf Density Ratio (%):	99.0	96.0	98.0							
Min Hilf Density Ratio (%):	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 - 60**

Report Date: 08/11/16

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.:	1612226	1612227								
ID No.:	1	2								
Lot No.:	-	-								
Date Sampled:	7/11/2016	7/11/2016								
Time Sampled:	am/pm	am/pm								
Date Tested:	8/11/2016	8/11/2016								
Material Source:	Site Derived	Site Derived								
Material Description:	Clay	Clay								
To Be Used As	Fill	Fill								
Sample Location :	N 5782563 E 355183	N 5782545 E 355192								
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 (%):	9	11								
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.03	2.07								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m ³):	-	-								
APCWD (t/m ³)	2.09	2.15								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	2.5% (dry)	1.5% (dry)								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
Hilf Density Ratio (%):	97.5	96.5								
Min Hilf Density Ratio (%):	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** - 61

Report Date: 12/11/16

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.:	1612438	1612439	1612440	1612441						
ID No.:	1	2	3	4						
Lot No.:	-	-	-	-						
Date Sampled:	11/11/2016	11/11/2016	11/11/2016	11/11/2016						
Time Sampled:	am/pm	am/pm	am/pm	am/pm						
Date Tested:	12/11/2016	12/11/2016	12/11/2016	12/11/2016						
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 355197 N 5782530 FSL	E 355206 N 5782548 FSL	E 354926 N 5782724	E 354963 N 5782728						
Layer Depth (mm):	200	200	200	200						
Test Depth (mm):	175	175	175	175						
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 (%):	8	8	12	19						
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.09	2.04	2.07	2.06						
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-						
PCWD (t/m ³):	-	-	-	-						
APCWD (t/m ³)	2.20	2.19	2.17	2.24						
O.M.C (%) AS1289.5.7.1:	-	-	-	-						
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-						
Moisture Variation (of omc):	0.5% (wet)	0.5% (wet)	0.5% (wet)	omc						
Adjusted Moisture Variation (of omc):	-	-	-	-						
Compactive Effort:	Standard	Standard	Standard	Standard						
Hilf Density Ratio (%):	95.0	93.0	95.5	91.5						
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 - 62**

Report Date: 15/11/16

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.:	1612479	1612480	1612481	1612482	1612483	1612484	1612485			
ID No.:	1	2	3	4	5	6	7			
Lot No.:	-	-	-	-	-	-	-			
Date Sampled:	12/11/2016	12/11/2016	12/11/2016	12/11/2016	12/11/2016	12/11/2016	12/11/2016			
Time Sampled:	am/pm	am/pm	am/pm	am/pm	am/pm	am/pm	am/pm			
Date Tested:	14/11/2016	14/11/2016	14/11/2016	14/11/2016	14/11/2016	14/11/2016	14/11/2016			
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 354937 N 5782757 FSL	E 354970 N 5782752 FSL	E 355199 N 5782541 FSL	E 355108 N 5782401 FSL	E 355100 N 5782394 FSL	E 354928 N 5782720 FSL	E 354959 N 5782735 FSL			
Layer Depth (mm):	200	200	200	200	200	200	200			
Test Depth (mm):	175	175	175	175	175	175	175			
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*	19.0	19.0	19.0			
Oversize Wet (%):	6	20	13	0	0	13	0			
Fld. Wet Density (t/m ³) AS 1289.5.8.1:	2.16	2.11	2.22	2.05	1.83	2.03	2.21			
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-	-			
PCWD (t/m ³):	-	-	-	2.04	2.03	-	2.22			
APCWD (t/m ³):	2.25	2.22	2.20	-	-	2.22	-			
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-	-			
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-	-			
Moisture Variation (of omc):	1.5% (wet)	1.5% (wet)	0.5% (wet)	1.5% (dry)	1% (dry)	2% (wet)	1% (wet)			
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-	-			
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard	Standard			
Hilf Density Ratio (%):	96.0	95.0	101.0	100.5	90.5	91.5	99.5			
Min Hilf Density Ratio (%):	95	95	95	95	95	95	95			

Remarks:



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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

Sample No.:	1613441									
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 ³) AS 1289.5.8.1:	2.11									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m ³):	-									
APCWD (t/m ³)	2.13									
O.M.C (%) AS1289.5.7.1:	-									
Moisture Ratio (%) AS1289.5.4.1:	-									
Moisture Variation (of omc):	0.5% (wet)									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
Hilf Density Ratio (%):	99.0									
Min Hilf Density Ratio (%):	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 - 77**

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.:	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 ³) AS 1289.5.8.1:	2.05	2.04								
Fld. Moisture Content (%) AS1289.2.1.1:	-	-								
PCWD (t/m ³):	2.07	2.06								
APCWD (t/m ³)	-	-								
O.M.C (%) AS1289.5.7.1:	-	-								
Moisture Ratio (%) AS1289.5.4.1:	-	-								
Moisture Variation (of omc):	omc	2% (wet)								
Adjusted Moisture Variation (of omc):	-	-								
Compactive Effort:	Standard	Standard								
Hilf Density Ratio (%):	99.0	99.0								
Min Hilf Density Ratio (%):	95	95								

Remarks:



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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

Sample No.:	1613589									
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 ³) AS 1289.5.8.1:	2.18									
Fld. Moisture Content (%) AS1289.2.1.1:	-									
PCWD (t/m ³):	-									
APCWD (t/m ³)	2.22									
O.M.C (%) AS1289.5.7.1:	-									
Moisture Ratio (%) AS1289.5.4.1:	-									
Moisture Variation (of omc):	0.5% (wet)									
Adjusted Moisture Variation (of omc):	-									
Compactive Effort:	Standard									
Hilf Density Ratio (%):	98.5									
Min Hilf Density Ratio (%):	95									

Remarks:



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

Project: Meridian Estate

Location: Clyde North

Customer Order No.: -

Report Number: **380735 - 79**

Report Date: 09/12/16

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.:	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 ³) AS 1289.5.8.1:	2.09	2.18	2.19							
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-							
PCWD (t/m ³):	-	-	-							
APCWD (t/m ³)	2.12	2.17	2.23							
O.M.C (%) AS1289.5.7.1:	-	-	-							
Moisture Ratio (%) AS1289.5.4.1:	-	-	-							
Moisture Variation (of omc):	omc	0.5% (wet)	1% (wet)							
Adjusted Moisture Variation (of omc):	-	-	-							
Compactive Effort:	Standard	Standard	Standard							
Hilf Density Ratio (%):	98.5	100.5	98.0							
Min Hilf Density Ratio (%):	95	95	95							

Remarks:



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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 ³) AS 1289.5.8.1:	2.21	2.11	2.08	2.16	2.17	2.05				
Fld. Moisture Content (%) AS1289.2.1.1:	-	-	-	-	-	-				
PCWD (t/m ³):	2.13	-	2.13	-	-	2.09				
APCWD (t/m ³)	-	2.16	-	2.21	2.12	-				
O.M.C (%) AS1289.5.7.1:	-	-	-	-	-	-				
Moisture Ratio (%) AS1289.5.4.1:	-	-	-	-	-	-				
Moisture Variation (of omc):	omc	0.5% (dry)	0.5% (wet)	1.5% (dry)	0.5% (wet)	0.5% (wet)				
Adjusted Moisture Variation (of omc):	-	-	-	-	-	-				
Compactive Effort:	Standard	Standard	Standard	Standard	Standard	Standard				
Hilf Density Ratio (%):	103.5	97.5	98.0	98.0	102.0	98.0				
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.

APPROVED SIGNATORY

M Di Meglio

M Di Meglio

Form No.: **CG.315.002**

Issue Date: 19/02/2013

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd	 Accredited for compliance with ISO/IEC 17025 – Testing Approved Signatory: M. Robinson (Senior Technician) 12712 Date of Issue: 10/05/2017 THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL
Address: PO Box 3131 AUBURN VIC 3123	
Project: Meridian Estate	
Project No.: 3807351	
Order No.:	
TRN:	CG Request No.:
	Lot No.:

Sample Details

Location: Lots for homes Stage 2-5

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% Std Compaction

Field Test procedures: AS 1289.5.8.1

Laboratory Test procedures: AS 1289.5.7.1

Sampling Method: AS1289.1.2.1 Clause 6.4 (b)

Source: Onsite

Material: General Fill

Sample Data

Sample ID	S17DS-00123	S17DS-00124	S17DS-00125	S17DS-00126		
Field Sample ID	1	2	3	4		
Date Tested	4/04/2017	4/04/2017	4/04/2017	4/04/2017		
Location	E: 355071	E 355103	Retest	Retest		
	N: 5782401	N: 5782410	Stage 2	Stage 3		
	Stage 5					

Field and Laboratory Data

Depth of Test (mm)	150	150	150	150		
Depth of Layer (mm)	175	175	175	175		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Wet Density (t/m³)	1.95	2.00	2.00	2.07		
Peak Converted Wet Density (t/m³)	1.98	1.97	1.94	2.08		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	1.0 dry	4.0 dry	3.5 dry	0.5 dry		
Hilf Density Ratio (%)	98.5	101.5	103.0	100.0		

Comments

Appendix D: Controlled fill certificates

CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 306

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 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 3 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 4.0% wet to 4.0% 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 307

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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 308

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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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 313

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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 314

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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 315

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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 316

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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 317

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

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Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 318

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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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 322

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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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 323

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

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Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 324

Chadwick Geotechnics REF : 3807351 STG3

Meridian Estate Stage 3
Clyde North VIC

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

DATE : June 2017

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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 325

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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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 326

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 2017

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 327

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 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 3 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 4.0% wet to 4.0% dry of the soils optimum moisture content (OMC).

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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 328

Meridian Estate Stage 3
Clyde North VIC

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Robert Barden
Geotechnical Engineer



Tim Chadwick
Project Director

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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 330

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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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 331

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

CLIENT : Grosvenor Lodge Pty Ltd
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Robert Barden
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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 332

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 333

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Clyde North VIC

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Robert Barden
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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 334

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

CLIENT : Grosvenor Lodge Pty Ltd
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Robert Barden
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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 335

Meridian Estate Stage 3
Clyde North VIC

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 340

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 341

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Meridian Estate Stage 3
Clyde North VIC

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

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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 343

Meridian Estate Stage 3
Clyde North VIC

Chadwick Geotechnics REF : 3807351 STG3

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

DATE : June 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 3 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 4.0% wet to 4.0% dry of the soils optimum moisture content (OMC).

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