

REPORT

Level One Inspection and Testing Services

Meridian Estate Stage 21, Lots 2101 to 2136

Prepared for:

Grosvenor Lodge Pty Ltd

December / 2020

Our Ref: 3807351.021.v1

25 Metcalf Street, Dandenong South, Vic 3175, Australia www.chadwickgeotechnics.com.au

Document Control

Title: Level One Inspection and Testing Services										
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:					
15-12-20	1	Level One report, 3807351.021.V1	RHB	RHB	TJJC					

Grosvenor Lodge Pty Ltd Chadwick Geotechnics Pty Ltd (FILE) 1 electronic copy

1 electronic copy

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1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) was engaged by Grosvenor Lodge Pty Ltd, to provide Level 1 Geotechnical Inspection and Testing Authority (GITA) services for the earthworks within Stage 21 of the Meridian Estate in Clyde North.

2 Project details

The project included the preparation and filling of lot's 2101 to 2136. The specification required the earthworks to be completed under Level 1 GITA Supervision, that is, full-time Geotechnical 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 information¹ shows that the site is primarily underlain by Red Bluff Sandstone (Nbr) (Miocene to Pliocene). Sandstone, conglomerate: pale yellow and brown; fine to coarse-grained, massive to well bedded; cross-bedded; local ironstone.

This area is mainly bordered by Quaternary Alluvium (Qa1) Gravel, sand, silt; alluvial floodplain deposits and Palaezoic Murrindindi Supergroup (Sm) comprising of siltstone, sandstones and limestone, which may incur upon the primary geology.

4 Specification

A summary of the specification is shown below:

Compaction Requirement	95 % Standard Compaction
Moisture Requirement	+/- 3% of the soils Optimum Moisture Content

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 laboratories 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 16 July 2020 and was completed on 10 September 2020. During this period Chadwick Geotechnics observed the earthworks at the times (as the filling works were intermittent) the earthworks contractor was placing fill. This included 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 that of additional lifts, was 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 portable density and moisture 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.

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¹. VicGeo Earth Resources (<u>https://gsv.vic.gov.au</u>) Geological Unit (250k)

A total of thirty-three (33) tests were performed during the filling process.

The results show that two (2) tests failed to meet the specification requirements for the project. The earthworks contractor was advised of the tests that failed and the fill relevant to those areas was reworked, reconditioned, re-compacted and subsequently retested. 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 are provided in Appendix C.

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 – Level 1 Inspection and Testing - AS3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments".

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 prevailing conditions between 16 July 2020 and 10 September 2020. 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:

Chadwick Barden

Timothy Chadwick

Geotechnical Engineer

Project Director

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Appendix A: Density Test Location Plan





NOTES:

1. AERIAL IMAGE SOURCED FROM NEARMAP. COPYRIGHT NEARMAP PTY LTD IMAGERY DATE: 06/09/2020.

2. BASE PLAN PROVIDED BY BEVERIDGE WILLIAMS. DRAWING REFERENCE: 1801767-21-BASE 200908 DATE RECEIVED: 23/11/2020.

A3 SCALE 1:1000

0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

DESIGNED RBR Nov.20
DRAWN KMJA Nov.20
CHECKED

CLIENT GROSVENOR LODGE PTY LTD
PROJECT MERIDIAN ESTATE - STAGE 21

HILF DENSITY TEST PLAN

SCALE (A3) 1:1000 FIG No. FIGURE 01

Appendix B: Table of field density results



3807351.021 Meridian Estate - Stage 21, HILF Summary Table

Chadwick Geotechnics 25 Metcalf Str Dandenong So

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

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Lift	Density Ratio HILF test (≥95%)	Moisture Variation From +/- to 3% wet	Pass / Fail	Remarks
HDR:W20DS03614	13181	16/07/2020	1	355406.280	5781602.079	33.805	92	1.5 wet	Fail	See Retest 13601
HDR:W20DS03614	13182	16/07/2020	2	355449.708	5781595.212	34.141	93.5	OMC	Fail	See Retest 13602
HDR:W20DS03732	13601	21/07/2020	1	355406.329	5781601.718	33.812	98.5	2.0 wet	Pass	Retest of 13181
HDR:W20DS03732	13602	21/07/2020	2	355451.764	5781597.082	34.149	99	0.5 wet	Pass	Retest of 13182
HDR:W20DS03771	13737	22/07/2020	1	355381.834	5781625.211	33.63	100.5	0.5 dry	Pass	
HDR:W20DS03771	13738	22/07/2020	2	355425.659	5781619.653	33.896	99	OMC	Pass	
HDR:W20DS03805	13857	23/07/2020	1	355351.573	5781635.721	33.894	96.5	0.5 wet	Pass	
HDR:W20DS03805	13858	23/07/2020	2	355414.156	5781619.451	33.931	100.5	OMC	Pass	
HDR:W20DS03844	13989	24/07/2020	1	355342.442	5781608.213	33.582	97.5	OMC	Pass	
HDR:W20DS03844	13990	24/07/2020	2	355371.222	5781634.069	34.118	97.5	OMC	Pass	
HDR:W20DS03844	13991	24/07/2020	3	355441.759	5781614.727	34.209	100	OMC	Pass	
HDR:W20DS03969	14451	28/07/2020	1	355408.281	5781613.905	33.974	99.5	0.5 dry	Pass	
HDR:W20DS03969	14452	28/07/2020	2	355421.067	5781643.145	33.903	99.5	0.5 dry	Pass	
HDR:W20DS03969	14453	28/07/2020	3	355432.249	5781691.191	34.808	98	OMC	Pass	
HDR:W20DS03969	14454	28/07/2020	4	355455.806	5781656.502	34.502	101	0.5 dry	Pass	
HDR:W20DS03983	14485	29/07/2020	1	355407.374	5781671.395	34.381	98.5	0.5 dry	Pass	
HDR:W20DS03983	14486	29/07/2020	2	355385.691	5781690.780	34.668	97.5	0.5 wet	Pass	
HDR:W20DS03983	14487	29/07/2020	3	355368.777	5781655.137	34.035	99	OMC	Pass	



3807351.021 Meridian Estate - Stage 21, HILF Summary Table

Chadwick Geotechnics 25 Metcalf Str Dandenong So

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

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Lift	Density Ratio HILF test (≥95%)	Moisture Variation From +/- to 3% wet	Pass / Fail	Remarks
HDR:W20DS04032	14656	30/07/2020	1	355351.823	5781683.392	34.677	104	0.5 wet	Pass	
HDR:W20DS04032	14657	30/07/2020	2	355451.136	5781652.495	34.499	99	OMC	Pass	
HDR:W20DS04032	14658	30/07/2020	3	355448.685	5781685.041	34.935	98.5	OMC	Pass	
HDR:W20DS04036	14704	31/07/2020	1	355417.889	5781688.636	34.833	98.5	OMC	Pass	
HDR:W20DS04036	14705	31/07/2020	2	355413.861	5781657.769	34.292	97.5	OMC	Pass	
HDR:W20DS04050	14760	1/08/2020	1	355376.767	5781671.640	34.511	98.5	OMC	Pass	
HDR:W20DS04050	14761	1/08/2020	2	355354.390	5781655.903	34.318	100.5	OMC	Pass	
HDR:W20DS04091	14912	3/08/2020	1	355431.831	5781638.811	34.415	98.5	OMC	Pass	
HDR:W20DS04091	14913	3/08/2020	2	355439.706	5781671.433	34.866	99.5	OMC	Pass	
HDR:W20DS04091	14914	3/08/2020	3	355460.722	5781669.302	34.875	100	0.5 wet	Pass	
HDR:W20DS04091	14915	3/08/2020	4	355377.220	5781644.226	34.371	99	OMC	Pass	
HDR:W20DS04091	14916	3/08/2020	5	355353.575	5781650.400	34.307	99.5	OMC	Pass	
HDR:W20DS04838	17688	5/09/2020	1	355469.576	5781678.964	35.039	102.5	2.0 dry	Pass	
HDR:W20DS05021	18239	9/09/2020	1	355482.904	5781648.013	34.701	100.5	2.0 dry	Pass	
HDR:W20DS05083	18425	10/09/2020	1	355472.315	5781639.573	34.675	101	2.5 dry	Pass	
										No further tests

Appendix C NATA endorsed laboratory reports





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03614

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing







esults of the tests, calibrations and/or Approve

Approved Signatory: M. Robinson

(Team Leader)

12712 Date of Issue: 21/07/2020
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Sample Details

Location: Clyde North

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: CLAY

Sample Data				
Sample ID	S20DS-13181	S20DS-13182		
Field Sample ID	1	2		
Date Tested	16/07/2020	16/07/2020		
Lot No	2131	2134		
E	1583.020	1626.448		
N	763.058	756.191		
RL	33.805	34.141		
Field and Laboratory Data				
Depth of Test (mm)	175	175		
Depth of Layer (mm)	200	200		
Field Wet Density (t/m³)	1.97	1.97		
Peak Converted Wet Density (t/m³)	2.14	2.10		
Compactive Effort	Standard	Standard		
Moisture Variation (%)	1.5 wet	0.0		
Hilf Density Ratio (%)	92.0	93.5		

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25 Metcalf Street DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03732

Issue No: 1

HILF Density Ratio Report

Greenridge Properties Pty Ltd Client:

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: **CG Request No.:**

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing Iac-MRA

12712

Approved Signatory: J. Lamont (Dandenong Laboratory Manager) Date of Issue: 20/11/2020 THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location: Retests

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data									
Sample ID	S20DS-13601	S20DS-13602							
Field Sample ID	1	2							
Date Tested	21/07/2020	21/07/2020							
E:	1583.069	1628.504							
N:	762.697	758.061							
EL:	33.812	34.149							
Lot:	2131	2134							
Field and Laboratory Data									
Depth of Test (mm)	75	75							
Depth of Layer (mm)	200	200							
AS Sieve Size (mm)	19.0	19.0							
Oversize Wet (%)	0	0							
Field Wet Density (t/m³)	2.08	2.13							
Peak Converted Wet Density (t/m³)	2.11	2.16							
Compactive Effort	Standard	Standard							
Moisture Variation (%)	2.0 wet	0.5 wet							
Hilf Density Ratio (%)	98.5	99.0							

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25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03771

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing







te tests, calibrations and/or Approved Signatory: M. Longfield

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Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data									
Sample ID	S20DS-13737	S20DS-13738							
Field Sample ID	1	2							
Date Tested	22/07/2020	22/07/2020							
E:	1558.574	1602.399							
N:	786.190	780.632							
EL:	33.630	33.896							
Lot:	2109	2132							
Layer:	1	1							
Field and Laboratory Data									
Depth of Test (mm)	175	175							
Depth of Layer (mm)	200	200							
AS Sieve Size (mm)	19.0	19.0							
Oversize Wet (%)	0	0							
Field Wet Density (t/m³)	2.13	2.09							
Peak Converted Wet Density (t/m³)	2.12	2.12							
Compactive Effort	Standard	Standard							
Moisture Variation (%)	0.5 dry	0.0							
Hilf Density Ratio (%)	100.5	99.0							





25 Metcalf Street DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03805

Issue No: 1

HILF Density Ratio Report

Greenridge Properties Pty Ltd Client:

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: **CG Request No.:**

TRN: Lot No.: ILAC-MRA





Approved Signatory: M. Longfield

(Senior Technician) 12712 5/08/2020 Date of Issue:

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Sample Details

Location:

Client Request ID:

Specification Requirements:

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: Clay

Sample Data				
Sample ID	S20DS-13857	S20DS-13858		
Field Sample ID	1	2		
Date Tested	23/07/2020	23/07/2020		
E:	1528.313	1590.896		
N:	796.700	780.430		
EL:	33.894	33.931		
Lot:	2104	2130		
Layer:	2	2		
Field and Laboratory Data				
Depth of Test (mm)	175	175		
Depth of Layer (mm)	200	200		
AS Sieve Size (mm)	19.0	19.0		
Oversize Wet (%)	0	0		
Field Wet Density (t/m³)	2.06	2.12		
Peak Converted Wet Density (t/m³)	2.14	2.11		
Compactive Effort	Standard	Standard		
Moisture Variation (%)	0.5 wet	0.0		
Hilf Density Ratio (%)	96.5	100.5		





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03844

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing







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he results of the tests, calibrations and/or Approved Signatory: M. Longfield asurements included in this document are

rements included in this document are able to Australian/hational standards. (Senior Technician)

12712 Date of Issue: 5/08/2020

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data					
Sample ID	S20DS-13989	S20DS-13990	S20DS-13991		
Field Sample ID	1	2	3		
Date Tested	24/07/2020	24/07/2020	24/07/2020		
E:	1519.182	1547.962	1618.499		
N:	769.192	795.048	775.706		
EL:	33.582	34.118	34.209		
Lot:	2106	2110	2133		
Layer:	4	3	3		
Field and Laboratory Data					
Depth of Test (mm)	175	175	175		
Depth of Layer (mm)	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0		
Field Wet Density (t/m³)	2.07	2.05	2.08		
Peak Converted Wet Density (t/m³)	2.13	2.10	2.08		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	0.0	0.0	0.0		
Hilf Density Ratio (%)	97.5	97.5	100.0		





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03969

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

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he results of the tests, calibrations and/or
Approved Signatory: M. Longfield

surements included in this document are ceable to Australian/habronal standards. (Senior Technician)

12712 Date of Issue: 5/08/2020

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Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data					
Sample ID	S20DS-14451	S20DS-14452	S20DS-14453	S20DS-14454	
Field Sample ID	1	2	3	4	
Date Tested	28/07/2020	28/07/2020	28/07/2020	28/07/2020	
E:	1585.021	1597.807	1608.989	1632.546	
N:	774.884	804.124	852.170	817.481	
EL:	33.974	33.903	34.808	34.502	
Lot:	2130	2118	2119	2127	
Field and Laboratory Data					
Depth of Test (mm)	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	
Field Wet Density (t/m³)	2.12	2.05	2.05	2.03	
Peak Converted Wet Density (t/m³)	2.12	2.06	2.08	2.01	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.5 dry	0.5 dry	0.0	0.5 dry	
Hilf Density Ratio (%)	99.5	99.5	98.0	101.0	





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS03983

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing







The results of the tests, calibrations and/or easurements included in this document are

ument are andards. (Senior Technician)
Date of Issue: 5/08/2020

12712 Date of Issue: 5/08/2020
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Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data					
Sample ID	S20DS-14485	S20DS-14486	S20DS-14487		
Field Sample ID	1	2	3		
Date Tested	29/07/2020	29/07/2020	29/07/2020		
E:	1584.114	1562.431	1545.517		
N:	832.374	851.759	816.116		
EL:	34.381	34.668	34.035		
Lot:	2116	2114	2112		
Layer:	1	1	1		
Field and Laboratory Data					
Depth of Test (mm)	175	175	175		
Depth of Layer (mm)	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0		
Field Wet Density (t/m³)	2.07	2.02	1.97		
Peak Converted Wet Density (t/m³)	2.10	2.07	1.99		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	0.5 dry	0.5 wet	0.0		
Hilf Density Ratio (%)	98.5	97.5	99.0		





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS04032

Accredited for compliance with ISO/IEC 17025 – Testing

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

lac-MRA



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sts, calibrations and/or Approved Signatory: M. Longfield

(Senior Technician)
Date of Issue: 5/08/2020

12712 Date of Issue: 5/08/2020
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data					
Sample ID	S20DS-14656	S20DS-14657	S20DS-14658		
Field Sample ID	1	2	3		
Date Tested	30/07/2020	30/07/2020	30/07/2020		
E:	1528.563	1627.876	1625.425		
N:	844.371	813.474	846.020		
EL:	34.677	34.499	34.935		
Lot:	2101	2127	2120		
Layer:	1	2	2		
Field and Laboratory Data					
Depth of Test (mm)	175	175	175		
Depth of Layer (mm)	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0		
Field Wet Density (t/m³)	1.98	2.02	2.03		
Peak Converted Wet Density (t/m³)	1.90	2.04	2.06		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	0.5 wet	0.0	0.0		
Hilf Density Ratio (%)	104.0	99.0	98.5		





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS04036

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing

ATA ion No. 12719

Approved Signatory: M. Longfield

are (Senior Technician)

12712 Date of Issue: 5/08/2020
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data				
Sample ID	S20DS-14704	S20DS-14705		
Field Sample ID	1	2		
Date Tested	31/07/2020	31/07/2020		
E:	1594.629	1590.601		
N:	849.615	818.748		
EL:	34.833	34.292		
Lot:	2115	2117		
Layer:	2	2		
Field and Laboratory Data				
Depth of Layer (mm)	200	200		
AS Sieve Size (mm)	19.0	19.0		
Oversize Wet (%)	0	0		
Field Wet Density (t/m³)	2.06	2.12		
Peak Converted Wet Density (t/m³)	2.08	2.17		
Compactive Effort	Standard	Standard		
Moisture Variation (%)	0.0	0.0		
Hilf Density Ratio (%)	98.5	97.5		

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25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS04050

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

Accredited for compliance with ISO/IEC 17025 – Testing







ne results of the tests, calibrations and/or Approved Signatory: M. Longfield

ements included in this document are ble to Australian/hational standards. (Senior Technician)

12712 Date of Issue: 5/08/2020

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data				
Sample ID	S20DS-14760	S20DS-14761		
Field Sample ID	1	2		
Date Tested	1/08/2020	1/08/2020		
E:	1553.507	1531.130		
N:	832.619	816.882		
EL:	34.511	34.318		
Lot:	2113	2102		
Layer:	2	2		
Field and Laboratory Data				
Depth of Test (mm)	175	175		
Depth of Layer (mm)	200	200		
AS Sieve Size (mm)	19.0	19.0		
Oversize Wet (%)	0	0		
Field Wet Density (t/m³)	1.95	1.98		
Peak Converted Wet Density (t/m³)	1.98	1.96		
Compactive Effort	Standard	Standard		
Moisture Variation (%)	0.0	0.0		
Hilf Density Ratio (%)	98.5	100.5		





25 Metcalf Street DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS04091

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: **CG Request No.:**

TRN: Lot No.: Accredited for compliance with ISO/IEC 17025 – Testing







Approved Signal (Senior Technician)

24/08/2020 Approved Signatory: M. Longfield

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Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data						
Sample ID	S20DS-14912	S20DS-14913	S20DS-14914	S20DS-14915	S20DS-14916	
Field Sample ID	1	2	3	4	5	
Date Tested	3/08/2020	3/08/2020	3/08/2020	3/08/2020	3/08/2020	
E:	1608.571	1616.446	1637.462	1553.960	1530.315	
N:	799.790	832.412	830.281	805.205	811.379	
EL:	34.415	34.866	34.875	34.371	34.307	
Lot:	2129	2119	2121	2111	2103	
Layer:	3	3	3	3	3	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	0	
Field Wet Density (t/m³)	1.99	2.06	2.07	2.05	2.03	
Peak Converted Wet Density (t/m³)	2.02	2.07	2.07	2.08	2.04	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.0	0.0	0.5 wet	0.0	0.0	
Hilf Density Ratio (%)	98.5	99.5	100.0	99.0	99.5	





25 Metcalf Street DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS04838

Issue No: 1

HILF Density Ratio Report

Greenridge Properties Pty Ltd Client:

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: **CG Request No.:**

TRN: Lot No.: Accredited for compliance with ISO/IEC 17025 – Testing







Approved Signatory: M. Longfield

Approved Signal (Senior Technician)

17/09/2020 12712 THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95%

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: Clay

Sample Data				
Sample ID	S20DS-17688			
Field Sample ID	1			
Date Tested	5/09/2020			
E:	1646.316			
N:	839.943			
EL	35.039			
Lot:	2121			
Layer:	1			
Field and Laboratory Data				
Depth of Test (mm)	175			
Depth of Layer (mm)	200			
AS Sieve Size (mm)	19.0			
Oversize Wet (%)	0			
Field Wet Density (t/m³)	1.99			
Peak Converted Wet Density (t/m³)	1.94			
Compactive Effort	Standard			
Moisture Variation (%)	2.0 dry			
Hilf Density Ratio (%)	102.5			





25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS05021

Accredited for compliance with ISO/IEC 17025 – Testing

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: CG Request No.:

TRN: Lot No.:

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neasurements included in this document are traceable to Australian/national standards.





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Approved Signatory: M. Longfield (Senior Technician)

2/10/2020

12712 Date of Issue: 2/10/2020
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data				
Sample ID	S20DS-18239			
Field Sample ID	1			
Date Tested	9/09/2020			
E:	1659.644			
N:	808.992			
EL:	34.701			
Layer:	1			
Field and Laboratory Data				
Depth of Test (mm)	175			
Depth of Layer (mm)	200			
AS Sieve Size (mm)	19.0			
Oversize Wet (%)	0			
Field Wet Density (t/m³)	1.94			
Peak Converted Wet Density (t/m³)	1.93			
Compactive Effort	Standard			
Moisture Variation (%)	2.0 dry			
Hilf Density Ratio (%)	100.5			

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25 Metcalf Street DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS05083

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd

Address: PO Box 3131

AUBURN VIC 3123

Project: Meridian Estate - Stage 21

Project No.: 3807351.021

Order No.: **CG Request No.:**

TRN: Lot No.: Accredited for compliance with ISO/IEC 17025 – Testing







THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Approved Signatory: M. Longfield

Approved Signal (Senior Technician)

2/10/2020 12712

Sample Details

Location:

Client Request ID:

Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 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: Clay

Sample Data				
Sample ID	S20DS-18425			
Field Sample ID	1			
Date Tested	10/09/2020			
E:	1649.055			
N:	800.552			
EL:	34.675			
Lot:	2125			
Layer:	1			
Field and Laboratory Data				
Depth of Test (mm)	175			
Depth of Layer (mm)	200			
AS Sieve Size (mm)	19.0			
Oversize Wet (%)	0			
Field Wet Density (t/m³)	1.94			
Peak Converted Wet Density (t/m³)	1.92			
Compactive Effort	Standard			
Moisture Variation (%)	2.5 dry			
Hilf Density Ratio (%)	101.0			

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Appendix D: Controlled fill certificates



PROJECT: Lot No: 2101 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

Rober Borden

Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2102 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2103 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2104 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DAT

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2105 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2106 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2107 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2108 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2109 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

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 (16 July 2020 and 10 September 2020) 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

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2110 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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 (16 July 2020 and 10 September 2020) 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

Lober Border

Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2111 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2112 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

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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Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2113 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2114 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

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.

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PROJECT: Lot No: 2115 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2116 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2117 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE : December / 2020

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.

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PROJECT: Lot No: 2118 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

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.

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PROJECT: Lot No: 2119 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2120 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2121 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2122 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2123 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2124 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2125 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

PO Box 4136

DANDENONG SOUTH VIC 3164

SUMMARY

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PROJECT: Lot No: 2126 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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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PROJECT: Lot No: 2127 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

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.

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PROJECT: Lot No: 2128 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

SUMMARY

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Lober Border

Robert Barden Geotechnical Engineer Timothy Chadwick Project Director

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PROJECT: Lot No: 2129 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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: Lot No: 2130 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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PROJECT: Lot No: 2131 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

PO Box 4136

DANDENONG SOUTH VIC 3164

SUMMARY

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PROJECT: Lot No: 2132 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

PO Box 4136

DANDENONG SOUTH VIC 3164

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PROJECT: Lot No: 2133 Chadwick Geotechnics REF: 3807351.021.v1

: December / 2020

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd DATE

PO Box 4136

DANDENONG SOUTH VIC 3164

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PROJECT: Lot No: 2134 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

DANDENONG SOUTH VIC 3164

DATE : December / 2020

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PROJECT: Lot No: 2135 Chadwick Geotechnics REF: 3807351.021.v1

Meridian Estate Stage 21

CLIENT : Grosvenor Lodge Pty Ltd

PO Box 4136

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