



REPORT

Level One Inspection and Testing Services

Meridian Central Estate Stage 30, Clyde
Lot's 3001 & 3011 to Lot 3037

Prepared for:

Grosvenor Lodge Pty Ltd

4 February 2022

Our Ref: 3807351.030.v1

25 Metcalf Street, Dandenong South, Vic 3175, Australia
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Document Control

Title: Level One Inspection and Testing Services					
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:
4 February 2022	1	3807351.030.V1	RHB	RHB	TJC

Distribution:

Grosvenor Lodge Pty Ltd

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1 electronic copy

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1 Introduction

As part of the construction of the Meridian Central Estate development in Clyde North, Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) has been engaged by Grosvenor Lodge Pty Ltd to provide Geotechnical Inspection and Testing Authority (GITA) services for the earthworks within Stage 30 of the Estate.

This report presents the earthworks supervision methods and density testing results for the residential lot's 3001 and 3011 to Lot 3037 within the Stage 30 site. The earthworks were completed between 1 July 2021 and 19 October 2021.

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.

2 Project details

2.1 Location

The Meridian Central Estate is in Clyde North, the Stage 30 site is located North of Hardys Road and East of Stage 28 within the Meridian Central site. The stage is being developed as a residential development.

A site plan of the site is included in Appendix A.

2.2 Fill specification

A summary of the specification is shown below:

- All filling in excess of 300mm depth shall be constructed to specifications satisfying the requirements of AS 3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments".
- All filling works shall be undertaken with supervision to the standard detailed as "Level 1 Inspection and Testing" in AS 3798-2007, such that the supervisor will issue a notice detailing that the works comply with the specifications and drawings.
- The fill soils to comply with the 'Suitable Material' in accordance with Section 4.4 of the AS3798-2007, and the following:
 - Maximum particle size of 150mm.
 - Particles over 37.5mm diameter not to exceed 20% of the material.
 - Organic soils, topsoil, silts, or soils containing organic matter, wood, plastics, metal or other deleterious materials are not acceptable.
- Subgrade to be proof rolled in presence of the Level 1 Inspector prior to the placement of engineered fill.
- Fill to be compacted in near horizontal layers.
- Compaction to achieve a ratio of at least 95% Standard MDD (maximum dry density).
- Frequency of testing to be in accordance with Table 8.1 of AS3798-2007.

2.3 Roles

The organisations and their roles are presented in Table 2.1 below.

Table 2.1 Project roles

Role	Organisation
Developer	Grosvenor Lodge Pty Ltd
Geotechnical Inspection and Testing Authority (GITA)	Chadwick Geotechnics Pty Ltd
Civil Designer / Superintendent	Beveridge Williams Pty Ltd
Earthworks Contractor	Brown Property Group Pty Ltd

2.4 Source of material

The material used on site was imported from locally sources.

2.5 General

The inspection and testing of earthworks have 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 1 project (large scale operation). Compaction control laboratory testing was undertaken within Chadwick Geotechnics NATA accredited laboratories in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

2.6 Subgrade inspection

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. The stripped surface was stripped to natural clay, and the area was found to be firm and free of vegetation and other deleterious material. All pre-existing uncontrolled fill was removed prior to the placement of engineered fill to achieve the design levels.

2.7 Earthwork supervision

Full time Level 1 inspection and testing of the Stage 30 filling operations commenced on 1 July 2021 and was completed on 19 October 2021. During this period Chadwick Geotechnics was on site all the time (except when there were no earthworks) and observed the earthworks, the placing of fill 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 subgrade and additional lifts were thoroughly scarified, and moisture conditioned prior to placement of additional layers to prevent delamination at the layer interface.

Below are two photographs of typical earthwork operations completed during earthworks, See Photographs 2.1 and 2.2 below.



Photograph 2.1:
Material Compaction, August 2021



Photograph 2.2:
Moisture Conditioning, September 2021

2.8 Earthwork equipment

The fill was placed and compacted using vibrating Pad foot rollers. Water trucks with water cannons attached were used to moisture condition the soil materials. The layer thicknesses were controlled using earthwork machinery with built-in GPS systems.

2.9 Geotechnical sampling and testing

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 hand held GPS units. A site plan showing the field density test locations is provided in Appendix A. A summary of Hilf density testing is presented in Appendix B and the Hilf density test reports are presented in Appendix C.

A total of 29 tests were performed across the Stage 30 area during the filling process.

The results show that 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 reworked, reconditioned, re-compacted and subsequently retested. The result showed that the test achieved the specification requirements for the project so far.

A summary of the Hilf density test reports is provided within Appendix B and all the test reports are provided within Appendix C, a controlled fill certificate is provided within Appendix D.

3 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 fill material placed was tested at a suitable frequency in accordance with AS 3798-2007- Table 8.1 and the results indicate the compacted material achieved the minimum density requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor, and as witnessed by 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.

4 Applicability

This report has been prepared for the exclusive use of our client Grosvenor Lodge Pty Ltd , with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Recommendations and opinions in this report are based on data from discrete investigation locations. The nature and continuity of subsoil away from these locations are inferred but it must be appreciated that actual conditions could vary from the assumed model.

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:



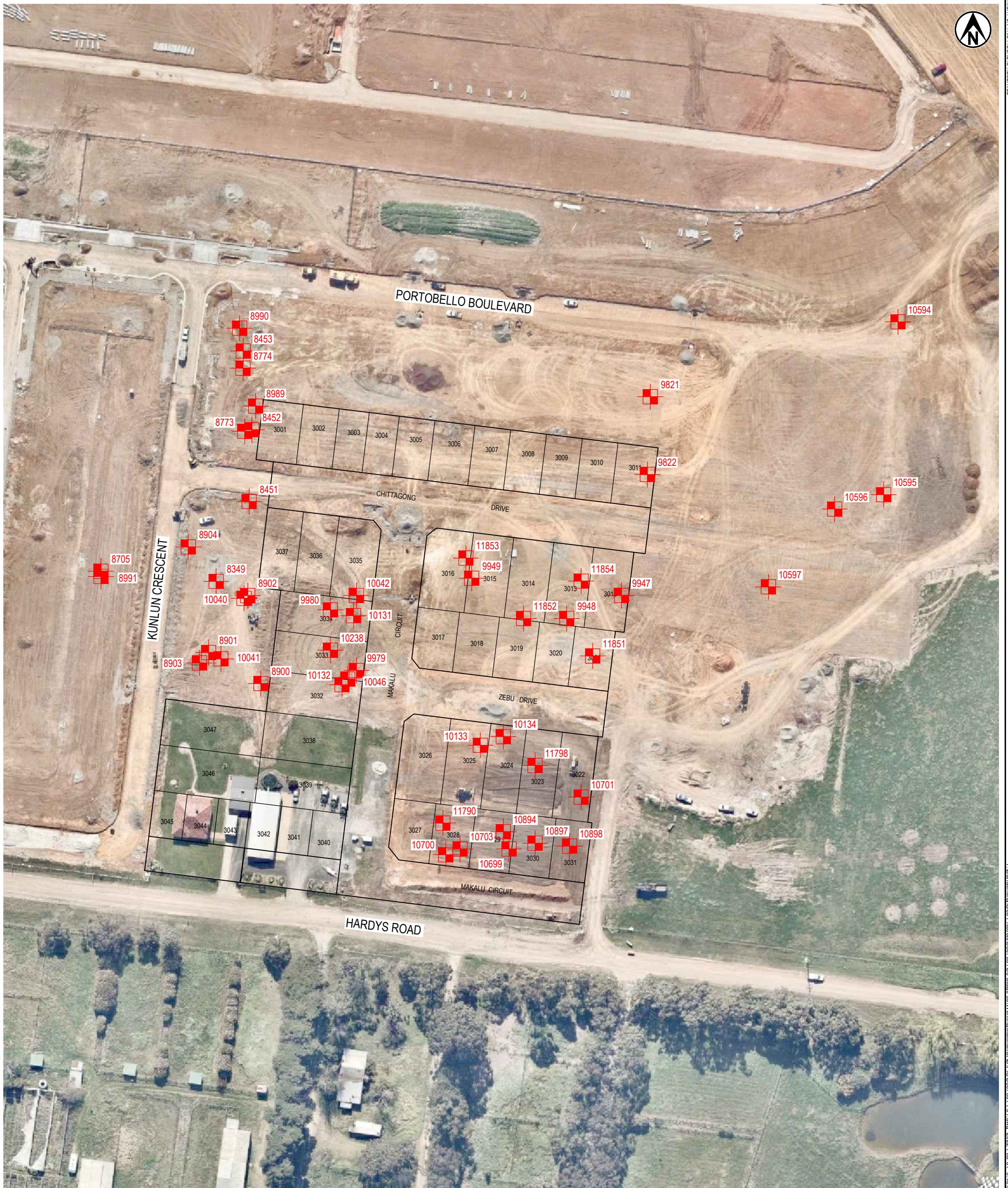

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Robert Barden
Project Manager

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Tim Chadwick
Project Director

8-Feb-22

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Appendix A: Site plan



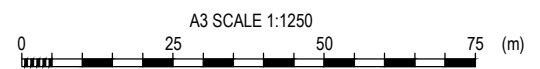
LEGEND



6125 HILF DENSITY TEST LOCATION

NOTES:

1. AERIAL IMAGE SOURCED FROM NEARMAP. COPYRIGHT NEARMAP PTY LTD IMAGERY DATE: 01/09/2021.
2. BASE PLAN PROVIDED BY BEVERIDGE WILLIAMS. DRAWING REFERENCE: 1801767 STAGE 30 DWG NO. M01 REV P5. DATE RECEIVED: 28/09/2021.



PROJECT No. 3807351.030		
DESIGNED	ACC	Jan.22
DRAWN	KMJA	Jan.22
CHECKED		
APPROVED _____ DATE _____		

CLIENT	GROSVENOR LODGE PTY LTD
PROJECT	MERIDIAN ESTATE - STAGE 30
TITLE	LEVEL ONE HILF DENSITY TESTING HILF DENSITY TEST LOCATION PLAN
SCALE (A3)	1:1250
FIG No.	FIGURE 01
REV	1

Appendix B: Hilf density test summary

Report No	Sample No	Date	Test Number	Lot Number	Location [E]	Location [N]	RL	Layer	Density Ratio HILF test (±95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02296	8349	1/07/2021	1	2838	355764	5781196	39.196	1	98	omc	Pass	
HDR:W21DS02321	8451	2/07/2021	1	2837	355776	5781224	29.239	1	101.5	0.5 dry	Pass	
HDR:W21DS02321	8452	2/07/2021	2	2835	355777	5781249	39.376	1	101.5	omc	Pass	
HDR:W21DS02321	8453	2/07/2021	3	2843	355774	5781276	39.514	1	98	omc	Pass	
HDR:W21DS02369	8705	7/07/2021	1	2829	355724	5781199	39.47	4	99.5	4.5 wet	Fail	See Retest 8991
HDR:W21DS02389	8773	8/07/2021	1	2836	355774	5781248	39.473	2	103	1.5 dry	Pass	
HDR:W21DS02389	8774	8/07/2021	2	2842	355774	5781270	39.56	2	99.5	omc	Pass	
HDR:W21DS02412	8900	9/07/2021	1	2841	355780	5781160	39.31		99.5	1 wet	Pass	
HDR:W21DS02412	8901	9/07/2021	2	2840	355762	5781171	29.71		99.5	0.5 wet	Pass	
HDR:W21DS02412	8902	9/07/2021	3	2839	355775	5781191	39.68		101	0.5 wet	Pass	
HDR:W21DS02413	8903	10/07/2021	1	2841	355759	5781168	39.78		102.5	omc	Pass	
HDR:W21DS02413	8904	10/07/2021	2	2838	355755	5781208	39.45		105	0.5 dry	Pass	
HDR:W21DS02433	8989	12/07/2021	1	2835	355778	5781257	39.74		98	0.5 wet	Pass	
HDR:W21DS02433	8990	12/07/2021	2	2843	355772	5781284	39.678		96	1.5 wet	Pass	
HDR:W21DS02433	8991	12/07/2021	3	2829	355724	5781198	39.455	4	101.5	0.5 dry	Pass	Retest of 8705
HDR:W21DS02700	10040	11/08/2021	1	2839	355774	5781190	39.82		98.5	0.5 dry	Pass	
HDR:W21DS02700	10041	11/08/2021	2	2841	355766	5781169	39.88		99	0.5 dry	Pass	
HDR:W21DS02634	9821	5/08/2021	1		355915	5781260	-		97.5	omc	Pass	
HDR:W21DS02634	9822	5/08/2021	2		355914	5781233	-		98	0.5 dry	Pass	
HDR:W21DS02668	9947	9/08/2021	1	3012	355905	5781191	41.07	-	102	0.5 dry	Pass	
HDR:W21DS02668	9948	9/08/2021	2	3020	355886	5781183	41.11	-	100	0.5 wet	Pass	
HDR:W21DS02668	9949	9/08/2021	3	3015	355853	5781197	40.57	-	100	omc	Pass	
HDR:W21DS02683	9979	10/08/2021	1	3032	355813	5781165	40.05	2	100	1.5 wet	Pass	
HDR:W21DS02683	9980	10/08/2021	2	3034	355804	5781186	40.04	2	103	0.5 dry	Pass	
HDR:W21DS02701	10042	11/08/2021	1	3034	355813	5781191	40.15	3	99	0.5 wet	Pass	
HDR:W21DS02701	10046	11/08/2021	2	3032	355810	5781162	40.33	3	99.5	omc	Pass	
HDR:W21DS02721	10131	12/08/2021	1	3035	355812	5781184	40.25	4	100	0.5 dry	Pass	
HDR:W21DS02721	10132	12/08/2021	2	3033	355808	5781160	40.35	4	94.5	0.5 dry	Fail	See Retest 10238
HDR:W21DS02721	10133	12/08/2021	3	3025	355856	5781139	40.9	1	97.5	2.0 wet	Pass	
HDR:W21DS02721	10134	12/08/2021	4	3024	355864	5781142	41.04	2	96	omc	Pass	
HDR:W21DS02744	10238	16/08/2021	1	3033	355804	5781172		4	98.5	1.5 dry	Pass	Retest of 10132



3807351.030 - Meridian Estate Stage 30 - HILF Summary

Report No	Sample No	Date	Test Number	Lot Number	Location [E]	Location [N]	RL	Layer	Density Ratio HILF test (±95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02829	10594	25/08/2021	1	3137	356001	5781286	42.290	2	98	0.5 wet	Pass	
HDR:W21DS02829	10595	25/08/2021	2	3135	355996	5781226	42.010	2	101	omc	Pass	
HDR:W21DS02829	10596	25/08/2021	3	3134	355979	5781221	41.760	2	97	omc	Pass	
HDR:W21DS02829	10597	25/08/2021	4	3125	355956	5781194	41.680	3	100	omc	Pass	
HDR:W21DS02854	10699	27/08/2021	1	3029	355866	5781103	41.31	1	103.5	1.0 dry	Pass	
HDR:W21DS02854	10700	27/08/2021	2	3027	355844	5781101	41.32	1	104	1.5 dry	Pass	
HDR:W21DS02855	10701	28/08/2021	1	3022	355891	5781121	41.31	1	99.5	0.5 dry	Pass	
HDR:W21DS02855	10703	28/08/2021	2	3028	355849	5781103	41.43		99.5	2.5 dry	Pass	
HDR:W21DS02912	10894	2/09/2021	1	3029	355864	5781109	41.34	2	103.5	3.0 dry	Pass	
HDR:W21DS02912	10897	2/09/2021	2	3030	355875	5781105	41.39	2	104.5	3.0 dry	Pass	
HDR:W21DS02912	10898	2/09/2021	3	3031	355887	5781104	41.34	2	103.5	2.5 dry	Pass	
HDR:W21DS03195	11798	15/10/2021	1	3023	355875	5781132	41.36	3	98.5	omc	Pass	
HDR:W21DS03195	11790	15/10/2021	2	3028	355843	5781112	41.38	3	100.5	0.5 dry	Pass	
HDR:W21DS03213	11851	19/10/2021	1	3021	355895	5781170	41.47	2	103.5	1.0 wet	Pass	
HDR:W21DS03213	11852	19/10/2021	2	3019	355871	5781183	40.97	2	100	1.5 wet	Pass	
HDR:W21DS03213	11853	19/10/2021	3	3016	355851	5781204	40.5	2	101	0.5 wet	Pass	
HDR:W21DS03213	11854	19/10/2021	4	3013	355891	5781196	41.03	2	100	1.5 wet	Pass	
												no further testing

Appendix C: Hilf density testing reports



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:W21DS02296

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 8/07/2021
 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: Silty Clay

Sample Data

Sample ID	S21DS-08349				
Field Sample ID	1				
Date Tested	1/07/2021				
E:	1941.059				
N:	356.873				
EL:	39.196				
Lot:	2838				
Layer:	1				

Field and Laboratory Data

Depth of Test (mm)	150				
Depth of Layer (mm)	200				
AS Sieve Size (mm)	19.0				
Oversize Wet (%)	0				
Field Wet Density (t/m³)	2.04				
Peak Converted Wet Density (t/m³)	2.08				
Compactive Effort	Standard				
Moisture Variation (%)	0.0				
Hilf Density Ratio (%)	98.0				

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:W21DS02321


Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 8/07/2021
 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 traces of Gravel

Sample Data

Sample ID	S21DS-08451	S21DS-08452	S21DS-08453			
Field Sample ID	1	2	3			
Date Tested	2/07/2021	2/07/2021	2/07/2021			
E:	1952.497	1953.403	1950.454			
N:	384.600	409.528	436.848			
EL:	29.2387	39.376	39.514			
Lot:	2837	2835	2843			
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)	1.96	2.03	2.02			
Peak Converted Wet Density (t/m³)	1.93	2.01	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.0			
Hilf Density Ratio (%)	101.5	101.5	98.0			

Comments



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

Ph: + 61 3 8796 7900
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Report No: HDR:W21DS02369

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 14/07/2021
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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/Gravel/Silt

Sample Data

Sample ID	S21DS-08705				
Field Sample ID	1				
Date Tested	7/07/2021				
E:	1901.035				
N:	360.387				
EL:	39.474				
Lot:	2829				
Layer:	4				

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)	1.95				
Compactive Effort	Standard				
Moisture Variation (%)	4.5 wet				
Hilf Density Ratio (%)	99.5				

Comments



Dandenong South
ACN 143 009 330
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 Fax: +61 3 9706 9431

Report No: HDR:W21DS02389


Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 14/07/2021
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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: Sandy Clay, Gravel

Sample Data

Sample ID	S21DS-08773	S21DS-08774			
Field Sample ID	1	2			
Date Tested	8/07/2021	8/07/2021			
E:	1950.959	1950.385			
N:	408.971	430.888			
EL:	39.473	39.557			
Lot:	2836	2842			
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	2.06			
Peak Converted Wet Density (t/m³)	2.00	2.07			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.0			
Hilf Density Ratio (%)	103.0	99.5			

Comments



Dandenong South
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Report No: HDR:W21DS02412

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 14/07/2021
 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%
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	S21DS-08900	S21DS-08901	S21DS-08902		
Field Sample ID	1	2	3		
Date Tested	9/07/2021	9/07/2021	9/07/2021		
Lot No:	2841	2840	2839		
E:	1956.578	1938.436	1952.021		
N:	321.417	332.186	351.932		
Elv:	39.307	29.709	39.677		

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)	2.02	2.08	2.07		
Peak Converted Wet Density (t/m³)	2.03	2.09	2.05		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	1.0 wet	0.5 wet	0.5 wet		
Hilf Density Ratio (%)	99.5	99.5	101.0		

Comments



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

Ph: + 61 3 8796 7900
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Report No: HDR:W21DS02413

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 14/07/2021
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Sample Details

Location: Clyde North
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	S21DS-08903	S21DS-08904			
Field Sample ID	1	2			
Date Tested	10/07/2021	10/07/2021			
Lot No:	2841	283.8			
E:	1935.254	1931.367			
N:	328.581	368.822			
Elv:	39.784	39.445			

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)	2.03	1.99			
Peak Converted Wet Density (t/m³)	1.98	1.90			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry			
Hilf Density Ratio (%)	102.5	105.0			

Comments



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Report No: HDR:W21DS02433

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 14/07/2021
 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%
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: silty CLAY

Sample Data

Sample ID	S21DS-08989	S21DS-08990	S21DS-08991		
Field Sample ID	1	2	3		
Date Tested	12/07/2021	12/07/2021	12/07/2021		
Lot No:	2835	2843	2829		
E:	1954.735	1949.205	1901.093		
N:	417.720	444.7.76	358.582		
Elv:	39.736	39.678	39.455		
			Retest		

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)	2.04	1.97	2.00		
Peak Converted Wet Density (t/m³)	2.08	2.06	1.97		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	0.5 wet	1.5 wet	0.5 dry		
Hilf Density Ratio (%)	98.0	96.0	101.5		

Comments



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Report No: HDR:W21DS02700

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 28
Project No.: 3807351.028
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 16/08/2021
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Sample Details

Location: Clyde North
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: Silty Clay

Sample Data

Sample ID	S21DS-10040	S21DS-10041			
Field Sample ID	1	2			
Date Tested	11/08/2021	11/08/2021			
E:	355774	355766			
N:	5781190	5781169			
RL:	39.82	39.88			
Lot:	2839	2841			

Field and Laboratory Data

AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	0	0			
Field Wet Density (t/m ³)	2.00	2.01			
Peak Converted Wet Density (t/m ³)	2.03	2.03			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	98.5	99.0			

Comments



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Report No: HDR:W21DS02634

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 29
Project No.: 3807351.029
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 6/08/2021
 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% (+- 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	S21DS-09821	S21DS-09822			
Field Sample ID	1	2			
Date Tested	5/08/2021	5/08/2021			
E:	2091.77	2091.59			
N:	421.822	394.217			
EL:	41.242	40.86			

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)	2.09	2.05			
Peak Converted Wet Density (t/m³)	2.15	2.09			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry			
Hilf Density Ratio (%)	97.5	98.0			

Comments



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Report No: HDR:W21DS02668

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 10/08/2021
 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: Silty Clay with Gravel

Sample Data

Sample ID	S21DS-09947	S21DS-09948	S21DS-09949		
Field Sample ID	1	2	3		
Date Tested	9/08/2021	9/08/2021	9/08/2021		
E:	355905	355886	355853		
N:	5781191	5781183	5781197		
RL:	41.066	41.111	40.571		
Lot:	3012	3020	3015		

Field and Laboratory Data

Depth of Test (mm)	125	125	125		
Depth of Layer (mm)	150	150	150		
AS Sieve Size (mm)	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0		
Field Wet Density (t/m³)	2.06	2.04	2.08		
Peak Converted Wet Density (t/m³)	2.03	2.04	2.08		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	0.5 dry	0.5 wet	0.0		
Hilf Density Ratio (%)	102.0	100.0	100.0		

Comments



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Report No: HDR:W21DS02683

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 16/08/2021
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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: Gravelly Clay

Sample Data

Sample ID	S21DS-09979	S21DS-09980			
Field Sample ID	1	2			
Date Tested	10/08/2021	10/08/2021			
E:	355813	355804			
N:	5781165	5781186			
RL:	40.050	40.040			
Lot:	3032	3034			
Layer:	2	2			

Field and Laboratory Data

Depth of Test (mm)	125	125			
Depth of Layer (mm)	150	150			
AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	0	0			
Field Wet Density (t/m³)	2.16	2.11			
Peak Converted Wet Density (t/m³)	2.16	2.05			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry			
Hilf Density Ratio (%)	100.0	103.0			

Comments



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Report No: HDR:W21DS02701

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 16/08/2021
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Sample Details

Location: Clyde North
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: Silty Clay

Sample Data

Sample ID	S21DS-10042	S21DS-10046			
Field Sample ID	1	5			
Date Tested	11/08/2021	11/08/2021			
E:	355813	355810			
N:	5781191	5781162			
RL:	40.15	40.33			
Lot:	3034	3032			
Layer:	3	3			

Field and Laboratory Data

AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	0	0			
Field Wet Density (t/m³)	2.03	2.04			
Peak Converted Wet Density (t/m³)	2.05	2.04			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0			
Hilf Density Ratio (%)	99.0	99.5			

Comments



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Report No: HDR:W21DS02721


Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 16/08/2021
 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%
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: Gravelly Clay

Sample Data

Sample ID	S21DS-10131	S21DS-10132	S21DS-10133	S21DS-10134
Field Sample ID	1	2	3	4
Date Tested	12/08/2021	12/08/2021	12/08/2021	12/08/2021
E:	355812	355808	355856	355864
N:	5781184	5781160	5781139	5781142
RL	40.25	40.35	40.90	41.04
Lot:	3035	3033	3025	3024
Layer:	4	4	1	2

Field and Laboratory Data

Depth of Test (mm)	125	125	125	125
Depth of Layer (mm)	150	150	150	150
AS Sieve Size (mm)	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0
Field Wet Density (t/m³)	2.07	1.91	1.96	1.94
Peak Converted Wet Density (t/m³)	2.07	2.01	2.00	2.01
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 dry	0.5 dry	2.0 wet	0.0
Hilf Density Ratio (%)	100.0	94.5	97.5	96.0

Comments



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Report No: HDR:W21DS02744

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 17/08/2021
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Sample Details

Location: Stage 30
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: Gravelly Clay

Sample Data

Sample ID	S21DS-10238				
Field Sample ID	1				
Date Tested	16/08/2021				
Retest of	S21DS-10132				
Lot	3033				
E	355804				
N	5781172				
Layer	4				
Soil Description	Gravelly Clay				

Field and Laboratory Data

Depth of Test (mm)	125				
Depth of Layer (mm)	150				
AS Sieve Size (mm)	19.0				
Oversize Wet (%)	0				
Field Wet Density (t/m³)	1.99				
Peak Converted Wet Density (t/m³)	2.02				
Compactive Effort	Standard				
Moisture Variation (%)	1.5 dry				
Hilf Density Ratio (%)	98.5				

Comments



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Report No: HDR:W21DS02829

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 31
Project No.: 3807351.031
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 3/09/2021
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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: Silty Clay

Sample Data

Sample ID	S21DS-10594	S21DS-10595	S21DS-10596	S21DS-10597
Field Sample ID	1	2	3	4
Date Tested	25/08/2021	25/08/2021	25/08/2021	25/08/2021
E:	2175.92 (356001)	2168.26 (355996)	2154.10 (355979)	2134.12 (355956)
N:	416.41 (5781286)	386.27 (5781226)	380.678 (5781221)	351.89 (5781194)
RL / Layer:	42.29 / 2	42.01 / 2	41.76 / 2	41.68 / 3
Lot:	3137	3135	3134	3125
Other:	Sample No: 20	Sample No: 21	Sample No: 22	Sample No: 23

Field and Laboratory Data

Depth of Test (mm)	125	125	125	125
Depth of Layer (mm)	150	150	150	150
AS Sieve Size (mm)	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0
Field Wet Density (t/m³)	2.06	2.04	2.01	2.04
Peak Converted Wet Density (t/m³)	2.10	2.02	2.08	2.04
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 wet	0.0	0.0	0.0
Hilf Density Ratio (%)	98.0	101.0	97.0	100.0

Comments



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Report No: HDR:W21DS02854

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 3/09/2021
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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: Silty Clay

Sample Data

Sample ID	S21DS-10699	S21DS-10700			
Field Sample ID	1	2			
Date Tested	27/08/2021	27/08/2021			
E:	2040.31 (355866)	2020.07 (355844)			
N:	2556.41 (5781103)	257.16 (5781101)			
EL / Layer:	41.31 / 1	41.32 / 1			
Lot:	3029	3027			
Other:	Sample: 13	Sample: 14			

Field and Laboratory Data

Depth of Test (mm)	125	125			
Depth of Layer (mm)	150	150			
AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	0	0			
Field Wet Density (t/m³)	2.12	2.13			
Peak Converted Wet Density (t/m³)	2.04	2.05			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	1.0 dry	1.5 dry			
Hilf Density Ratio (%)	103.5	104.0			

Comments



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Report No: HDR:W21DS02855

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 3/09/2021
 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% (+- 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: Sandy Clay

Sample Data

Sample ID	S21DS-10701	S21DS-10703			
Field Sample ID	1	3			
Date Tested	28/08/2021	28/08/2021			
E:	2067.14 (355891)	2025.08 (355849)			
N:	280.20 (781121)	264.83 (5781103)			
EL / Layer:	41.31 / 1	41.43 /			
Lot:	3022	3028			
Other:	Sample: 15	Sample: 16			

Field and Laboratory Data

Depth of Test (mm)	125	125			
Depth of Layer (mm)	150	150			
AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	0	0			
Field Wet Density (t/m³)	2.05	1.99			
Peak Converted Wet Density (t/m³)	2.06	2.00			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.5 dry	2.5 dry			
Hilf Density Ratio (%)	99.5	99.5			

Comments



Dandenong South
ACN 143 009 330
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Report No: HDR:W21DS02912

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 3/09/2021
 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% (+- 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: Sandy Clay

Sample Data

Sample ID	S21DS-10894	S21DS-10897	S21DS-10898		
Field Sample ID	1	4	5		
Date Tested	2/09/2021	2/09/2021	2/09/2021		
E:	2040.93 (355864)	2051.98 (355875)	2062.97 (355887)		
N:	26.95 (5781109)	264.17 (5781105)	263.20 (5781104)		
EL / Layer:	41.34 / 2	41.39 / 2	41.34 / 2		
Lot:	3029	3030	3031		
Other:	Sample: 17	Sample: 18	Sample: 19		

Field and Laboratory Data

Depth of Test (mm)	125	125	125		
Depth of Layer (mm)	150	150	150		
AS Sieve Size (mm)	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0		
Field Wet Density (t/m³)	2.03	2.05	2.06		
Peak Converted Wet Density (t/m³)	1.96	1.96	1.99		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	3.0 dry	3.0 dry	2.5 dry		
Hilf Density Ratio (%)	103.5	104.5	103.5		

Comments



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Report No: HDR:W21DS03195

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 18/10/2021
 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% (+- 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	S21DS-11789	S21DS-11790			
Field Sample ID	1	2			
Date Tested	15/10/2021	15/10/2021			
E:	2049.995 (355875)	2019.545 (355843)			
N:	291.319 (5781132)	271.812 (5781112)			
EL / Layer:	41.355 / 3	41.375 / 3			
Lot:	3023	3028			
Other:	Sample: 20	Sample: 21			

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/m ³)	2.04	2.01			
Peak Converted Wet Density (t/m ³)	2.07	1.99			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry			
Hilf Density Ratio (%)	98.5	100.5			

Comments



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Report No: HDR:W21DS03213


Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 30
Project No.: 3807351.030
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing



Accreditation Number: 12719
 Site Number: 12712
 Approved Signatory: M. Robinson
 (Team Leader)
 Date of Issue: 4/11/2021
 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% (+- 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	S21DS-11851	S21DS-11852	S21DS-11853	S21DS-11854
Field Sample ID	1	2	3	4
Date Tested	19/10/2021	19/10/2021	19/10/2021	19/10/2021
E:	2071.783 (355895)	2047.605 (355871)	2028.090 (355851)	2068.031 (355891)
N:	325.404 (5781170)	338.218 (5781183)	361.130 (5781204)	355.765 (5781196)
EL / Layer:	41.466 / 2	40.974 / 2	40.503 / 2	41.034 / 2
Lot:	3021	3019	3016	3013
Other:	Sample: 22	Sample: 23	Sample: 24	Sample: 25

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)	2.09	2.09	2.08	2.00
Peak Converted Wet Density (t/m³)	2.01	2.09	2.06	1.99
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	1.0 wet	1.5 wet	0.5 wet	1.5 wet
Hilf Density Ratio (%)	103.5	100.0	101.0	100.0

Comments

Appendix D: Controlled Fill certificate



CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No's: 3001 & 3011 to 3037
Meridian Central Estate Stage 30
Chadwick Geotechnics REF: 3807351.030.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : 4 February 2022

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 (1 July 2021 to the 19 October 2021). 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

A handwritten signature in black ink that reads 'Robert Barden'.

Robert Barden
Project Manager

A handwritten signature in blue ink that reads 'Timothy Chadwick'.

Timothy Chadwick
Project Director

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