



# REPORT

## Level One Inspection and Testing Services

Meridian Estate Stage 12, Lot's 1201 to 1232  
and 1240, 1241 and 1244, 1245

Prepared for:

Grosvenor Lodge Pty Ltd

August 2018

Our Ref: 3807351.012.v1

## Document Control

Title: Level One Inspection and Testing Services					
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:
24-08-18	1	Level One report, 3807351.012.v1	RHB	RHB	TJC

Distribution:

Grosvenor Lodge Pty Ltd

Chadwick Geotechnics Pty Ltd (FILE)

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## 1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) was engaged by Grosvenor Lodge Pty Ltd, to provide Level 1 Inspection and Testing services for the earthworks within Stage 12 of the Meridian Estate in Clyde North.

## 2 Project details

The project included the preparation and filling of lot's 1201 to 1232 and 1240, 1241 and 1244, 1245. The specification required the earthworks to be completed under Level 1 Supervision, that is, full-time Inspection and Testing of the earthworks. Chadwick Geotechnics were onsite for the duration of the earthworks program.

The location of the site is shown in figure 1 below.



Figure 1: Approximate site location (*Image sourced from Nearmaps*)

### 3 Geology

Published information<sup>1</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:

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

### 5 Inspection and testing

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 a type one project (large scale operation). Compaction control laboratory testing was undertaken in our NATA accredited Dandenong South laboratory in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

Prior to fill being placed the subgrade was inspected. 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, the area was found to be firm and free of vegetation and other deleterious material.

Full time Level 1 Inspection and testing of the filling operations commenced on the 12<sup>th</sup> April 2018 and was completed on the 28<sup>th</sup> June 2018. During this period Chadwick Geotechnics observed the works, including the supply of material, conditioning of material (moisture conditioning and oversize removal), placement and compaction of the fill material.

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

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

A total of forty nine (49) tests were performed during the filling process.

The results show that one (1) test failed to meet the specification requirements for the project. The earthworks contractor was advised of the test that failed and the fill relevant to the area was

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

reworked, reconditioned, re-compacted and subsequently retested. The final results show the tests achieved the specification requirements for the project.

A summary table of Hilf density tests is provided in Appendix B and the laboratory test reports and Fill Certificates are provided in Appendix C and D.

## 6 Conclusion

On the basis of our inspections 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 requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor and as witnessed by the Chadwick Geotechnics, 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 have been performed in accordance with the requirements of Section 8.2 of AS3798-2007 - Level 1 Inspection and Testing.

## 7 Applicability

This report has been prepared for the exclusive use of our client Grosvenor Lodge Pty Ltd in good faith and in accordance with the Chadwick Geotechnics quality system for the earthworks filling at the site.

This report is based on the nature of the project and the conditions present in, factors affecting the soil at the time of the inspections, namely the 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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

Timothy Chadwick

Geotechnical Engineer

Project Director

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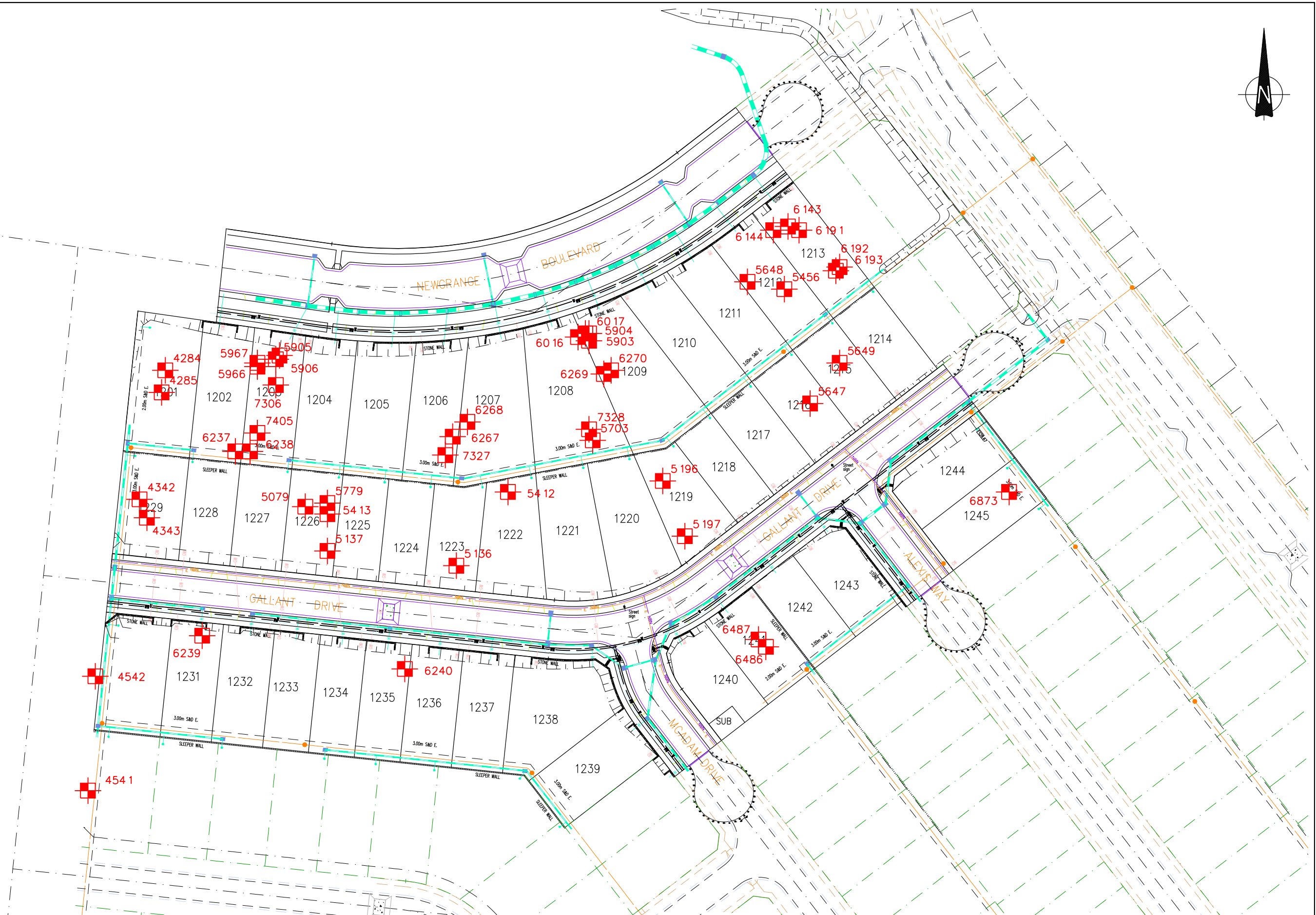
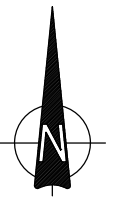
[www.chadwickgeotechnics.com.au](http://www.chadwickgeotechnics.com.au)

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## Appendix A: Density Test Location Plan

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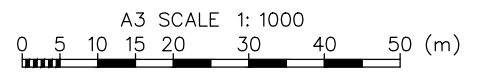




**LEGEND**




7306  
HILF Test Location



ORIGINAL IN COLOUR

NOTE: Lot boundaries and services provided by breese pitt dixon pty ltd  
File reference: 8 129-12-0E-R&D\_P3 Date Received: 23.04.2018.



**CHADWICK  
GEOTECHNICS**  
www.chadwickgeotechnics.com.au

DRAWN	KMJA	Aug.18
DRAFTING CHECKED		
APPROVED		
CADFILE :	\\380735.1.0.12-F01.dwg	
SCALES (AT A3 SIZE)	1: 1000	
PROJECT No.	380735.1.0.12	

**GROSVENOR LODGE PTY LTD  
MERIDIAN ESTATE – STAGE 12**

HILF Density Test Location Plan

Figure 1

## Appendix B: Table of field density results

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## Hilf Summary Table

### 3807351.012 Meridian Estate Stage 12



Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (%)	Moisture Variation From OMC	Pass / Fail	Remarks
HDR:W18DS01355	5079	1/05/2018	1	355440	5782404	1	98	OMC	Pass	
HDR:W18DS01377	5136	2/05/2018	1	355481	5782388	1	98.5	1.5 dry	Pass	
HDR:W18DS01377	5137	2/05/2018	2	355446	5782392	2	99	2.5 dry	Pass	
HDR:W18DS01401	5196	3/05/2018	1	355537	5782411	1	103	3 dry	Pass	
HDR:W18DS01401	5197	3/05/2018	2	355543	5782396	2	102	2.5 dry	Pass	
HDR:W18DS01438	5412	8/05/2018	1	355495	5782408	3	107.5	3 dry	Pass	
HDR:W18DS01438	5413	8/05/2018	2	355446	5782402	3	103	2 dry	Pass	
HDR:W18DS01454	5456	9/05/2018	1	355570	5782463	1	98	OMC	Pass	
HDR:W18DS01509	5647	16/05/2018	1	355577	5782432	2	100.5	0.5 dry	Pass	
HDR:W18DS01509	5648	16/05/2018	2	355560	5782465	2	99	0.5 wet	Pass	
HDR:W18DS01509	5649	16/05/2018	3	355585	5782443	3	100	1 dry	Pass	
HDR:W18DS01519	5703	17/05/2018	1	355518	5782422	1	98.5	2 wet	Pass	
HDR:W18DS01533	5779	18/05/2018	1	355446	5782405	1	99	2 wet	Pass	
HDR:W18DS01583	5903	24/05/2018	1	355517	5782449	2	100.5	2 dry	Pass	
HDR:W18DS01583	5904	24/05/2018	2	355516	5782451	1	100.5	1 dry	Pass	
HDR:W18DS01583	5905	24/05/2018	3	355432	5782444	1	97.5	OMC	Pass	
HDR:W18DS01583	5906	24/05/2018	4	355433	5782445	2	98	0.5 wet	Pass	
HDR:W18DS01600	5966	25/05/2018	1	355427	5782442	3	99	0.5 dry	Pass	
HDR:W18DS01600	5967	25/05/2018	2	355427	5782443	4	97.5	2 wet	Pass	
HDR:W18DS01615	6016	28/05/2018	1	355514	5782450	3	101.5	OMC	Pass	
HDR:W18DS01615	6017	28/05/2018	2	355517	5782451	4	97.5	0.5 wet	Pass	
HDR:W18DS01634	6143	29/05/2018	1	355571	5782480	2	98.5	1.5 dry	Pass	
HDR:W18DS01634	6144	29/05/2018	2	355567	5782479	1	100	OMC	Pass	
HDR:W18DS01642	6191	30/05/2018	1	355574	5782479		102	2.5 dry	Pass	
HDR:W18DS01642	6192	30/05/2018	2	355585	5782469		104	2 dry	Pass	

## Hilf Summary Table

### 3807351.012 Meridian Estate Stage 12



Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (%)	Moisture Variation From OMC	Pass / Fail	Remarks
HDR:W18DS01642	6193	30/05/2018	3	355584	5782468		97.5	1.5 wet	Pass	
HDR:W18DS01655	6237	1/06/2018	1	355421	5782419	1	100	2 wet	Pass	
HDR:W18DS01655	6238	1/06/2018	2	355425	5782419	2	100	OMC	Pass	
HDR:W18DS01655	6239	1/06/2018	3	355412	5782369	1	102	0.5 dry	Pass	
HDR:W18DS01655	6240	1/06/2018	4	355467	5782360	2	104.5	1.5 dry	Pass	
HDR:W18DS01667	6267	4/06/2018	1	355480	5782423	1	98.5	1 wet	Pass	
HDR:W18DS01667	6268	4/06/2018	2	355484	5782427	2	98	OMC	Pass	
HDR:W18DS01667	6269	4/06/2018	3	355521	5782440	2	100.5	OMC	Pass	
HDR:W18DS01667	6270	4/06/2018	4	355523	5782441	1	100	0.5 dry	Pass	
HDR:W18DS01718	6486	7/06/2018	1	355565	5782366	2	98	0.5 dry	Pass	
HDR:W18DS01718	6487	7/06/2018	2	355563	5782368	1	96.5	0.5 dry	Pass	
HDR:W18DS01762	6873	12/06/2018	1	355631	5782408	1	104	OMC	Pass	
HDR:W18DS01887	7306	25/06/2018	1	355432	5782437		102	OMC	Pass	
HDR:W18DS01898	7327	26/06/2018	1	355478	5782418		101	OMC	Pass	
HDR:W18DS01898	7328	26/06/2018	2	355517	5782425		103.5	OMC	Pass	
HDR:W18DS01924	7405	28/06/2018	1	355427	5782424		100	OMC	Pass	
HDR:W18DS01166	4284	12/04/2018	1	355402	5782441	1	97	0 dry	Pass	
HDR:W18DS01166	4285	12/04/2018	2	355401	5782435	2	95.5	0 wet	Pass	
HDR:W18DS01186	4342	13/04/2018	1	355395	5782406	2	103	4 dry	Fail	See Retest 4542
HDR:W18DS01186	4343	13/04/2018	2	355397	5782401	1	104	2.5 dry	Pass	
HDR:W18DS01233	4539	18/04/2018	1	355376	5782279	1	103	0.5 dry	Pass	
HDR:W18DS01233	4540	18/04/2018	2	355375	5782251	2	100	0 dry	Pass	
HDR:W18DS01233	4541	18/04/2018	3	355381	5782327	1	97.5	2 dry	Pass	
HDR:W18DS01233	4542	18/04/2018	4	355383	5782358	2	100	2 dry	Pass	Retest of 4342


## Appendix C      NATA endorsed laboratory reports

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# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
 12712

Approved Signatory: M. Robinson  
 (Senior Technician)  
 Date of Issue: 3/05/2018

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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:** Imported  
**Material:** General Fill

<b>Sample ID</b>	S18DS-05079				
<b>Field Sample ID</b>	1				
<b>Date Tested</b>	1/05/2018				
<b>E</b>	355440				
<b>N</b>	5782404				
<b>Soil Description</b>	Clay				
<b>Depth of Test (mm)</b>	150				
<b>Depth of Layer (mm)</b>	200				
<b>Field Wet Density (t/m³)</b>	2.06				
<b>Peak Converted Wet Density (t/m³)</b>	2.10				
<b>Compactive Effort</b>	Standard				
<b>Moisture Variation (%)</b>	0.0				
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>				

## Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
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Acroac Edition No. 12715

*K. B. Patel*

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
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Approved Signatory: Krushik Patel  
(Senior Geotechnician)  
Date of Issue: 4/05/2018

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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:** Imported  
**Material:** General Fill


Sample ID	S18DS-05136	S18DS-05137	
Field Sample ID	1	2	
Date Tested	2/05/2018	2/05/2018	
E	5782388	5782392	
N	355481	355446	
	Layer 1	Layer 2	
Soil Description	Silty Clay	Silty Clay	
Depth of Test (mm)	150	150	
Depth of Layer (mm)	200	200	
AS Sieve Size (mm)	19.0	19.0	
Field Wet Density (t/m <sup>3</sup> )	1.95	1.96	
Peak Converted Wet Density (t/m <sup>3</sup> )	1.98	1.98	
Compactive Effort	Standard	Standard	
Moisture Variation (%)	1.5 dry	2.5 dry	
Hilf Density Ratio (%)	<b>98.5</b>	<b>99.0</b>	

## Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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Acroac Edition No. 12715

*K. B. Patel*

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Approved Signatory: Krushik Patel  
(Senior Geotechnician)  
Date of Issue: 4/05/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-05196	S18DS-05197	
Field Sample ID	1	2	
Date Tested	3/05/2018	3/05/2018	
N	5782411	5782396	
E	355537	355543	
	Layer 1	Layer 2	
Soil Description	Silty Clay	Silty Clay	
Depth of Test (mm)	150	150	
Depth of Layer (mm)	200	200	
AS Sieve Size (mm)	19.0	19.0	
Field Wet Density (t/m <sup>3</sup> )	2.01	2.00	
Peak Converted Wet Density (t/m <sup>3</sup> )	1.96	1.97	
Compactive Effort	Standard	Standard	
Moisture Variation (%)	3.0 dry	2.5 dry	
Hilf Density Ratio (%)	<b>103.0</b>	<b>102.0</b>	


## Comments



# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing




Approved Signatory: B. Taseski  
 (Field Technician)  
 Date of Issue: 10/05/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-05412	S18DS-05413			
Field Sample ID	1	2			
Date Tested	8/05/2018	8/05/2018			
E:	355495	355446			
N:	5782408	5782402			
	Layer 3	Layer 3			
Soil Description	Clay	Clay			
Depth of Test (mm)	125	125			
Depth of Layer (mm)	150	150			
AS Sieve Size (mm)	19.0	19.0			
Field Wet Density (t/m <sup>3</sup> )	2.06	2.00			
Peak Converted Wet Density (t/m <sup>3</sup> )	1.91	1.94			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	3.0 dry	2.0 dry			
Hilf Density Ratio (%)	<b>107.5</b>	<b>103.0</b>			

## Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing




Accreditation No. 12712

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Approved Signatory: B. Taseski  
 (Field Technician)  
 Date of Issue: 11/05/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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

<b>Sample ID</b>	S18DS-05456				
<b>Field Sample ID</b>	1				
<b>Date Tested</b>	9/05/2018				
<b>E:</b>	355570				
<b>N:</b>	5782463				
	Layer 1				
<b>Soil Description</b>	Silty clay				
<b>Depth of Test (mm)</b>	125				
<b>Depth of Layer (mm)</b>	150				
<b>AS Sieve Size (mm)</b>	19.0				
<b>Field Wet Density (t/m³)</b>	1.90				
<b>Peak Converted Wet Density (t/m³)</b>	1.94				
<b>Compactive Effort</b>	Standard				
<b>Moisture Variation (%)</b>	0.0				
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>				

## Comments



**Dandenong South**  
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**Report No: HDR:W18DS01509**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
 12712

Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 1/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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:** Imported  
**Material:** General Fill

Sample ID	S18DS-05647	S18DS-05648	S18DS-05649			
Field Sample ID	1	2	3			
Date Tested	16/05/2018	16/05/2018	16/05/2018			
E	5782432	5782465	5782443			
N	Layer 2	Layer 2	Layer 3			
Soil Description	Clay	Clay	Clay			
Depth of Test (mm)	150	150	150			
Depth of Layer (mm)	200	200	200			
Field Wet Density (t/m <sup>3</sup> )	2.00	2.01	1.97			
Peak Converted Wet Density (t/m <sup>3</sup> )	1.98	2.03	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 wet	1.0 dry			
Hilf Density Ratio (%)	<b>100.5</b>	<b>99.0</b>	<b>100.0</b>			

**Comments**



**Dandenong South**  
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**Report No: HDR:W18DS01519**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing

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Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 1/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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

<b>Sample ID</b>	S18DS-05703				
<b>Field Sample ID</b>	1				
<b>Date Tested</b>	17/05/2018				
<b>E</b>	5782422				
<b>N</b>	Layer 1				
<b>Soil Description</b>	Clay				
<b>Depth of Test (mm)</b>	150				
<b>Depth of Layer (mm)</b>	200				
<b>Field Wet Density (t/m³)</b>	1.99				
<b>Peak Converted Wet Density (t/m³)</b>	2.02				
<b>Compactive Effort</b>	Standard				
<b>Moisture Variation (%)</b>	2.0 wet				
<b>Hilf Density Ratio (%)</b>	<b>98.5</b>				

## Comments



**Dandenong South**  
**ACN 143 009 330**  
 25 Metcalf Street  
 DANDENONG SOUTH, VIC 3175

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 Fax: +61 3 9706 9431



**Report No: HDR:W18DS01533**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing

*K. B. Patel*

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Approved Signatory: Krushik Patel  
 (Senior Geotechnician)  
 Date of Issue: 5/06/2018

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## Sample Details

**Location:** Meridian Estate - Stage 12  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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

<b>Sample ID</b>	S18DS-05779		
<b>Field Sample ID</b>	1		
<b>Date Tested</b>	18/05/2018		
<b>Location</b>	E 355446		
<b>E</b>	N 5782405		
<b>Soil Description</b>	Clay		
<b>Depth of Test (mm)</b>	150		
<b>Depth of Layer (mm)</b>	200		
<b>AS Sieve Size (mm)</b>	19.0		
<b>Field Wet Density (t/m³)</b>	2.01		
<b>Peak Converted Wet Density (t/m³)</b>	2.04		
<b>Compactive Effort</b>	Standard		
<b>Moisture Variation (%)</b>	2.0 wet		
<b>Hilf Density Ratio (%)</b>	<b>99.0</b>		

## Comments



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**Report No: HDR:W18DS01583**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
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Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 1/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-05903	S18DS-05904	S18DS-05905	S18DS-05906		
Field Sample ID	1	2	3	4		
Date Tested	24/05/2018	24/05/2018	24/05/2018	24/05/2018		
Location	5782449	5782451	5782444	5782445		
E	Layer 2	Layer 1	Layer 1	Layer 2		
Soil Description	Silty Clay	Silty Clay	Silty Clay	Silty Clay		
Depth of Test (mm)	150	150	150	150		
Depth of Layer (mm)	200	200	200	200		
Field Wet Density (t/m <sup>3</sup> )	1.97	1.99	2.01	2.00		
Peak Converted Wet Density (t/m <sup>3</sup> )	1.96	1.98	2.06	2.03		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	2.0 dry	1.0 dry	0.0	0.5 wet		
Hilf Density Ratio (%)	<b>100.5</b>	<b>100.5</b>	<b>97.5</b>	<b>98.0</b>		

## Comments



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**Report No: HDR:W18DS01600**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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*K. B. Patel*

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Approved Signatory: Krushik Patel  
 (Senior Geotechnician)  
 Date of Issue: 5/06/2018

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## Sample Details

**Location:** Meridian Stage 12  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-05966	S18DS-05967	
Field Sample ID	1	2	
Date Tested	25/05/2018	25/05/2018	
Location	355427	355427	
E	5782442	5782443	
N	Layer 3	Layer 4	
Soil Description	Clay	Clay	
Depth of Test (mm)	175	175	
Depth of Layer (mm)	200	200	
AS Sieve Size (mm)	19.0	19.0	
Field Wet Density (t/m³)	2.05	1.98	
Peak Converted Wet Density (t/m³)	2.07	2.04	
Compactive Effort	Standard	Standard	
Moisture Variation (%)	0.5 dry	2.0 wet	
Hilf Density Ratio (%)	<b>99.0</b>	<b>97.5</b>	

## Comments



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**Report No: HDR:W18DS01615**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 1/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-06016	S18DS-06017			
Field Sample ID	1	2			
Date Tested	28/05/2018	28/05/2018			
Location	5782450	5782451			
E	Layer 3	Layer 4			
Soil Description	Clay	Clay			
Depth of Test (mm)	150	150			
Depth of Layer (mm)	200	200			
AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	5	7			
Field Wet Density (t/m³)	2.13	2.01			
Peak Converted Wet Density (t/m³)	2.10	2.06			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet			
Hilf Density Ratio (%)	<b>101.5</b>	<b>97.5</b>			

## Comments





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**Report No: HDR:W18DS01634**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 1/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-06143	S18DS-06144			
Field Sample ID	1	2			
Date Tested	29/05/2018	29/05/2018			
Location	5782480	5782479			
E	Layer 2	Layer 1			
Soil Description	Clay	Clay			
Depth of Test (mm)	150	150			
Depth of Layer (mm)	200	200			
Field Wet Density (t/m³)	2.00	2.02			
Peak Converted Wet Density (t/m³)	2.03	2.02			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.0			
Hilf Density Ratio (%)	<b>98.5</b>	<b>100.0</b>			

**Comments**



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**Report No: HDR:W18DS01642**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
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**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 1/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-06191	S18DS-06192	S18DS-06193			
Field Sample ID	1	2	3			
Date Tested	30/05/2018	30/05/2018	30/05/2018			
Location	5782479	5782469	5782468			
Soil Description	Clay	Clay	Clay			
Depth of Test (mm)	150	150	150			
Depth of Layer (mm)	200	200	200			
Field Wet Density (t/m³)	2.00	2.03	1.99			
Peak Converted Wet Density (t/m³)	1.96	1.95	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.5 dry	2.0 dry	1.5 wet			
Hilf Density Ratio (%)	<b>102.0</b>	<b>104.0</b>	<b>97.5</b>			

**Comments**



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**Report No: HDR:W18DS01655**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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*K. B. Patel*

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Approved Signatory: Krushik Patel  
 (Senior Geotechnician)  
 Date of Issue: 5/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-06237	S18DS-06238	S18DS-06239	S18DS-06240
Field Sample ID	1	2	3	4
Date Tested	1/06/2018	1/06/2018	1/06/2018	1/06/2018
Location	355421	355425	355412	355467
E	5782419	5782419	5782369	5782360
N	Layer 1	Layer 2	Layer 1	Layer 2
Soil Description	Silty Clay	Silty Clay	Silty Clay	Silty Clay
Depth of Test (mm)	150	150	150	150
Depth of Layer (mm)	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0
Field Wet Density (t/m <sup>3</sup> )	1.97	1.95	1.99	2.03
Peak Converted Wet Density (t/m <sup>3</sup> )	1.97	1.95	1.95	1.95
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.0 wet	0.0	0.5 dry	1.5 dry
Hilf Density Ratio (%)	<b>100.0</b>	<b>100.0</b>	<b>102.0</b>	<b>104.5</b>

## Comments



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**Report No: HDR:W18DS01667**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
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*K. B. Patel*

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Approved Signatory: Krushik Patel  
 (Senior Geotechnician)  
 Date of Issue: 6/06/2018

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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-06267	S18DS-06268	S18DS-06269	S18DS-06270
Field Sample ID	1	2	3	4
Date Tested	4/06/2018	4/06/2018	4/06/2018	4/06/2018
Location	355480	355484	355521	355523
E	5782423	5782427	5782440	5782441
N	Layer 1	Layer 2	Layer 2	Layer 1
Soil Description	Clay	Clay	Clay	Clay
Depth of Test (mm)	150	150	150	150
Depth of Layer (mm)	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0
Field Wet Density (t/m³)	1.99	1.95	1.96	1.96
Peak Converted Wet Density (t/m³)	2.02	1.98	1.95	1.96
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	1.0 wet	0.0	0.0	0.5 dry
Hilf Density Ratio (%)	<b>98.5</b>	<b>98.0</b>	<b>100.5</b>	<b>100.0</b>

## Comments



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**Report No: HDR:W18DS01718**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing



*K. B. Patel*

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Approved Signatory: Krushik Patel  
 (Senior Geotechnician)  
 Date of Issue: 8/06/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-06486	S18DS-06487	
Field Sample ID	1	2	
Date Tested	7/06/2018	7/06/2018	
Location	355565	355563	
E	5782366	5782368	
N	Layer 2	Layer 1	
Soil Description	Clay	Clay	
Depth of Test (mm)	150	150	
Depth of Layer (mm)	200	200	
AS Sieve Size (mm)	19.0	19.0	
Field Wet Density (t/m <sup>3</sup> )	1.97	1.97	
Peak Converted Wet Density (t/m <sup>3</sup> )	2.01	2.04	
Compactive Effort	Standard	Standard	
Moisture Variation (%)	0.5 dry	0.5 dry	
Hilf Density Ratio (%)	<b>98.0</b>	<b>96.5</b>	

## Comments



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**Report No: HDR:W18DS01762**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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 - Testing

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Approved Signatory: M. Longfield  
 (Senior Technician)  
 Date of Issue: 13/06/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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

<b>Sample ID</b>	S18DS-06873				
<b>Field Sample ID</b>	1				
<b>Date Tested</b>	12/06/2018				
<b>Location</b>	355631				
<b>E</b>	5782408				
<b>N</b>	Layer 1				
<b>Soil Description</b>	Clay				
<b>Depth of Test (mm)</b>	150				
<b>Depth of Layer (mm)</b>	200				
<b>Field Wet Density (t/m³)</b>	2.01				
<b>Peak Converted Wet Density (t/m³)</b>	1.94				
<b>Compactive Effort</b>	Standard				
<b>Moisture Variation (%)</b>	0.0				
<b>Hilf Density Ratio (%)</b>	<b>104.0</b>				

## Comments



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**Report No: HDR:W18DS01887**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

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 - Testing



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Approved Signatory: M. Robinson  
 (Senior Technician)  
 Date of Issue: 3/07/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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

<b>Sample ID</b>	S18DS-07306				
<b>Field Sample ID</b>	1				
<b>Date Tested</b>	25/06/2018				
<b>E</b>	355432				
<b>N</b>	5782437				
<b>Soil Description</b>	Clay				
<b>Depth of Test (mm)</b>	150				
<b>Depth of Layer (mm)</b>	200				
<b>Field Wet Density (t/m³)</b>	2.04				
<b>Peak Converted Wet Density (t/m³)</b>	2.00				
<b>Compactive Effort</b>	Standard				
<b>Moisture Variation (%)</b>	0.0				
<b>Hilf Density Ratio (%)</b>	<b>102.0</b>				

## Comments



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**Report No: HDR:W18DS01898**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
 12712

Approved Signatory: M. Robinson  
 (Senior Technician)  
 Date of Issue: 3/07/2018

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-07327	S18DS-07328			
Field Sample ID	1	2			
Date Tested	26/06/2018	26/06/2018			
E	355478	355517			
N	5782418	5782425			
Soil Description	Clay	Clay			
Depth of Test (mm)	150	150			
Depth of Layer (mm)	200	200			
Field Wet Density (t/m³)	2.04	2.10			
Peak Converted Wet Density (t/m³)	2.02	2.03			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.0			
Hilf Density Ratio (%)	<b>101.0</b>	<b>103.5</b>			

**Comments**





**Dandenong South**  
**ACN 143 009 330**  
 25 Metcalf Street  
 DANDENONG SOUTH, VIC 3175

Ph: + 61 3 8796 7900  
 Fax: +61 3 9706 9431


**Report No: HDR:W18DS01924**

**Issue No: 1**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 12  
**Project No.:** 3807351.012  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
 12712

Approved Signatory: M. Robinson  
 (Senior Technician)  
 Date of Issue: 3/07/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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

<b>Sample ID</b>	S18DS-07405				
<b>Field Sample ID</b>	1				
<b>Date Tested</b>	28/06/2018				
<b>E</b>	355427				
<b>N</b>	5782424				
<b>Soil Description</b>	Clay				
<b>Depth of Test (mm)</b>	150				
<b>Depth of Layer (mm)</b>	200				
<b>Field Wet Density (t/m³)</b>	2.03				
<b>Peak Converted Wet Density (t/m³)</b>	2.03				
<b>Compactive Effort</b>	Standard				
<b>Moisture Variation (%)</b>	0.0				
<b>Hilf Density Ratio (%)</b>	<b>100.0</b>				

**Comments**

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Meridian Estate - Stage 10  
**Project No.:** 3807351.010  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
- Testing




*K. B. Patel*

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
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Approved Signatory: Krushik Patel  
(Senior Geotechnician)  
Date of Issue: 14/04/2018  
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## Sample Details

**Location:**  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-04284	S18DS-04285	
Field Sample ID	1	2	
Date Tested	12/04/2018	12/04/2018	
E	355402	355401	
N	5782441	5782435	
	Layer 1	Layer 2	
Soil Description	Clay	Clay	
Depth of Test (mm)	150	150	
Depth of Layer (mm)	200	200	
AS Sieve Size (mm)	19.0	19.0	
Field Wet Density (t/m <sup>3</sup> )	1.97	1.95	
Peak Converted Wet Density (t/m <sup>3</sup> )	2.04	2.04	
Compactive Effort	Standard	Standard	
Moisture Ratio (%)	100.0	101.0	
Moisture Variation (%)	0.0	0.0	
Hilf Density Ratio (%)	<b>97.0</b>	<b>95.5</b>	

## Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Merdian Estate - Stage 10  
**Project No.:** 3807351.010  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
 - Testing



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
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Approved Signatory: M. Robinson  
 (Senior Technician)  
 Date of Issue: 18/04/2018

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## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-04342	S18DS-04343			
Field Sample ID	1	2			
Date Tested	13/04/2018	13/04/2018			
E	355395	355397			
N	5782406	5782401			
	Layer 2	Layer 1			
Soil Description	Clay	Clay			
Depth of Test (mm)	150	150			
Depth of Layer (mm)	200	200			
Field Wet Density (t/m³)	1.98	2.00			
Peak Converted Wet Density (t/m³)	1.92	1.93			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	4.0 dry	2.5 dry			
Hilf Density Ratio (%)	<b>103.0</b>	<b>104.0</b>			

## Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Merdian Estate - Stage 10  
**Project No.:** 3807351.010  
**Order No.:** **CG Request No.:**  
**TRN:** **Lot No.:**

Accredited for compliance with ISO/IEC 17025  
- Testing



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.  
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Approved Signatory: M. Robinson  
(Senior Technician)  
Date of Issue: 23/04/2018

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

## Sample Details

**Location:** Clyde North  
**Client Request ID:**  
**Specification Requirements:** Minimum Hilf Density Ratio of 95% Standard Compaction +- 3% of OMC  
**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 ID	S18DS-04539	S18DS-04540	S18DS-04541	S18DS-04542		
Field Sample ID	1	2	3	4		
Date Tested	18/04/2018	18/04/2018	18/04/2018	18/04/2018		
E	355376	355375	355381	355383		
N	5782279	5782251	5782327	5782358		
	Layer 1	Layer 2	Layer 1	Layer 2		
Soil Description	Clay	Clay	Sandy Clay	Clay		
Depth of Test (mm)	150	150	150	150		
Depth of Layer (mm)	200	200	200	200		
Field Wet Density (t/m <sup>3</sup> )	2.01	2.00	1.94	1.91		
Peak Converted Wet Density (t/m <sup>3</sup> )	1.95	2.01	1.99	1.92		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.5 dry	0.0	2.0 dry	2.0 dry		
Hilf Density Ratio (%)	<b>103.0</b>	<b>100.0</b>	<b>97.5</b>	<b>100.0</b>		

## Comments

## Appendix D: Controlled fill certificates

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1201 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1202 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1203 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1204 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1205 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1206 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1207 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1208 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1209 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1210 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1211 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1212 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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### CHADWICK GEOTECHNICS PTY LTD



Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1213 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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### CHADWICK GEOTECHNICS PTY LTD



Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1214 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1215 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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### CHADWICK GEOTECHNICS PTY LTD



Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1216 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1217 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1218 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1219 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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### CHADWICK GEOTECHNICS PTY LTD



Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1220 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1221 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1222 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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This report is based on the conditions present and factors affecting the soil at the time of inspection, namely the 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1223 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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### CHADWICK GEOTECHNICS PTY LTD



Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1224 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

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Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1225 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

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Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1226 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1227 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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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Geotechnical Engineer



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Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1228 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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Robert Barden  
Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1229 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

---

### 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 site.

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) to be achieved.

### LIMITATIONS

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Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1230 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1231 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### 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 12<sup>th</sup> April 2018 to the 28<sup>th</sup> June 2018. 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.

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Geotechnical Engineer



Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1232 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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Timothy Chadwick  
Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1240 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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) to be achieved.

### LIMITATIONS

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Project Director

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1241 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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

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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 No: 1244 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 1245 Chadwick Geotechnics REF: 3807351.012.v1  
Meridian Estate Stage 12

CLIENT : Grosvenor Lodge Pty Ltd DATE : August 2018  
PO Box 4136  
DANDENONG SOUTH VIC 3164

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### SUMMARY

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