

Level One Compliance Report

Bulk Earthworks Filling Operations

Cadence, Stage 2,
Stage 3 & Stage 4

145 Binnies Road,
Ripley

December 3rd, 2021

Prepared By

MORRISON GEOTECHNIC PTY LTD

Prepared for:

Shadforth's Civil Pty Ltd

Document Reference: 18024



MORRISON
GEOTECHNIC

Brisbane Office
Job No: DL21/205
Ref No: 18024
Author: R. Mitchell

3rd December 2021

Shadforths Civil Pty Ltd
99 Sandalwood Lane
Forest Glen QLD, 4556

ATTENTION: MR DAVID BUGDEN
Email: david.bugden@shadcivil.com.au
Cc: tom.sotiriadis@shadcivil.com.au

Dear Sir,

**RE: LEVEL ONE COMPLIANCE REPORT FOR
BULK EARTHWORKS FILLING OPERATIONS
CADENCE – STAGE 2, STAGE 3 AND STAGE 4
LOT 336 & 349 ON S3173
145 BINNIES ROAD, RIPLEY**

Table of Contents

1.0 INTRODUCTION	2
1.1 General	2
1.2 Previous Earthworks	2
1.3 The Project	2
2.0 THE BRIEF	3
3.0 METHODOLOGY	3
3.1 Stripped Surface Assessment	3
3.2 Filling Operations.....	4
4.0 STATEMENT OF COMPLIANCE	6
5.0 EXCLUSIONS	6
6.0 LIMITATIONS	6
ATTACHMENTS:	7
Appendix A – Site Plan Showing Test Locations	7
Appendix B – Laboratory Test Results Reports	7

1.0 INTRODUCTION

1.1 General

This report presents results of Level One Earthworks Inspections and associated Compaction Compliance testing carried out on Earthworks Fill constructed to form residential building platforms at Cadence, Stage 2 & Balance (The Site).

The work was commissioned by Mr David Bugden representing Shadforths Civil Pty Ltd (The Client), using Purchase Order 2385-2AB001. Earthworks were carried out by The Client.

Earthworks filling operations were carried out intermittently between July 2021 and October 2021.

The extent of fill covered by this report is presented as a marked-up Site Pan contained in Appendix A

Picture 1: Aerial View of the Site (Image Source: Nearmap.com- dated 27th August 2021)



1.2 Previous Earthworks

As far as could be reasonably determined on site, no previous earthworks have taken place.

1.3 The Project

The Purpose for filling at The Site is to construct a Residential Subdivision which included new pavements, residential building platforms and associated underground services.

SCG Urban Earthworks Cut/Fill Layout Plan, Project No. 100-102-ENG-STG2A, Drawing Number C205 – Revision E and SCG Urban Bulk Earthworks Cut/Fill Layout Plan Sheet 1 and 2, Project No. 100-102-ENG-PH2, Drawing C205 & C206, Revision B indicates the extents and thickness of fill to be constructed at The Site.

The actual thickness of fill on an individual Lot can be obtained from the Developer as a Lot Disclosure Plan.

The Site is bounded by Daleys Road to the West, Binnies Road to the South & existing properties to the North and East.

2.0 THE BRIEF

The Brief from the Client was limited to:

- Level One Inspection and Testing of the placement and compaction of fill materials in accordance with AS3798 2007 – “Guidelines on Earthworks for Commercial and Residential Developments”,
- Ipswich City Council Project Specifications.
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- Notes on SCG Urban Earthworks Drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material, settlement assessments and existing filling were not included in the Brief and are therefore excluded from this Report.

3.0 METHODOLOGY

Earthworks Inspections and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials.

Field and laboratory testing included a walk over assessments of the existing ground conditions, observation of filling and compaction activities and compaction testing.

3.1 Stripped Surface Assessment

The areas to be filled at The Site were observed to be stripped and cleared of all visible organic matter, deleterious, loose and unsuitable materials to depths exposing competent natural ground.

The materials forming the natural foundation exposed after the stripping and clearing can be summarised as:

- Sandy Clay (SC) – at least stiff, low - medium plasticity, fine to coarse sands, orange brown and moist.
- Silty Sand (SM) – at least dense, fine to medium sands, low – medium plasticity fines, grey brown and moist.
- Sandstone (XW) – low strength, fine to coarse grained sand, grey, orange, brown.

Following the stripped surface assessment of the fill areas, the natural foundation was approved for filling using the following process:

- Walk over assessments confirming that the competent ground was exposed.
- Proof roll testing using large sized and loaded truck confirming no discernible movement of the fill foundation.

On this basis, the compliant assessments in accordance with above indicate that the exposed ground forming the fill foundation is capable of supporting new fill materials.

Picture 1: View of Stripping Operations



3.2 Filling Operations

Fill material was sourced from onsite won cut.

Fill materials can be broadly summarised as:

- Sandy Clay (CI) – medium plasticity, fine to coarse sands, brown and grey brown and moist.
- Gravelly Sandy Clay (SC) – low to medium plasticity, fine to coarse sands and gravels, orange brown and moist.

Placement and compaction of the fill materials was carried out using the following plant:

- 825 Compactor
- Excavator
- Moxey Water Truck
- Dozer
- Moxeys
- Grader

The fill materials were moisture conditioned at the source and during placement to moisture contents suitable for compaction. Deleterious materials such as organics, sticks, roots and over size particles were sorted and removed during placement or were rejected for use. Occasional cobble sized particles may remain in the fill however are not considered to affect the fill as a mass.

Placement of the fill materials was carried layers appropriate for the above plant and compacted using the above plant carrying out multiple passes.

Our representative observed the filling process as described above and it was assessed to be consistent for the entire thickness of fill.

Compaction Testing was carried out on the compacted fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) for Type 1 Earthworks and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing achieved the required specification of 95% of the Hilf Density.

Fill placed and compacted at measured density ratios less than 95% were tyned, moisture conditioned and re-compacted until the required specification was achieved. Retesting was carried out using Random Stratified Location methods.

The Location of the field density tests are shown on the Site Plan contained in Appendix A. These test locations and levels were not obtained by survey and therefore should only be considered as approximate.

Picture 2: View of Filling Operations



4.0 STATEMENT OF COMPLIANCE

Our representative observed all the relevant earthworks operations including the stripped surfaces, filling operations and carried out field density tests in accordance with the required standards (AS 3798 and AS 1289) and specifications.

It is confirmed that Level 1 Inspection has been carried out on the bulk earthworks fill used to form the residential lots and embankments below subgrade for this project. Based on observations made by our Geotechnicians and the results of the field and laboratory tests, the placed and compacted fill at the project has, as far as we have been able to assess, has been constructed in general accordance with the intent of AS3798 and the specifications.

The fill can be deemed to be “controlled” as defined in AS2870 (Residential Slabs and Footings).

The extent of fill covered by this report is presented as a marked-up Site Plan contained in Appendix A

5.0 EXCLUSIONS

This statement does not include any topsoil, which may be placed for use as dressing or any other subsequent earthworks after 6th October 2021.

Assessments of material quality such as soaked CBR and site classifications are excluded from this commission.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials used may result in unfavourable site classifications and low subgrade design strengths.

Footings and ground slabs for any structures constructed over natural soils or controlled fill should be designed to accommodate the characteristic ground surface movements and settlement potential. Assessments of these design parameters are beyond the scope of this Report.

This report is not to be relied upon for settlement analysis and soft soils engineering advice. This is beyond the scope of this report and outside our engagement.

6.0 LIMITATIONS

This Report has been prepared by Morrison Geotechnic Pty Ltd (**Morrison Geotechnic**), and may include contributions from Morrison Geotechnic’s officers and employees, sub-contractors, sub-consultants or agents (**Contributors**).

This Report is for the sole benefit and use of Shadforths Civil Pty Ltd (**Client**), its designers, clients and relevant statutory authorities for the sole purpose of providing geotechnical advice and recommendations in respect of the Cadence Stage 2 & Phase 2 Earthworks (**Project**). The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report.

This Report should not be used or relied upon for any other purpose without Morrison Geotechnic’s prior written consent. Morrison Geotechnic and the Contributors do not accept any responsibility or liability in any way whatsoever for the use or reliance of this Report by anyone other than the **Client**, its designers, its clients and relevant statutory authorities or by anyone else for any purpose other than that for which it has been prepared.

Except with Morrison Geotechnic’s prior written consent, this Report may not be:

- (a) released to any other party, whether in whole or in part (other than to the Client’s officers, employees, advisers, designers, clients and relevant statutory authorities);
- (b) used or relied upon by any other party.

Morrison Geotechnic and the Contributors, do not accept any liability or responsibility whatsoever for, or in respect of, any use or reliance upon this Report by any other party. Morrison Geotechnic is not obliged to enter into discussions with any third party in respect of this Report.

The information (including technical information and information obtained through discussions) on which this report is based has been provided by the Client and third parties. Morrison Geotechnic and the Contributors:

- (a) have relied upon and presumed the accuracy of this information;
- (b) have not verified the accuracy or reliability of this information (other than as expressly stated in this Report);
- (c) have not made any independent investigations or enquiries in respect of those matters of which it has no actual knowledge at the time of giving this Report to the Client; and
- (d) make no warranty or guarantee, expressed or implied, as to the accuracy or reliability of this information.

Morrison Geotechnic and the Contributors do not accept responsibility or liability for any incorrect assumptions related to this Report. For the avoidance of doubt, this Report:

- (a) is not an environmental, contamination or hazardous materials assessment; may be invalid, incomplete or inaccurate (including errors in the scope of work, investigation methodology, observations, opinions and advice) where the information provided to Morrison Geotechnic was invalid, incomplete or inaccurate;
- (b) is limited to observations of those parts of the site described in Section 1.0.

No warranty or guarantee, whether express or implied, is made in respect of the geotechnical data, information, advice, opinions and recommendations present in this Report.

If further information becomes available, or additional assumptions need to be made, Morrison Geotechnic reserves its right to amend this Report.

If you have any queries regarding the above, please contact our Brisbane office.

Yours faithfully



RHYS MITCHELL

For and on behalf of

MORRISON GEOTECHNIC PTY LIMITED

ATTACHMENTS:

Appendix A – Site Plans Showing Test Locations

Appendix B – Laboratory Test Results Reports

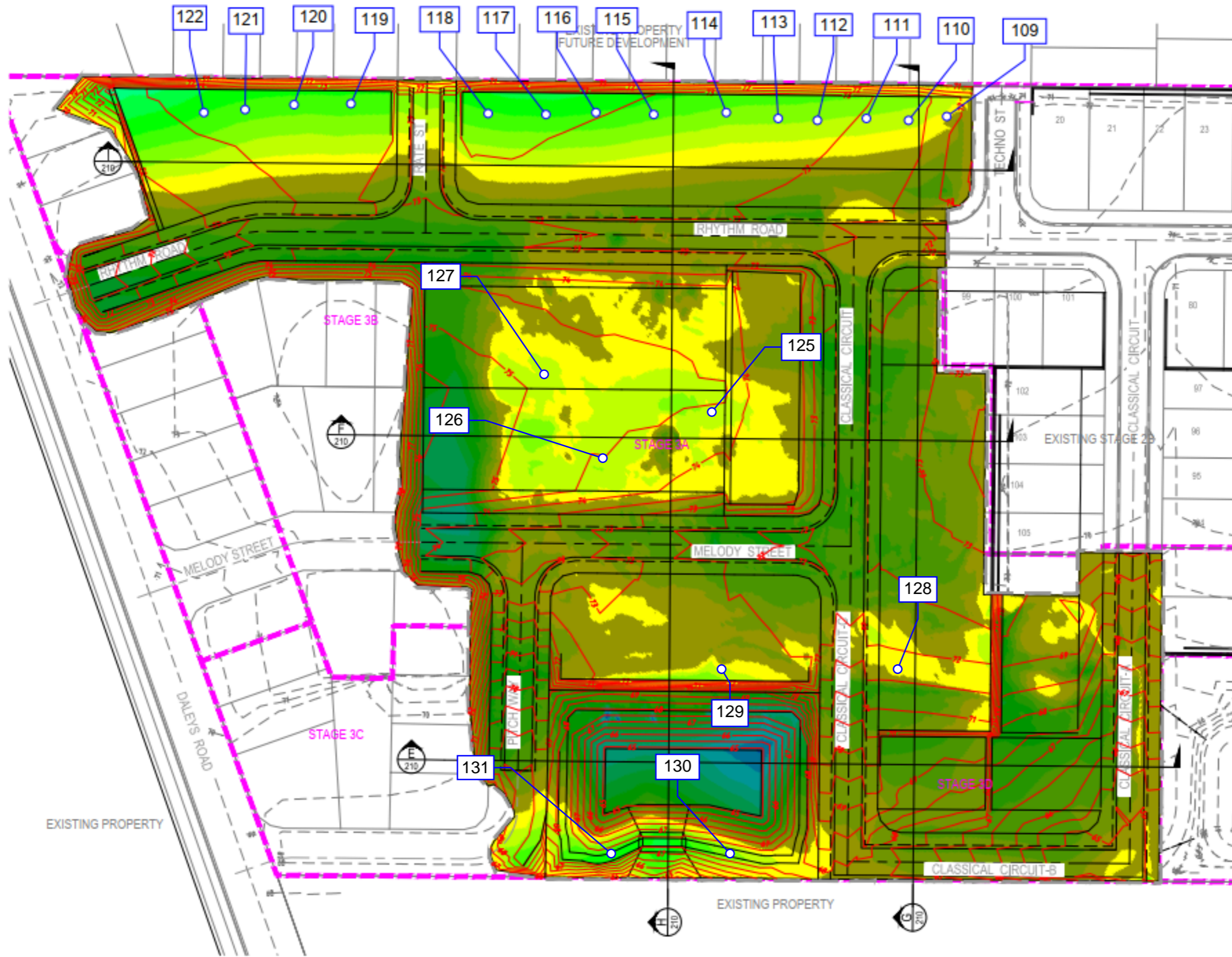


Appendix A

Site Plan & Test Locations

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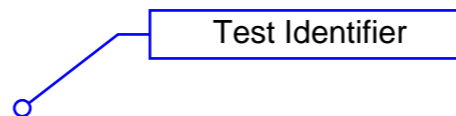
ABN: 51 009 878 899

Unit 1/ 35 Limestone St, Darra 4076 Ph: 3279 0900
 Email: brisbanelab@morrisongeo.com.au

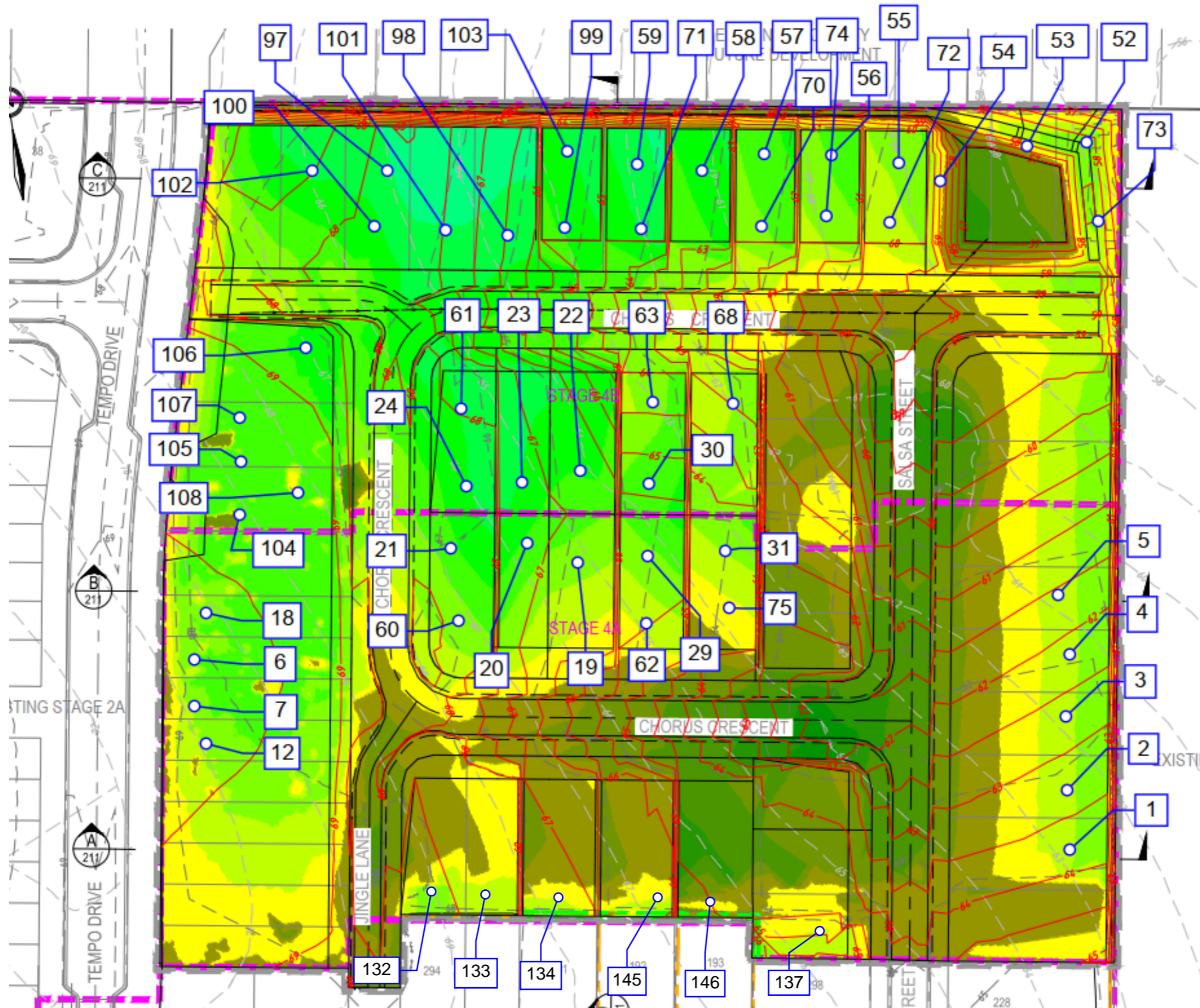
Engineers: M.Ballard
 D.Dragun
 Geologists: R.Howchin
 Laboratory: M.Morrison & N.O'Haire

LEGEND

Test Location



Map Description :	LEVEL ONE EARTHWORKS PLOT		
Client :	Shadforths Civil Pty Ltd		
Project :	Cadence Stage 2A, 2B and Phase 2 EW		
Project No :	DL21/205	Drawing No :	DL21/205-01
		Scale :	Not to Scale

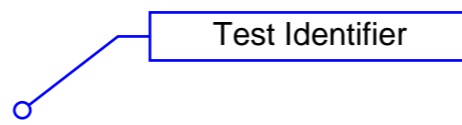


MORRISON GEOTECHNIC PTY LTD
 ABN: 51 009 878 899

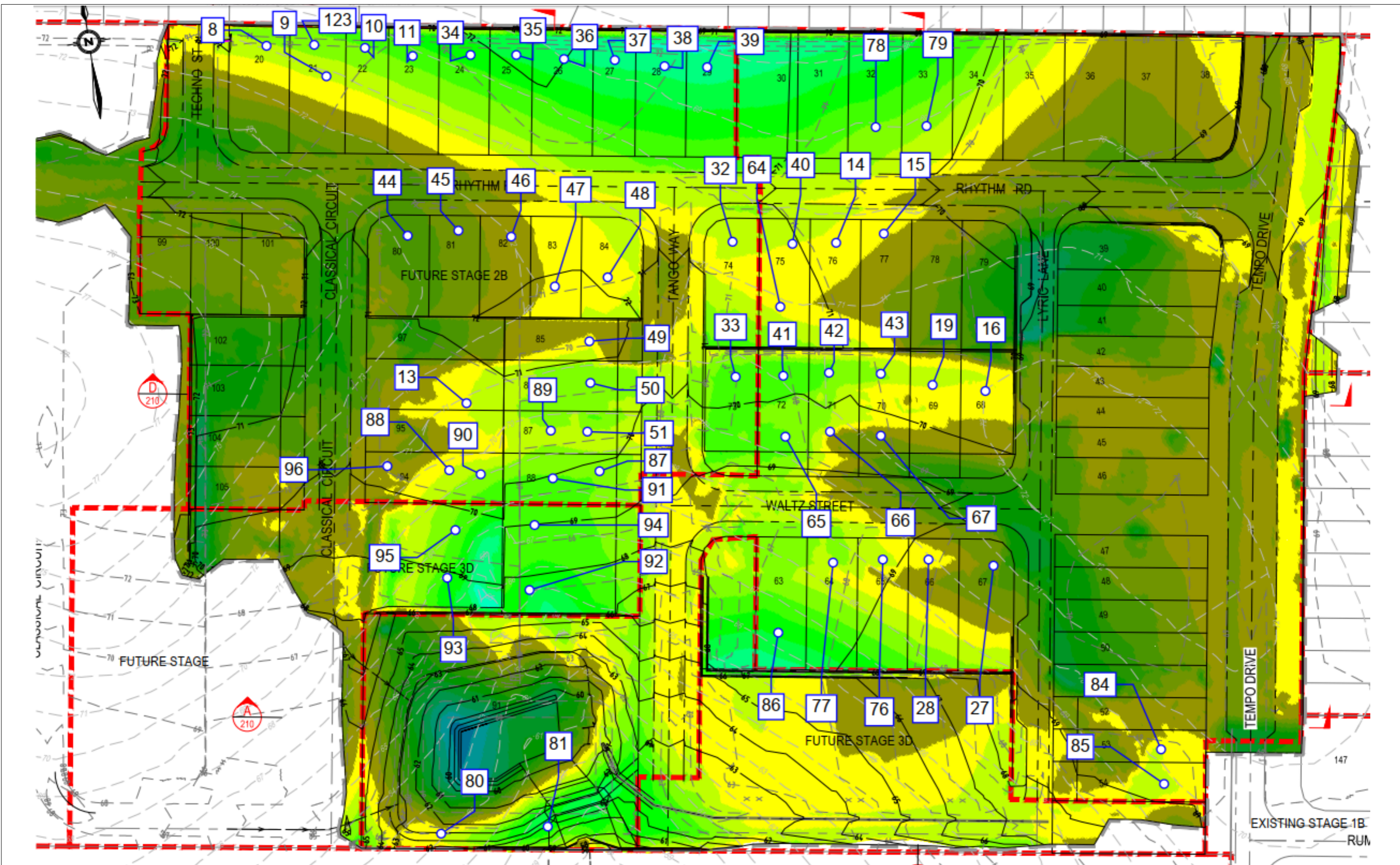
Unit 1/ 35 Limestone St, Darra 4076 Ph: 3279 0900
 Email: brisbanelab@morrisongeo.com.au

Engineers: M.Ballard, D.Dragun
 Geologists: R.Howchin
 Laboratory: M.Morrison & N.O'Haire

LEGEND

Test Location  Test Identifier

Map Description :	LEVEL ONE EARTHWORKS PLOT		
Client :	Shadforths Civil Pty Ltd		
Project :	Cadence Stage 2A, 2B and Phase 2 EW		
Project No :	DL21/205	Drawing No :	DL21/205-02
		Scale :	Not to Scale



MORRISON GEOTECHNIC PTY LTD

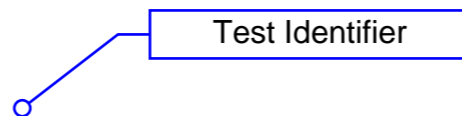
ABN: 51 009 878 899

Unit 1/ 35 Limestone St, Darra 4076 Ph: 3279 0900
 Email: brisbanelab@morrisongeo.com.au

Engineers: M.Ballard
 D.Dragun
 Geologists: R.Howchin
 Laboratory: M.Morrison & N.O'Haire

LEGEND

Test Location



Map Description :	LEVEL ONE EARTHWORKS PLOT		
Client :	Shadforths Civil Pty Ltd		
Project :	Cadence Stage 2A, 2B and Phase 2 EW		
Project No :	DL21/205	Drawing No :	DL21/205-03
		Scale :	Not to Scale



Appendix B

Laboratory Test Reports

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GEOTECHNIC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: nathaniel@mgeo.com.au

Report Number: DL21/205-1
Issue Number: 1
Date Issued: 02/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13527
Date Sampled: 26/07/2021
Dates Tested: 26/07/2021 - 28/07/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Stage 4
Material: Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13527A		
Test Number	1		
Date Tested	26/07/2021		
Time Tested	02:00		
Test Request #/Location	Allotment Fill Lot 220		
Easting	6m Off North Boundary		
Northing	7m Off West Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	Sandy CLAY		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.04		
Field Moisture Content %	13.0		
Field Dry Density (FDD) t/m ³	1.81		
Peak Converted Wet Density t/m ³	2.13		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	0.0		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	96.0		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

Phone: (07) 3279 0900

Email: nathaniel@mgeo.com.au

Report Number: DL21/205-2
Issue Number: 1
Date Issued: 02/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13532
Date Sampled: 27/07/2021
Dates Tested: 27/07/2021 - 28/07/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Stage 4
Material: Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-13532A	D21-13532B	D21-13532C	D21-13532D
Test Number	2	3	4	5
Date Tested	27/07/2021	27/07/2021	27/07/2021	27/07/2021
Time Tested	10:30	10:35	10:40	10:45
Test Request #/Location	Allotment Fill Lot 221	Allotment Fill Lot 222	Allotment Fill Lot 223	Allotment Fill Lot 224
Easting	5m Off West Boundary	7m Off North Boundary	3m Off West Boundary	7m Off East Boundary
Northing	6m Off North Boundary	4m Off East Boundary	5m Off South Boundary	5m Off South Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.05	2.05	2.02	2.09
Field Moisture Content %	11.0	11.0	9.4	8.7
Field Dry Density (FDD) t/m ³	1.84	1.85	1.84	1.92
Peak Converted Wet Density t/m ³	2.06	2.03	1.97	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	1.5	2.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.0	101.0	102.5	101.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: nathaniel@mgeo.com.au

Report Number: DL21/205-3
Issue Number: 1
Date Issued: 04/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13568
Date Sampled: 29/07/2021
Dates Tested: 29/07/2021 - 02/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Cadence Stage 4
Material: Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13568A	D21-13568B	
Test Number	6	7	
Date Tested	29/07/2021	29/07/2021	
Time Tested	10:15	10:20	
Test Request #/Location	Allotment Fill Lot 176	Allotment Fill Lot 175	
Easting	4m Off North Boundary	8m Off East Boundary	
Northing	6m Off East Boundary	7m Off South Boundary	
Layer / Reduced Level	Finish Level	Finish Level	
Soil Description	Sandstone	Sandstone	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.15	2.16	
Field Moisture Content %	11.7	11.4	
Field Dry Density (FDD) t/m ³	1.93	1.94	
Peak Converted Wet Density t/m ³	2.16	2.17	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	0.5	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	99.5	100.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: jfowler@mgeo.com.au

Report Number: DL21/205-4
Issue Number: 1
Date Issued: 04/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13578
Date Sampled: 30/07/2021
Dates Tested: 30/07/2021 - 02/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Cadence Stage 2B Allotment Fill
Material: Cadence Stage 2B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13578A	D21-13578B	D21-13578C	D21-13578D
Test Number	8	9	10	11
Date Tested	30/07/2021	30/07/2021	30/07/2021	30/07/2021
Time Tested	03:00	03:05	03:10	03:15
Test Request #/Location	Allotment Fill Lot 20	Allotment Fill Lot 21	Allotment Fill Lot 22	Allotment Fill Lot 23
Easting	6m Off North Boundary	7m Off East Boundary	8m Off North Boundary	6m Off West Boundary
Northing	6m Off East Boundary	4m Off South Boundary	3m Off East Boundary	5m Off South Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandstone	Sandstone	Sandstone	Sandstone
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.22	2.08	2.11	2.05
Field Moisture Content %	9.8	14.5	10.8	10.7
Field Dry Density (FDD) t/m ³	2.02	1.82	1.91	1.85
Peak Converted Wet Density t/m ³	2.19	2.12	2.12	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	0.5	0.5	0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.0	98.0	100.0	98.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydhore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
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 Phone: (07) 3279 0900
 Email: rmitchell@mgeo.com.au

Report Number: DL21/205-5
Issue Number: 1
Date Issued: 06/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13622
Date Sampled: 04/08/2021
Dates Tested: 04/08/2021 - 05/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2B Allotment Fill
Material: Stage 2B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13622A		
Test Number	13		
Date Tested	04/08/2021		
Time Tested	02:36		
Test Request #/Location	Allotment Fill Lot 96		
Easting	6m Off West Boundary		
Northing	4m Off North Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	Sandy CLAY		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.09		
Field Moisture Content %	10.3		
Field Dry Density (FDD) t/m ³	1.90		
Peak Converted Wet Density t/m ³	2.10		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	0.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	99.5		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydhore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: jfowler@mgeo.com.au

Report Number: DL21/205-6
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Lot Number Amended
Date Issued: 12/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13648
Date Sampled: 06/08/2021
Dates Tested: 06/08/2021 - 10/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13648A	D21-13648B	
Test Number	14	15	
Date Tested	06/08/2021	06/08/2021	
Time Tested	10:00	10:10	
Test Request #/Location	Allotment Fill Lot 76	Allotment Fill Lot 77	
Easting	6m Off North Boundary	3m Off East Boundary	
Northing	7m Off East Boundary	5m Off South Boundary	
Layer / Reduced Level	Finish Level	Finish Level	
Soil Description	Sandy CLAY	SANDSTONE	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.00	2.15	
Field Moisture Content %	10.3	10.9	
Field Dry Density (FDD) t/m ³	1.81	1.94	
Peak Converted Wet Density t/m ³	2.04	2.09	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.5	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	98.0	103.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
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 Phone: (07) 3279 0900
 Email: rmitchell@mgeo.com.au

Report Number: DL21/205-7
Issue Number: 1
Date Issued: 17/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13594
Date Sampled: 02/08/2021
Dates Tested: 02/08/2021 - 14/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Stage 4A Allotment Fill
Material: Stage 4A Allotment Fill
Material Source: Onsite Stage 2A



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13594A		
Test Number	12		
Date Tested	02/08/2021		
Time Tested	02:33		
Test Request #/Location	Allotment Fill Lot 174		
Easting	4m Off West Boundary		
Northing	7m Off North Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	Silty SAND		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.08		
Field Moisture Content %	17.3		
Field Dry Density (FDD) t/m ³	1.77		
Peak Converted Wet Density t/m ³	2.10		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	-2.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	99.0		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
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Report Number: DL21/205-8
Issue Number: 1
Date Issued: 19/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13701
Date Sampled: 11/08/2021
Dates Tested: 11/08/2021 - 19/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

	D21-13701A	D21-13701B	
Sample Number			
Test Number	16	17	
Date Tested	11/08/2021	11/08/2021	
Time Tested	12:00	12:05	
Test Request #/Location	Allotment Fill Lot 68	Allotment Fill Lot 69	
Easting	4m Off North Boundary	6m Off West Boundary	
Northing	6m Off East Boundary	6m Off North Boundary	
Layer / Reduced Level	Finish Level	Finish Level	
Soil Description	SANDSTONE	SANDSTONE	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.24	2.16	
Field Moisture Content %	8.9	9.0	
Field Dry Density (FDD) t/m ³	2.06	1.98	
Peak Converted Wet Density t/m ³	2.22	2.16	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	0.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.5	100.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
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Report Number: DL21/205-9
Issue Number: 1
Date Issued: 19/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13729
Date Sampled: 12/08/2021
Dates Tested: 12/08/2021 - 19/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4A Allotment Fill
Material: Stage 4A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13729A		
Test Number	18		
Date Tested	12/08/2021		
Time Tested	02:30		
Test Request #/Location	Allotment Fill Lot 177		
Easting	4m Off North Boundary		
Northing	6m Off East Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	SANDSTONE		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.20		
Field Moisture Content %	**		
Field Dry Density (FDD) t/m ³	**		
Peak Converted Wet Density t/m ³	2.15		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	0.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	102.5		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-10
Issue Number: 1
Date Issued: 30/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13742
Date Sampled: 13/08/2021
Dates Tested: 13/08/2021 - 28/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4A - 4B, Cadence Phase 2, Ripley
Material: Allotment Fill
Material Source: Onsite Cut / Borrow



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-13742A	D21-13742B	D21-13742C	D21-13742D	D21-13742E	D21-13742F
Test Number	19	20	21	22	23	24
Date Tested	13/08/2021	13/08/2021	13/08/2021	13/08/2021	13/08/2021	13/08/2021
Time Tested	10:41	10:49	10:53	11:01	11:07	11:14
Test Request #/Location	Lot 302	Lot 303	Lot 304	Lot 307	Lot 306	Lot 305
Latitude	13m Off North Boundary	13m Off North Boundary	12m Off North Boundary	9m Off North Boundary	8m Off North Boundary	11m Off North Boundary
Longitude	5m Off East Boundary	4m Off East Boundary	6m Off East Boundary	6m Off East Boundary	3m Off East Boundary	5m Off East Boundary
Layer / Reduced Level	0.6m Below F/L	0.5m Below F/L	0.4m Below F/L	0.6m Below F/L	0.6m Below F/L	0.6m Below F/L
Soil Description	Sandy CLAY, yellow brown	Sandy CLAY, yellow brown	Sandy CLAY, yellow brown	Sandy CLAY, yellow brown	Sandy CLAY, yellow brown	Sandy CLAY, yellow brown
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.12	2.21	2.14	2.12	2.11	2.14
Field Moisture Content %	11.2	8.3	8.9	10.8	10.8	11.1
Field Dry Density (FDD) t/m ³	1.91	2.04	1.96	1.91	1.90	1.93
Peak Converted Wet Density t/m ³	2.08	2.14	2.04	2.08	2.07	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	3.0	4.5	5.0	3.0	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	102.0	103.5	105.0	101.5	102.0	102.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
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Report Number: DL21/205-11
Issue Number: 1
Date Issued: 30/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13773
Date Sampled: 16/08/2021
Dates Tested: 16/08/2021 - 28/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 3D Allotment Fill
Material: Stage 3D Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13773A	D21-13773B	
Test Number	25	26	
Date Tested	16/08/2021	16/08/2021	
Time Tested	07:40	07:50	
Test Request #/Location	Allotment Fill Lot 57 (Below Lot 66)	Allotment Fill Lot 58 (Below Lot 65)	
Easting	10m Below North Stage Boundary	10m Off North Stage Boundary	
Northing	20m Off East Stage Boundary	30m Off East Stage Boundary	
Layer / Reduced Level	1m Below F/L	1.5m Below F/L	
Soil Description	SANDSTONE	SANDSTONE	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.09	2.15	
Field Moisture Content %	9.6	10.0	
Field Dry Density (FDD) t/m ³	1.90	1.96	
Peak Converted Wet Density t/m ³	2.06	2.12	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	3.0	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.5	101.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
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 Unit 1, 35 Limestone Darra QLD 4076
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Report Number: DL21/205-12
Issue Number: 1
Date Issued: 30/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13774
Date Sampled: 16/08/2021
Dates Tested: 16/08/2021 - 28/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13774A	D21-13774B	
Test Number	27	28	
Date Tested	16/08/2021	16/08/2021	
Time Tested	10:35	10:40	
Test Request #/Location	Allotment Fill Lot 67	Allotment Fill Lot 66	
Easting	4m Off North Boundary	6m Off North Boundary	
Northing	4m Off East Boundary	7m Off East Boundary	
Layer / Reduced Level	Finish Level	Finish Level	
Soil Description	SANDSTONE	SANDSTONE	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.18	2.21	
Field Moisture Content %	12.4	9.3	
Field Dry Density (FDD) t/m ³	1.94	2.02	
Peak Converted Wet Density t/m ³	2.08	2.12	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	4.0	5.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.5	104.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
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Report Number: DL21/205-13
Issue Number: 1
Date Issued: 31/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13796
Date Sampled: 17/08/2021
Dates Tested: 17/08/2021 - 28/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4 Allotment Fill
Material: Stage 4 Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13796A	D21-13796B	D21-13796C
Test Number	29	30	31
Date Tested	17/08/2021	17/08/2021	17/08/2021
Time Tested	09:50	09:55	10:00
Test Request #/Location	Allotment Fill Lot 301	Allotment Fill Lot 308	Allotment Fill Lot 300
Easting	5m Off North Boundary	7m Off North Boundary	5m Off North Boundary
Northing	7m Off East Boundary	6m Off East Boundary	3m Off East Boundary
Layer / Reduced Level	0.5m Below F/L	0.6m Below F/L	0.4m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.11	2.19
Field Moisture Content %	9.5	7.7	9.0
Field Dry Density (FDD) t/m ³	1.88	1.96	2.01
Peak Converted Wet Density t/m ³	2.10	2.13	2.14
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.0	1.5	1.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	98.0	99.0	102.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



**MORRISON
GEOTECHNIC**

Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-14
Issue Number: 1
Date Issued: 31/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13823
Date Sampled: 18/08/2021
Dates Tested: 18/08/2021 - 31/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-13823A	D21-13823B	D21-13823C	D21-13823D
Test Number	40	41	42	43
Date Tested	18/08/2021	18/08/2021	18/08/2021	18/08/2021
Time Tested	01:35	01:40	01:45	01:50
Test Request #/Location	Allotment Fill Lot 75	Allotment Fill Lot 72	Allotment Fill Lot 71	Allotment Fill Lot 70
Easting	6m Off North Boundary	3m Off South Boundary	7m Off South Boundary	9m Off South Boundary
Northing	6m Off West Boundary	4m Off West Boundary	5m Off East Boundary	6m Off West Boundary
Layer / Reduced Level	0.4m Below F/L	0.3m Below F/L	0.3m Below F/L	0.4m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.14	2.24	2.17	2.20
Field Moisture Content %	7.8	9.4	8.9	9.0
Field Dry Density (FDD) t/m ³	1.99	2.05	2.00	2.02
Peak Converted Wet Density t/m ³	2.15	2.18	2.14	2.16
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.5	103.0	101.5	102.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-15
Issue Number: 1
Date Issued: 31/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13832
Date Sampled: 19/08/2021
Dates Tested: 19/08/2021 - 28/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2B Allotment Fill
Material: Stage 2B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13832A	D21-13832B	D21-13832C	D21-13832D
Test Number	44	45	46	47
Date Tested	19/08/2021	19/08/2021	19/08/2021	19/08/2021
Time Tested	07:40	07:45	08:00	08:05
Test Request #/Location	Allotment Fill Lot 80	Allotment Fill Lot 81	Allotment Fill Lot 82	Allotment Fill Lot 83
Easting	3m Off East Boundary	6m Off South Boundary	4m Off East Boundary	10m Off North Boundary
Northing	4m Off South Boundary	6m Off West Boundary	4m Off South Boundary	3m Off East Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.05	2.04	2.08
Field Moisture Content %	9.9	9.2	8.9	8.7
Field Dry Density (FDD) t/m ³	1.88	1.88	1.88	1.92
Peak Converted Wet Density t/m ³	2.05	2.01	2.02	2.05
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	3.0	3.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.0	102.0	101.5	101.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: rmitchell@mgeo.com.au

Report Number: DL21/205-15
Issue Number: 1
Date Issued: 31/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13832
Date Sampled: 19/08/2021
Dates Tested: 19/08/2021 - 28/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2B Allotment Fill
Material: Stage 2B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13832E	D21-13832F	D21-13832G	D21-13832H
Test Number	48	49	50	51
Date Tested	19/08/2021	19/08/2021	19/08/2021	19/08/2021
Time Tested	08:10	08:15	08:20	08:25
Test Request #/Location	Allotment Fill Lot 84	Allotment Fill Lot 85	Allotment Fill Lot 86	Allotment Fill Lot 87
Easting	2m Off South Boundary	4m Off South Boundary	3m Off East Boundary	7m Off East Boundary
Northing	10m Off West Boundary	7m Off West Boundary	6m Off North Boundary	4m Off South Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.02	2.10	2.13	2.07
Field Moisture Content %	8.9	8.6	8.6	8.8
Field Dry Density (FDD) t/m ³	1.86	1.93	1.96	1.90
Peak Converted Wet Density t/m ³	1.99	2.06	2.10	2.05
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	3.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.5	101.5	101.0	101.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



**MORRISON
GEOTECHNIC**

Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-16
Issue Number: 1
Date Issued: 31/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13848
Date Sampled: 20/08/2021
Dates Tested: 20/08/2021 - 31/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4A Allotment Fill
Material: Stage 4A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-13848A	D21-13848B	D21-13848C	D21-13848D
Test Number	68	69	70	71
Date Tested	20/08/2021	20/08/2021	20/08/2021	20/08/2021
Time Tested	08:40	08:45	08:50	08:55
Test Request #/Location	Allotment Fill Lot 309	Allotment Fill Lot 227	Allotment Fill Lot 318	Allotment Fill Lot 317
Easting	3m Off West Boundary	4m Off North Boundary	6m Off South Boundary	6m Off South Boundary
Northing	6m Off South Boundary	5m Off West Boundary	4m Off West Boundary	4m Off West Boundary
Layer / Reduced Level	0.3m Below F/L	0.4m Below F/L	0.4m Below F/L	0.3m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.09	2.05	2.10	2.09
Field Moisture Content %	6.9	7.1	12.8	12.9
Field Dry Density (FDD) t/m ³	1.96	1.92	1.86	1.86
Peak Converted Wet Density t/m ³	2.10	2.04	2.12	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	-0.5	2.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	100.0	100.5	99.0	101.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



**MORRISON
GEOTECHNIC**

Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

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Report Number: DL21/205-16
Issue Number: 1
Date Issued: 31/08/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13848
Date Sampled: 20/08/2021
Dates Tested: 20/08/2021 - 31/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4A Allotment Fill
Material: Stage 4A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13848E	D21-13848F	D21-13848G	D21-13848H
Test Number	72	73	74	75
Date Tested	20/08/2021	20/08/2021	20/08/2021	20/08/2021
Time Tested	09:00	09:05	09:10	09:15
Test Request #/Location	Allotment Fill Lot 320	Allotment Fill Lot 323	Allotment Fill Lot 319	Allotment Fill Lot 300
Easting	7m Off South Boundary	3m Off West Boundary	6m Off East Boundary	9m Off North Boundary
Northing	6m Off West Boundary	6m Off South Boundary	11m Off North Boundary	4m Off West Boundary
Layer / Reduced Level	0.3m Below F/L	0.3m Below F/L	0.3m Below F/L	0.4m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.12	2.12	2.07	2.12
Field Moisture Content %	13.0	11.2	12.1	12.0
Field Dry Density (FDD) t/m ³	1.88	1.91	1.85	1.89
Peak Converted Wet Density t/m ³	2.16	2.11	2.09	2.11
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	0.5	2.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	98.5	100.5	99.5	100.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 Brisbane Laboratory
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Report Number: DL21/205-17
Issue Number: 1
Date Issued: 02/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13824
Date Sampled: 18/08/2021
Dates Tested: 18/08/2021 - 01/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2B Allotment Fill
Material: Stage 2B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13824A	D21-13824B	D21-13824C	D21-13824D
Test Number	32	33	34	35
Date Tested	18/08/2021	18/08/2021	18/08/2021	18/08/2021
Time Tested	01:55	02:00	02:05	02:10
Test Request #/Location	Allotment Fill Lot 74	Allotment Fill Lot 73	Allotment Fill Lot 24	Allotment Fill Lot 25
Easting	10m Off North Boundary	3m Off South Boundary	6m Off South Boundary	5m Off East Boundary
Northing	5m Off West Boundary	6m Off West Boundary	7m Off East Boundary	7m Off South Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.14	2.28	2.26	2.24
Field Moisture Content %	8.2	9.3	9.5	9.4
Field Dry Density (FDD) t/m ³	1.98	2.08	2.06	2.04
Peak Converted Wet Density t/m ³	2.12	2.26	2.22	2.22
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	0.0	-0.5	0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.0	100.5	101.5	100.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

Phone: (07) 3279 0900

Email: rmitchell@mgeo.com.au

Report Number: DL21/205-17
Issue Number: 1
Date Issued: 02/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13824
Date Sampled: 18/08/2021
Dates Tested: 18/08/2021 - 01/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2B Allotment Fill
Material: Stage 2B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13824E	D21-13824F	D21-13824G	D21-13824H
Test Number	36	37	38	39
Date Tested	18/08/2021	18/08/2021	18/08/2021	18/08/2021
Time Tested	02:15	02:20	02:25	02:30
Test Request #/Location	Allotment Fill Lot 26	Allotment Fill Lot 27	Allotment Fill Lot 28	Allotment Fill Lot 29
Easting	5m Off South Boundary	6m Off West Boundary	7m Off East Boundary	15m Off North Boundary
Northing	7m Off East Boundary	12m Off North Boundary	6m Off South Boundary	5m Off West Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.08	2.19	2.14	2.16
Field Moisture Content %	9.0	9.3	9.4	9.0
Field Dry Density (FDD) t/m ³	1.91	2.00	1.96	1.98
Peak Converted Wet Density t/m ³	2.10	2.17	2.11	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.0	101.0	102.0	100.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-18
Issue Number: 1
Date Issued: 02/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13837
Date Sampled: 19/08/2021
Dates Tested: 19/08/2021 - 31/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4B Allotment Fill
Material: Stage 4B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Liam Davidson

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-13837A	D21-13837B	D21-13837C	D21-13837D	D21-13837E	D21-13837F
Test Number	52	53	54	55	56	57
Date Tested	19/08/2021	19/08/2021	19/08/2021	19/08/2021	19/08/2021	19/08/2021
Time Tested	09:00	09:05	09:10	09:15	09:20	09:25
Test Request #/Location	Allotment Fill Lot 323	Allotment Fill Lot 322	Allotment Fill Lot 321	Allotment Fill Lot 320	Allotment Fill Lot 319	Allotment Fill Lot 318
Easting	5m Off North Boundary	10m Off North Boundary	8m Off North Boundary	6m Off North Boundary	6m Off North Boundary	13m Off North Boundary
Northing	3m Off West Boundary	3m Off West Boundary	3m Off West Boundary	4m Off West Boundary	5m Off West Boundary	5m Off West Boundary
Layer / Reduced Level	0.5m Below F/L	0.6m Below F/L	0.6m Below F/L	0.5m Below F/L	0.4m Below F/L	0.5m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.08	2.15	2.10	2.13	2.05	2.10
Field Moisture Content %	13.4	13.5	11.5	11.3	11.6	11.8
Field Dry Density (FDD) t/m ³	1.84	1.90	1.88	1.92	1.84	1.88
Peak Converted Wet Density t/m ³	2.12	2.16	2.17	2.12	2.07	2.17
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	-0.5	1.5	1.5	-0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	98.0	99.5	97.0	100.5	99.0	96.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



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Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

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Report Number: DL21/205-18
Issue Number: 1
Date Issued: 02/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13837
Date Sampled: 19/08/2021
Dates Tested: 19/08/2021 - 31/08/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4B Allotment Fill
Material: Stage 4B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Liam Davidson

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-13837G	D21-13837H	D21-13837I	D21-13837J	D21-13837K	D21-13837L
Test Number	58	59	60	61	62	63
Date Tested	19/08/2021	19/08/2021	19/08/2021	19/08/2021	19/08/2021	19/08/2021
Time Tested	09:30	09:35	10:30	10:35	10:40	10:45
Test Request #/Location	Allotment Fill Lot 317	Allotment Fill Lot 316	Allotment Fill Lot 304	Allotment Fill Lot 305	Allotment Fill Lot 301	Allotment Fill Lot 308
Easting	6m Off North Boundary	5m Off North Boundary	5m Off North Boundary	4m Off North Boundary	5m Off East Boundary	6m Off North Boundary
Northing	6m Off East Boundary	6m Off West Boundary	7m Off East Boundary	5m Off West Boundary	7m Off South Boundary	5m Off West Boundary
Layer / Reduced Level	0.5m Below F/L	0.5m Below F/L	0.7m Below F/L	0.4m Below F/L	0.4m Below F/L	0.4m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.09	2.09	2.12	2.10	2.14	2.10
Field Moisture Content %	11.7	11.5	12.0	10.8	10.9	8.9
Field Dry Density (FDD) t/m ³	1.87	1.88	1.89	1.89	1.93	1.93
Peak Converted Wet Density t/m ³	2.11	2.11	2.11	2.14	2.18	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	-1.0	1.5	0.0	-1.0	1.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.0	99.0	100.5	98.0	98.0	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



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Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-19
Issue Number: 1
Date Issued: 02/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13843
Date Sampled: 19/08/2021
Dates Tested: 19/08/2021 - 01/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13843A	D21-13843B	D21-13843C	D21-13843D
Test Number	64	65	66	67
Date Tested	19/08/2021	19/08/2021	19/08/2021	19/08/2021
Time Tested	02:10	02:15	02:20	02:30
Test Request #/Location	Allotment Fill Lot 75	Allotment Fill Lot 72	Allotment Fill Lot 71	Allotment Fill Lot 70
Easting	2m Off South Boundary	3m Off North Boundary	5m Off North Boundary	5m Off North Boundary
Northing	3m Off East Boundary	4m Off East Boundary	4m Off East Boundary	5m Off East Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.28	2.27	2.11	2.24
Field Moisture Content %	11.2	10.5	10.3	10.2
Field Dry Density (FDD) t/m ³	2.05	2.06	1.91	2.03
Peak Converted Wet Density t/m ³	2.19	2.20	2.12	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	2.0	1.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	104.0	103.5	99.5	104.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



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Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-20
Issue Number: 1
Date Issued: 06/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13853
Date Sampled: 20/08/2021
Dates Tested: 20/08/2021 - 03/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-13853A	D21-13853B	D21-13853C	D21-13853D
Test Number	76	77	78	79
Date Tested	20/08/2021	20/08/2021	20/08/2021	20/08/2021
Time Tested	10:30	10:35	10:40	10:45
Test Request #/Location	Allotment Fill Lot 65	Allotment Fill Lot 64	Allotment Fill Lot 32	Allotment Fill Lot 33
Easting	3m Off North Boundary	4m Off North Boundary	4m Off South Boundary	5m Off South Boundary
Northing	5m Off East Boundary	4m Off West Boundary	4m Off West Boundary	5m Off West Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.08	2.12	2.13	2.17
Field Moisture Content %	9.9	8.8	10.0	12.0
Field Dry Density (FDD) t/m ³	1.89	1.95	1.94	1.93
Peak Converted Wet Density t/m ³	2.08	2.09	2.09	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	-0.5	2.0	2.0	4.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.5	101.0	101.5	104.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
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Report Number: DL21/205-21
Issue Number: 1
Date Issued: 06/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13854
Date Sampled: 20/08/2021
Dates Tested: 20/08/2021 - 03/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2A Basin Wall
Material: Stage 2A Basin Wall
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13854A	D21-13854B	
Test Number	80	81	
Date Tested	20/08/2021	20/08/2021	
Time Tested	10:00	10:05	
Test Request #/Location	Basin Wall	Basin Wall	
Easting	25m Off East Stage Boundary	40m Off East Stage Boundary	
Northing	2m Off South Stage Boundary	3m Off South Stage Boundary	
Layer / Reduced Level	3m Below F/L	2m Below F/L	
Soil Description	SANDSTONE	SANDSTONE	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.21	2.12	
Field Moisture Content %	11.7	10.3	
Field Dry Density (FDD) t/m ³	1.98	1.92	
Peak Converted Wet Density t/m ³	2.19	2.08	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.0	2.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.0	101.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Report Number: DL21/205-22
Issue Number: 1
Date Issued: 06/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13873
Date Sampled: 23/08/2021
Dates Tested: 23/08/2021 - 03/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 3D Basin Backfill
Material: Stage 3D Basin Backfill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13873A	D21-13873B	
Test Number	82	83	
Date Tested	23/08/2021	23/08/2021	
Time Tested	07:55	08:00	
Test Request #/Location	Basin Backfill (Below Lot 88)	Basin Backfill (Below Lot 94)	
Easting	30m Off East Stage Boundary	50m Off East Stage Boundary	
Northing	10m Off South Boundary	15m Off South Stage Boundary	
Layer / Reduced Level	3m Below F/L	2.5m Below F/L	
Soil Description	Sandy CLAY	Sandy CLAY	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.10	2.02	
Field Moisture Content %	11.2	10.7	
Field Dry Density (FDD) t/m ³	1.88	1.83	
Peak Converted Wet Density t/m ³	2.06	1.99	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.5	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.5	102.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Report Number: DL21/205-23
Issue Number: 1
Date Issued: 06/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13876
Date Sampled: 23/08/2021
Dates Tested: 23/08/2021 - 03/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2A Allotment Fill
Material: Stage 2A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-13876A	D21-13876B	D21-13876C
Test Number	84	85	86
Date Tested	23/08/2021	23/08/2021	23/08/2021
Time Tested	08:05	08:10	08:15
Test Request #/Location	Allotment Fill Lot 53	Allotment Fill Lot 54	Allotment Fill Lot 63
Easting	5m Off North Boundary	6m Off North Boundary	3m Off South Boundary
Northing	13m Off East Boundary	12m Off East Boundary	7m Off East Boundary
Layer / Reduced Level	0.4m Below F/L	0.3m Below F/L	Finish Level
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.02	2.02	2.05
Field Moisture Content %	11.5	8.9	8.4
Field Dry Density (FDD) t/m ³	1.82	1.85	1.90
Peak Converted Wet Density t/m ³	2.04	1.97	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	0.5	3.0	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.0	102.5	101.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

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Report Number: DL21/205-24
Issue Number: 1
Date Issued: 06/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13884
Date Sampled: 23/08/2021
Dates Tested: 23/08/2021 - 03/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Stage 2B - Lots North of Basin
Material: Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	D21-13884A	D21-13884B	D21-13884C	D21-13884D	D21-13884E
Test Number	87	88	89	90	91
Date Tested	23/08/2021	23/08/2021	23/08/2021	23/08/2021	23/08/2021
Time Tested	14:56	15:08	15:21	15:34	15:46
Test Request #/Location	Lot 88	Lot 94	Lot 87	Future Lot South of Lot 94	Future Lot South of 88
Latitude	5.0m from Front of Lot	10m from Front of Lot	8m from Front of Boundary	6.5m from Front Lot Boundary	11m from Front Lot Boundary
Longitude	4.0m from Right Lot Boundary	5.0m from Left Lot Boundary	6m from Left Lot Boundary	5.0m from Left Lot Boundary	2m from Right Lot Boundary
Layer / Reduced Level	1.2m Below FL	0.8m Below FL	Finish Level	1.5m Below FL	1.8m Below FL
Soil Description	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.10	2.12	2.13	2.02	2.02
Field Moisture Content %	8.5	8.5	8.0	6.6	7.0
Field Dry Density (FDD) t/m ³	1.94	1.96	1.97	1.89	1.89
Peak Converted Wet Density t/m ³	2.06	2.09	2.08	1.98	2.00
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	1.5	2.5	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	101.5	101.5	102.0	101.5	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



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Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-25
Issue Number: 1
Date Issued: 08/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13904
Date Sampled: 25/08/2021
Dates Tested: 25/08/2021 - 08/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 2B / Future Stage 3D General Fill
Material: Allotment Fill Stage 2B / Future Stage 3D
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	D21-13904A	D21-13904B	D21-13904C	D21-13904D	D21-13904E
Test Number	92	93	94	95	96
Date Tested	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021
Time Tested	10:30	10:35	10:40	10:45	10:50
Test Request #/Location	Future Stage 3D Lot 90	Future Stage 3D Lot 92	Future Stage 3D Lot 89	Future Stage 3D Lot 93	Stage 2B Lot 94
Chainage (m)	6m From South Boundary	9m From South Boundary	3m From North Boundary	5m From South Boundary	5m From North Boundary
Location Offset (m)	10m From East Boundary	10m From West Boundary	7m From East Boundary	8m From West Boundary	6m From East Boundary
Layer / Reduced Level	0.5m Below FL	1.0m Below FL	FL	0.75m Below FL	FL
Soil Description	Sandy CLAY / Clayey SAND	Sandy CLAY / Clayey SAND	Sandy CLAY / Clayey SAND	Sandy CLAY / Clayey SAND	Sandy CLAY / Clayey SAND
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.07	2.07	2.12	2.10	2.15
Field Moisture Content %	10.1	11.9	9.9	11.3	10.4
Field Dry Density (FDD) t/m ³	1.88	1.85	1.92	1.89	1.94
Peak Converted Wet Density t/m ³	2.15	2.10	2.15	2.14	2.13
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	0.5	0.5	0.5	0.5	0.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	96.0	98.5	98.5	98.5	100.5
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
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Report Number: DL21/205-26
Issue Number: 1
Date Issued: 13/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 13966
Date Sampled: 30/08/2021
Dates Tested: 30/08/2021 - 10/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Cadence Stage 4
Material: Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

	D21-13966A	D21-13966B	D21-13966C
Sample Number			
Test Number	97	98	99
Date Tested	30/08/2021	30/08/2021	30/08/2021
Time Tested	10:39	10:45	10:55
Test Request #/Location	Lot 312	Lot 314	Lot 315
Easting	10m From South Boundary	8m From South Boundary	8m From South Boundary
Northing	8m From East Boundary	3m From East Boundary	5m From East Boundary
Layer / Reduced Level	1.5m Below FL	1.3m Below FL	0.7m Below FL
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.11	2.12	2.11
Field Moisture Content %	9.2	9.5	13.4
Field Dry Density (FDD) t/m ³	1.94	1.93	1.86
Peak Converted Wet Density t/m ³	2.14	2.19	2.17
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.5	2.0	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.0	96.5	97.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Report Number: DL21/205-27
Issue Number: 1
Date Issued: 13/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14042
Date Sampled: 02/09/2021
Dates Tested: 02/09/2021 - 09/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4B Allotment Fill
Material: Stage 4B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-14042A	D21-14042B	D21-14042C	D21-14042D	D21-14042E	D21-14042F
Test Number	100	101	102	103	104	105
Date Tested	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021
Time Tested	11:00	11:05	11:10	11:15	11:20	11:25
Test Request #/Location	Allotment Fill Lot 312	Allotment Fill Lot 313	Allotment Fill Lot 311	Allotment Fill Lot 99	Allotment Fill Lot 179	Allotment Fill Lot 180
Easting	7m Off North Boundary	4m Off North Boundary	7m Off North Boundary	3m Off East Boundary	9m Off East Boundary	7m Off East Boundary
Northing	4m Off East Boundary	6m Off West Boundary	5m Off East Boundary	6m Off South Boundary	4m Off North Boundary	5m Off North Boundary
Layer / Reduced Level	1m Below F/L	1m Below F/L	0.5m Below F/L	0.4m Below F/L	0.4m Below F/L	0.5m Below F/L
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.13	2.04	2.14	2.14	2.23
Field Moisture Content %	11.0	10.5	11.9	7.9	7.4	12.7
Field Dry Density (FDD) t/m ³	1.85	1.92	1.82	1.99	1.99	1.98
Peak Converted Wet Density t/m ³	2.15	2.15	2.12	2.11	2.06	2.18
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	1.0	0.5	0.0	2.5	3.0	0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	99.0	96.5	101.5	104.0	102.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: rmitchell@mgeo.com.au

Report Number: DL21/205-28
Issue Number: 1
Date Issued: 17/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14052
Date Sampled: 03/09/2021
Dates Tested: 03/09/2021 - 15/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 4B Allotment Fill
Material: Stage 4B Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-14052A	D21-14052B	D21-14052C
Test Number	106	107	108
Date Tested	03/09/2021	03/09/2021	03/09/2021
Time Tested	08:00	08:10	08:15
Test Request #/Location	Allotment Fill Lot 181	Allotment Fill Lot 180	Allotment Fill Lot 179
Easting	5m Off North Boundary	6m Off North Boundary	3m Off North Boundary
Northing	7m Off West Boundary	8m Off East Boundary	5m Off West Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.08	2.08
Field Moisture Content %	10.3	9.8	9.6
Field Dry Density (FDD) t/m ³	1.87	1.90	1.90
Peak Converted Wet Density t/m ³	2.08	2.07	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.5	1.0	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.0	100.5	100.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

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Report Number: DL21/205-29
Issue Number: 1
Date Issued: 21/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14100
Date Sampled: 07/09/2021
Dates Tested: 07/09/2021 - 21/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 3D Allotment Fill
Material: Stage 3D Allotment Fill
Material Source: On site



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-14100A	D21-14100B	D21-14100C	D21-14100D	D21-14100E	D21-14100F
Test Number	109	110	111	112	113	114
Date Tested	07/09/2021	07/09/2021	07/09/2021	07/09/2021	07/09/2021	07/09/2021
Time Tested	09:15	09:20	09:25	09:30	09:35	09:40
Test Request #/Location	Allotment Fill Lot 19	Allotment Fill Lot 18	Allotment Fill Lot 17	Allotment Fill Lot 16	Allotment Fill Lot 15	Allotment Fill Lot 14
Easting	3m Off North Boundary	4m Off North Boundary	4m Off North Boundary	3m Off North Boundary	4m Off North Boundary	5m Off North Boundary
Northing	4m Off East Boundary	4m Off West Boundary	6m Off East Boundary	5m Off East Boundary	5m Off West Boundary	5m Off East Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	**	0	0
Field Wet Density (FWD) t/m ³	2.06	2.00	2.02	2.03	2.08	2.07
Field Moisture Content %	11.7	10.8	10.0	11.8	8.1	9.7
Field Dry Density (FDD) t/m ³	1.84	1.81	1.84	1.82	1.93	1.88
Peak Converted Wet Density t/m ³	2.08	2.02	2.06	2.12	2.10	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	0.5	2.5	3.0	0.5	0.5	3.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.0	99.0	98.0	96.0	99.0	99.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL21/205-29
Issue Number: 1
Date Issued: 21/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14100
Date Sampled: 07/09/2021
Dates Tested: 07/09/2021 - 21/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 3D Allotment Fill
Material: Stage 3D Allotment Fill
Material Source: On site



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-14100G	D21-14100H	D21-14100I	D21-14100J	D21-14100K	D21-14100L
Test Number	115	116	117	118	119	120
Date Tested	07/09/2021	07/09/2021	07/09/2021	07/09/2021	07/09/2021	07/09/2021
Time Tested	09:45	09:50	09:55	10:00	10:05	10:10
Test Request #/Location	Allotment Fill Lot 12	Allotment Fill Lot 11	Allotment Fill Lot 10	Allotment Fill Lot 9	Allotment Fill Lot 8	Allotment Fill Lot 7
Easting	4m Off North Boundary	5m Off North Boundary	4m Off North Boundary	5m Off North Boundary	3m Off North Boundary	5m Off North Boundary
Northing	3m Off East Boundary	4m Off East Boundary	5m Off West Boundary	5m Off East Boundary	5m Off West Boundary	5m Off West Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.02	2.08	2.18	2.15	2.15	2.13
Field Moisture Content %	12.4	11.4	11.0	10.5	11.6	12.6
Field Dry Density (FDD) t/m ³	1.80	1.87	1.97	1.95	1.93	1.89
Peak Converted Wet Density t/m ³	2.12	2.13	2.14	2.14	2.13	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	0.5	2.5	0.5	3.0	2.5	3.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	98.0	102.0	100.5	101.0	102.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
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Report Number: DL21/205-29
Issue Number: 1
Date Issued: 21/09/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14100
Date Sampled: 07/09/2021
Dates Tested: 07/09/2021 - 21/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Stage 3D Allotment Fill
Material: Stage 3D Allotment Fill
Material Source: On site



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-14100M	D21-14100N				
Test Number	121	122				
Date Tested	07/09/2021	07/09/2021				
Time Tested	10:15	10:20				
Test Request #/Location	Allotment Fill Lot 6	Allotment Fill Lot 5				
Easting	4m Off North Boundary	5m Off North Boundary				
Northing	5 Off West Boundary	6m Off East Boundary				
Layer / Reduced Level	Finish Level	Finish Level				
Soil Description	SANDSTONE	SANDSTONE				
Test Depth (mm)	150	150				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	0	0				
Field Wet Density (FWD) t/m ³	2.07	2.09				
Field Moisture Content %	12.1	11.2				
Field Dry Density (FDD) t/m ³	1.84	1.88				
Peak Converted Wet Density t/m ³	2.08	2.09				
Adjusted Peak Converted Wet Density t/m ³	**	**				
Moisture Variation (Wv) %	3.0	3.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	99.5	100.0				
Compaction Method	Standard	Standard				
Report Remarks	**	**				

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Report Number: DL21/205-30
Issue Number: 1
Date Issued: 07/10/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14351
Date Sampled: 30/09/2021
Dates Tested: 30/09/2021 - 05/10/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Cadence Stage 2
Material: Stage 2B Northern Extension
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-14351A		
Test Number	123		
Date Tested	30/09/2021		
Time Tested	09:06		
Test Request #/Location	Lot Fill Lot 21		
Easting	7m Off North Boundary		
Northing	5m Off East Boundary		
Layer / Reduced Level	0.5m Below F/L		
Soil Description	SANDSTONE		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.09		
Field Moisture Content %	9.4		
Field Dry Density (FDD) t/m ³	1.91		
Peak Converted Wet Density t/m ³	2.13		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	2.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	98.0		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Report Number: DL21/205-31
Issue Number: 1
Date Issued: 08/10/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14385
Date Sampled: 06/10/2021
Dates Tested: 06/10/2021 - 08/10/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Location: Cadence Stage 2A
Material: Stage 2A Northern Extension
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-14385A		
Test Number	124		
Date Tested	06/10/2021		
Time Tested	02:10		
Test Request #/Location	Lot Fill Lot 31		
Easting	3m Off North Boundary		
Northing	4m Off West Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	Sandy CLAY		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	7		
Field Wet Density (FWD) t/m ³	2.03		
Field Moisture Content %	12.5		
Field Dry Density (FDD) t/m ³	1.80		
Peak Converted Wet Density t/m ³	**		
Adjusted Peak Converted Wet Density t/m ³	2.11		
Moisture Variation (Wv) %	**		
Adjusted Moisture Variation %	0.5		
Hilf Density Ratio (%)	96.5		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

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Brisbane Laboratory

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Report Number: DL21/205-32
Issue Number: 1
Date Issued: 17/11/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14735
Date Sampled: 11/11/2021
Dates Tested: 11/11/2021 - 12/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Cadence Stage 3A Allotment Fill
Material: Stage 3A Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-14735A	D21-14735B	D21-14735C	D21-14735D	D21-14735E
Test Number	125	126	127	128	129
Date Tested	11/11/2021	11/11/2021	11/11/2021	11/11/2021	11/11/2021
Time Tested	12:15	12:20	12:30	12:35	12:45
Test Request #/Location	Allotment Fill Lot 127	Allotment Fill Lot 129	Allotment Fill Lot 148	Allotment Fill Lot 115	Allotment Fill Lot 155
Easting	9m Off North Boundary	4m Off East Boundary	3m Off South Boundary	3m Off North Boundary	2m Off East Boundary
Northing	5m Off East Boundary	8m Off North Boundary	3m Off West Boundary	2m Off West Boundary	2m Off South Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Thickness of Layer (mm)	200	200	200	200	200
Soil Description	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE	SANDSTONE
Test Depth (mm)	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	9	9	0
Field Wet Density (FWD) t/m ³	2.23	2.24	2.17	2.24	2.14
Field Moisture Content %	7.8	8.5	8.8	8.9	11.1
Field Dry Density (FDD) t/m ³	2.07	2.06	2.00	2.05	1.93
Peak Converted Wet Density t/m ³	2.12	2.14	**	**	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	2.11	2.11	**
Moisture Variation (Wv) %	3.0	3.0	**	**	3.0
Adjusted Moisture Variation %	**	**	2.5	3.0	**
Hilf Density Ratio (%)	105.0	104.5	103.0	106.0	100.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore
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Report Number: DL21/205-33
Issue Number: 1
Date Issued: 17/11/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14736
Date Sampled: 11/11/2021
Dates Tested: 11/11/2021 - 13/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Cadence Stage 3A Basin Wall
Material: Stage 3A Basin Wall
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Joshua Fowler
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D21-14736A	D21-14736B	
Test Number	130	131	
Date Tested	11/11/2021	11/11/2021	
Time Tested	12:45	12:50	
Test Request #/Location	Basin Wall (South)	Basin Wall (South)	
Easting	6m Off East Boundary	11m Off East Boundary	
Northing	Centre Of Wall	Centre Of Wall	
Layer / Reduced Level	Finish Level	Finish Level	
Thickness of Layer (mm)	200	200	
Soil Description	SANDSTONE	SANDSTONE	
Test Depth (mm)	175	175	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.06	2.06	
Field Moisture Content %	8.1	7.6	
Field Dry Density (FDD) t/m ³	1.90	1.91	
Peak Converted Wet Density t/m ³	2.10	2.15	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.5	3.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	98.0	96.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



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Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

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Report Number: DL21/205-34
Issue Number: 1
Date Issued: 17/11/2021
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL21/205
Project Name: LEVEL 1 SUPERVISION
Project Location: CADENCE, STAGE 2
Client Reference: 2385-2AB001
Work Request: 14742
Date Sampled: 15/11/2021
Dates Tested: 15/11/2021 - 17/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Location: Cadence, Stage 4 Allotment Fill
Material: Stage 4 Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-14742A	D21-14742B	D21-14742C	D21-14742D	D21-14742E	D21-14742F
Test Number	132	133	134	135	136	137
Date Tested	15/11/2021	15/11/2021	15/11/2021	15/11/2021	15/11/2021	15/11/2021
Time Tested	07:50	07:55	08:00	08:05	08:20	08:25
Test Request #/Location	Allotment Fill Lot 182	Allotment Fill Lot 183	Allotment Fill Lot 184	Allotment Fill Lot 185	Allotment Fill Lot 186	Allotment Fill Lot 189
Easting	3m Off East Boundary	4m Off East Boundary	22m Off North Boundary	23m Off North Boundary	3m Off East Boundary	5m Off South Boundary
Northing	4m Off South Boundary	5m Off South Boundary	4m Off East Boundary	3m Off East Boundary	1m Off South Boundary	6m Off East Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	**	0
Field Wet Density (FWD) t/m ³	2.09	2.13	2.02	2.06	2.04	2.05
Field Moisture Content %	12.0	12.4	12.1	12.5	13.8	14.0
Field Dry Density (FDD) t/m ³	1.87	1.89	1.80	1.83	1.80	1.80
Peak Converted Wet Density t/m ³	2.14	2.10	2.13	2.12	2.15	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	1.0	0.5	0.0	0.5	-1.5	-1.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	98.0	101.0	95.0	96.5	95.0	95.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC