

Level One Compliance Report

Bulk Earthworks Filling Operations

Cadence Residential
Subdivision – Phase 1

Binnies Road, Ripley

APRIL 19, 2021

Prepared By

MORRISON GEOTECHNIC PTY LTD

Prepared for:

Shadforths Civil Pty Ltd

Document Reference: 16439 RevA



MORRISON
GEOTECHNIC

Brisbane Office
Job No: DL19/307
Ref No: 16439 RevA
Author: R. Mitchell

19th April 2021

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

ATTENTION: MR DAVID BUGDEN
Email: David.Bugden@shadcivil.com.au

Dear Sir,

**RE: LEVEL ONE COMPLIANCE REPORT FOR
BULK EARTHWORKS FILLING OPERATIONS
CADENCE RESIDENTIAL SUBDIVISION - PHASE 1
BINNIES ROAD, RIPLEY**

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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 and embankments below subgrade at the Cadence Residential Subdivision - Phase 1 Development (The Site).

The work was commissioned by Mr. D. Bugden representing Shadforths Civil Ltd Pty (The Client), using Purchase Order 2385-002. Earthworks were carried out by The Client. Earthworks filling operations were carried out intermittently between August 2019 and April 2020.

Picture 1: Aerial View of the Site (Image Source: Nearmap.com- dated 16th April 2020)



1.2 Previous Earthworks

As far as could be assessed onsite no previous earthworks had been conducted at The Site.

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.

Michael Bale and Associates Bulk Earthworks Layout Plan, Sheets 1 to 4, Project Number 130-100-ENG, Drawing Numbers C200-P1-G18036 to C203-P1-G18036, indicates the extents and thickness of fill to be constructed at The Site. These plans are considered to be a reasonable representation of the actual fill constructed during our involvement.

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 undeveloped land to the North, Existing Rural Residential Developments to the West and East and Binnies Road to the South.

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 Michael Bale and Associates 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 (CI) – at least stiff, medium plasticity, fine to coarse sand, dark brown, grey, orange and moist.
- Silty Sand (SM) – at least firm, fine to medium grained sands, low plasticity, grey brown.
- Sandstone (XW) –extremely weathered, very low and low strength, fine to coarse grained, yellow grey 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 natural 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 2: View of Filling Operations



3.2 Filling Operations

Fill material was sourced from onsite cuts areas, onsite stockpiles and service trench excavations.

Fill materials can be broadly summarised as:

- Gravelly Sandy Clay (CI) – low to medium plasticity, fine to coarse grained sand and traces of fine to coarse gravels, brown, orange brown and moist.
- Clayey Sand (SC) – fine to coarse grained sands, low plasticity fines, with traces of fine to coarse gravels, grey brown and moist.

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

- 825 Compactor
- Excavators
- Scrapers
- Water Truck
- Grader
- Padfoot Roller
- Dozer
- Articulated Dump Trucks

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 3: 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 compaction 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).

5.0 EXCLUSIONS

This statement does not include any topsoil, which may be placed for use as dressing or any other subsequent earthworks after April 2020.

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 Residential Subdivision - Phase 1 Development, (**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 Plan Showing Test Locations

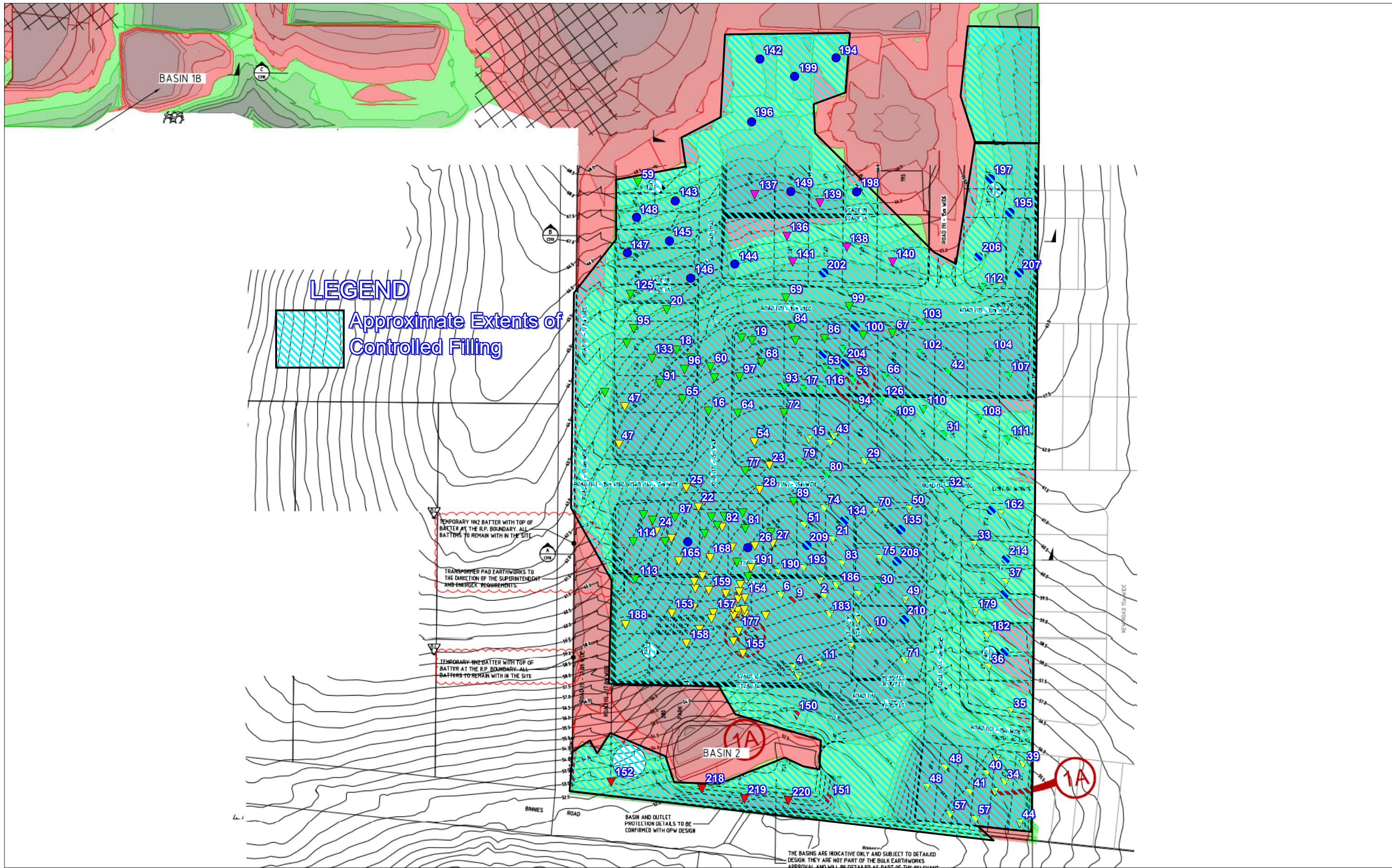
Appendix B – Laboratory Test Results Reports

Appendix A

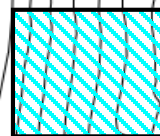
Site Plan & Test Locations



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LEGEND



Approximate Extents of Controlled Filling

LEGEND

- ▼ RL 50.00 - 54.99
- ▲ RL 55.00 - 59.99
- ▼ RL 60.00 - 64.99
- ▲ RL 65.00 - 69.99
- ▼ RL 70.00 - 74.99
- Final Level

Map Description :	EARTHWORKS FIELD DENSITY TESTING - Level 1 Inspection		
Client :	SHADFORTHS		
Project :	CADENCE PHASE 1		
Project No :	DL19/307	Drawing No :	DL19/307-01
		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

Solid thinking. Grounded results.

Appendix B

Laboratory Test Reports



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GEOTECHNIC

Material Test Report

Report Number: DL19/307-1
Issue Number: 1
Date Issued: 08/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4102
Date Sampled: 05/08/2019 16:00
Dates Tested: 05/08/2019 - 06/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite

**MORRISON
GEOTECHNIC**
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: darralab@morrisongeo.com.au



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	D19-4102B
Test Number	2
Date Tested	05/08/2019
Time Tested	15:00
Test Request #/Location	General Fill
Easting	477685
Northing	6939228
Layer / Reduced Level	50.1
Soil Description	Clayey Sand. Brown
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	0.0
Field Wet Density (FWD) t/m ³	2.02
Field Moisture Content %	8.4
Field Dry Density (FDD) t/m ³	1.86
Peak Converted Wet Density t/m ³	2.00
Adjusted Peak Converted Wet Density t/m ³	**
Moisture Variation (Wv) %	5.0
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	101.0
Compaction Method	Standard

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: swoodley@mgeo.com.au

Report Number: DL19/307-2
Issue Number: 1
Date Issued: 09/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Contact: -
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4157
Date Sampled: 07/08/2019 14:30
Dates Tested: 07/08/2019 - 08/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 98%STD +/-2% OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1	
Sample Number	D19-4157B
Test Number	4
Date Tested	07/08/2019
Time Tested	13:00
Test Request #/Location	General Fill Area
Easting	477669
Northing	6939199
Elevation (m)	55.6
Soil Description	(SC) Clayey Sand, Brown
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	0.0
Field Wet Density (FWD) t/m ³	2.06
Field Moisture Content %	11.1
Field Dry Density (FDD) t/m ³	1.85
Peak Converted Wet Density t/m ³	2.09
Adjusted Peak Converted Wet Density t/m ³	**
Moisture Variation (Wv) %	1.5
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	98.5
Compaction Method	Standard

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: swoodley@mgeo.com.au

Report Number: DL19/307-4
Issue Number: 1
Date Issued: 19/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4271
Date Sampled: 15/08/2019
Dates Tested: 15/08/2019 - 16/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-4271A	D19-4271B	D19-4271C	D19-4271D	D19-4271E	D19-4271F
Test Number	9	10	11	12	13	14
Date Tested	15/08/2019	15/08/2019	15/08/2019	15/08/2019	15/08/2019	15/08/2019
Time Tested	10:00	10:10	10:20	10:30	10:40	10:50
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	Retest of D19-4102A	Retest of D19-4157A	Retest of D19-4157C	Retest of D19-4177A	Retest of D19-4177B	Retest of D19-4177C
Northing	**	**	**	**	**	**
Layer / Reduced Level	**	**	**	**	**	**
Soil Description	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.98	2.00	2.08	2.06	2.04	2.03
Field Moisture Content %	10.4	10.4	11.3	11.2	12.1	13.5
Field Dry Density (FDD) t/m ³	1.80	1.81	1.87	1.85	1.82	1.78
Peak Converted Wet Density t/m ³	1.99	2.00	2.05	2.04	2.05	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	0.5	2.0	0.5	2.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.5	100.0	101.5	101.0	99.5	97.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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: swoodley@mgeo.com.au

Report Number: DL19/307-4
Issue Number: 1
Date Issued: 19/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4271
Date Sampled: 15/08/2019
Dates Tested: 15/08/2019 - 16/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-4271G	D19-4271H	D19-4271I	D19-4271J	D19-4271K	D19-4271L
Test Number	15	16	17	18	19	20
Date Tested	15/08/2019	15/08/2019	15/08/2019	15/08/2019	15/08/2019	15/08/2019
Time Tested	11:00	11:10	11:20	11:30	11:40	11:50
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477692	477650	477693	477643	477674	477630
Northing	6939297	6939315	6939319	6939340	6939343	6939355
Layer / Reduced Level	58.6	60.3	60.2	62.3	61.8	63.7
Soil Description	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.03	2.05	2.02	2.04	2.05	2.07
Field Moisture Content %	11.5	14.4	11.2	10.0	12.0	12.4
Field Dry Density (FDD) t/m ³	1.82	1.79	1.81	1.85	1.83	1.84
Peak Converted Wet Density t/m ³	2.05	2.15	2.02	2.04	2.10	2.12
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	0.5	0.0	0.5	0.5	0.5	0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.0	95.5	100.0	100.0	97.5	97.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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: swoodley@mgeo.com.au

Report Number: DL19/307-5
Issue Number: 1
Date Issued: 20/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4292
Date Sampled: 16/08/2019 10:00
Dates Tested: 16/08/2019 - 19/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD +/-2% OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-4292A	D19-4292B	D19-4292C	D19-4292D	D19-4292E	D19-4292F
Test Number	21	22	23	24	25	26
Date Tested	16/08/2019	16/08/2019	16/08/2019	16/08/2019	16/08/2019	16/08/2019
Time Tested	10:00	10:10	10:20	10:30	13:10	13:20
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477690	477639	477673	477619	477635	477661
Northing	6939255	6939274	6939288	6939266	6939283	6939254
Elevation (m)	RL: 57.0	RL: 58.9	RL: 58.3	RL: 57.3	RL: 59.5	RL: 57.4
Soil Description	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.01	2.01	1.96	1.98	2.00	2.08
Field Moisture Content %	14.3	12.7	14.2	14.0	11.2	12.5
Field Dry Density (FDD) t/m ³	1.76	1.79	1.72	1.74	1.80	1.85
Peak Converted Wet Density t/m ³	2.10	2.09	2.02	2.06	2.07	2.12
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	1.0	-0.5	-0.5	2.0	0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	96.5	97.0	96.0	96.0	98.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

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

Material Test Report

Report Number: DL19/307-7
Issue Number: 1
Date Issued: 23/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4331
Date Sampled: 20/08/2019
Dates Tested: 20/08/2019 - 21/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D19-4331A	D19-4331B	D19-4331C	D19-4331D
Test Number	34	35	36	37
Date Tested	20/08/2019	20/08/2019	20/08/2019	20/08/2019
Time Tested	10:00	10:05	10:10	10:15
Test Request #/Location	General Fill	General Fill	General Fill	General Fill
Easting	477762.8	477761.3	477760.3	477768.2
Northing	6939147.9	6939167.7	6939191.3	6939223.8
Elevation (m)	55.8	56.6	57.7	59.3
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	0.0	0.0
Field Wet Density (FWD) t/m ³	1.94	1.98	1.99	2.02
Field Moisture Content %	12.0	12.3	14.3	14.3
Field Dry Density (FDD) t/m ³	1.74	1.76	1.74	1.76
Peak Converted Wet Density t/m ³	1.98	2.00	1.99	2.00
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	3.0	4.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	98.5	99.0	100.5	101.0
Compaction Method	Standard	Standard	Standard	Standard

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

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Report Number: DL19/307-6
Issue Number: 1
Date Issued: 23/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4316
Date Sampled: 19/08/2019 10:00
Dates Tested: 19/08/2019 - 20/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-4316A	D19-4316B	D19-4316C	D19-4316D	D19-4316E	D19-4316F
Test Number	27	28	29	30	31	32
Date Tested	19/08/2019	19/08/2019	19/08/2019	19/08/2019	19/08/2019	19/08/2019
Time Tested	10:05	10:15	10:25	10:35	12:55	13:05
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477669	477667	477715	477172	477747	477749
Northing	6939254	6939278	6939284	6939229	6939293	6939267
Elevation (m)	RL: 57.4	RL: 58.1	RL: 59.3	RL: 62.1	RL: 61.2	RL:60.2
Thickness of Layer (mm)	150	150	150	150	150	150
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. 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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.99	1.97	2.10	1.98	2.02	1.98
Field Moisture Content %	11.6	11.6	11.7	11.5	10.0	9.2
Field Dry Density (FDD) t/m ³	1.78	1.77	1.88	1.78	1.83	1.81
Peak Converted Wet Density t/m ³	2.03	1.95	2.09	2.02	2.06	1.96
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	3.0	2.5	2.0	2.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	98.0	101.0	100.0	98.0	97.5	100.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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

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Brisbane Laboratory

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Report Number: DL19/307-6
Issue Number: 1
Date Issued: 23/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4316
Date Sampled: 19/08/2019 10:00
Dates Tested: 19/08/2019 - 20/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1	
Sample Number	D19-4316G
Test Number	33
Date Tested	19/08/2019
Time Tested	13:15
Test Request #/Location	General Fill
Easting	477757
Northing	6939242
Elevation (m)	RL: 59.7
Thickness of Layer (mm)	150
Soil Description	Sandy Clay. Brown
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	0.0
Field Wet Density (FWD) t/m ³	1.96
Field Moisture Content %	11.9
Field Dry Density (FDD) t/m ³	1.75
Peak Converted Wet Density t/m ³	2.02
Adjusted Peak Converted Wet Density t/m ³	**
Moisture Variation (Wv) %	2.5
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	97.0
Compaction Method	Standard

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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Email: swoodley@mgeo.com.au

Report Number: DL19/307-8
Issue Number: 1
Date Issued: 26/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Contact: -
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4364
Date Sampled: 21/08/2019 12:00
Dates Tested: 21/08/2019 - 22/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	D19-4364B	D19-4364C	D19-4364D	D19-4364E	D19-4364F
Test Number	39	40	41	42	43
Date Tested	21/08/2019	21/08/2019	21/08/2019	21/08/2019	21/08/2019
Time Tested	10:25	10:30	10:35	13:30	13:35
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477766	477750	477738	477911	477699
Northing	6939147	6939142	6939135	6939319	6939298
Elevation (m)	55.8	55.3	55.3	61.2	59.7
Soil Description	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.98	1.97	1.93	1.98	1.99
Field Moisture Content %	9.3	8.0	8.9	11.2	10.6
Field Dry Density (FDD) t/m ³	1.82	1.83	1.77	1.78	1.80
Peak Converted Wet Density t/m ³	2.06	2.03	2.03	2.08	2.06
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	4.0	1.0	3.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	96.5	97.5	95.0	95.5	96.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

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

Material Test Report

Report Number: DL19/307-9
Issue Number: 1
Date Issued: 26/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4368
Date Sampled: 21/08/2019 13:30
Dates Tested: 21/08/2019 - 22/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Remarks: Retest of D19-4364-A
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1	
Sample Number	D19-4368A
Test Number	44
Date Tested	21/08/2019
Time Tested	13:20
Test Request #/Location	Retest D19/4364-A
Easting	**
Northing	**
Layer / Reduced Level	**
Soil Description	Sandy Clay
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	0.0
Field Wet Density (FWD) t/m ³	2.02
Field Moisture Content %	13.1
Field Dry Density (FDD) t/m ³	1.78
Peak Converted Wet Density t/m ³	2.12
Adjusted Peak Converted Wet Density t/m ³	**
Moisture Variation (Wv) %	0.0
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	95.5
Compaction Method	Standard

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

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Brisbane Laboratory

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Report Number: DL19/307-10
Issue Number: 1
Date Issued: 28/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4388
Date Sampled: 22/08/2019 15:00
Dates Tested: 22/08/2019 - 26/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	D19-4388A	D19-4388B
Test Number	45	46
Date Tested	22/08/2019	22/08/2019
Time Tested	10:00	10:10
Test Request #/Location	General Fill Area	General Fill Area
Easting	477752	477749
Northing	6939148	6939134
Elevation (m)	56.0	55.6
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	**	**
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0
Field Wet Density (FWD) t/m ³	1.96	2.11
Field Moisture Content %	10.0	12.0
Field Dry Density (FDD) t/m ³	1.78	1.88
Peak Converted Wet Density t/m ³	2.05	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**
Moisture Variation (Wv) %	3.5	2.0
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	96.0	101.0
Compaction Method	Standard	Standard

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

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Brisbane Laboratory

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Report Number: DL19/307-18
Issue Number: 1
Date Issued: 09/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4576
Date Sampled: 03/09/2019 14:00
Dates Tested: 03/09/2019 - 04/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D19-4576A	D19-4576B	D19-4576C	D19-4576D
Test Number	74	75	76	77
Date Tested	03/09/2019	03/09/2019	03/09/2019	03/09/2019
Time Tested	13:30	13:35	13:40	13:45
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477694	477703	477699	477662
Northing	6939266	6939240	6939270	6939287
Elevation (m)	59.01	59.17	60.25	60.380
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	**	**	**	**
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.13	2.20	2.05	2.03
Field Moisture Content %	11.6	10.6	9.6	11.2
Field Dry Density (FDD) t/m ³	1.91	1.99	1.87	1.82
Peak Converted Wet Density t/m ³	2.13	2.11	2.04	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	0.5	2.0	2.0	1.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	100.0	104.0	100.5	98.0
Compaction Method	Standard	Standard	Standard	Standard

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: DL19/307-11
Issue Number: 1
Date Issued: 29/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4399
Date Sampled: 23/08/2019 9:30
Dates Tested: 23/08/2019 - 26/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D19-4399A	D19-4399B	D19-4399C	D19-4399D
Test Number	47	48	49	50
Date Tested	23/08/2019	23/08/2019	23/08/2019	23/08/2019
Time Tested	10:00	10:10	10:20	10:30
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Chainage (m)	477565	477729	477723	477731
Location Offset (m)	6939312	6939147	6939222	6939261
Elevation (m)	55.6	55.2	57.6	59.1
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.01	1.95	2.00	1.96
Field Moisture Content %	8.5	7.0	8.6	8.5
Field Dry Density (FDD) t/m ³	1.85	1.82	1.84	1.81
Peak Converted Wet Density t/m ³	2.07	2.03	2.07	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	97.0	96.0	96.5	96.5
Compaction Method	Standard	Standard	Standard	Standard

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

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Brisbane Laboratory

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Report Number: DL19/307-15
Issue Number: 1
Date Issued: 02/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4512
Date Sampled: 29/08/2019 13:30
Dates Tested: 29/08/2019 - 30/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D19-4512A	D19-4512B	D19-4512C
Test Number	63	64	65
Date Tested	29/08/2019	29/08/2019	29/08/2019
Time Tested	13:22	13:35	13:45
Test Request #/Location	General Fill	General Fill	General Fill
Easting	477669.630	477662.690	477644.595
Northing	6939344.750	6939312.380	6939327.775
Elevation (m)	63.0	61.1	62.4
Soil Description	Onsite	Onsite	Onsite
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.13	2.09	2.06
Field Moisture Content %	11.0	10.6	14.2
Field Dry Density (FDD) t/m ³	1.92	1.89	1.80
Peak Converted Wet Density t/m ³	2.16	2.12	2.14
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	1.5	1.5	-1.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	98.5	98.0	96.5
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-12
Issue Number: 1
Date Issued: 29/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4439
Date Sampled: 26/08/2019 14:05
Dates Tested: 26/08/2019 - 27/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D19-4439A	D19-4439B	D19-4439C	D19-4439D
Test Number	51	52	53	54
Date Tested	26/08/2019	26/08/2019	26/08/2019	26/08/2019
Time Tested	10:00	10:10	10:20	10:30
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477684	477701	477697	477668
Northing	6939260	6939294	6939315	6939299
Elevation (m)	59.39	59.80	60.26	59.29
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	1.90	1.98	1.92	2.00
Field Moisture Content %	8.3	7.8	9.9	8.3
Field Dry Density (FDD) t/m ³	1.75	1.84	1.75	1.85
Peak Converted Wet Density t/m ³	1.99	2.01	2.01	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	4.5	4.0	4.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	95.5	98.5	95.5	95.5
Compaction Method	Standard	Standard	Standard	Standard

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

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Report Number: DL19/307-13
Issue Number: 1
Date Issued: 30/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4448
Date Sampled: 27/08/2019 09:00
Dates Tested: 27/08/2019 - 29/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	D19-4448C	D19-4448D
Test Number	57	58
Date Tested	27/08/2019	27/08/2019
Time Tested	10:20	10:30
Test Request #/Location	General Fill Area	General Fill Area
Easting	477736	477742
Northing	6239115	6939138
Elevation (m)	55.53	55.77
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0
Field Wet Density (FWD) t/m ³	1.97	1.93
Field Moisture Content %	10.0	8.7
Field Dry Density (FDD) t/m ³	1.79	1.78
Peak Converted Wet Density t/m ³	2.07	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**
Moisture Variation (Wv) %	1.0	1.5
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	95.0	95.0
Compaction Method	Standard	Standard

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: DL19/307-14
Issue Number: 1
Date Issued: 30/08/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4491
Date Sampled: 21/08/2019 12:00
Dates Tested: 28/08/2019 - 29/08/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	D19-4491A	D19-4491B
Test Number	59	60
Date Tested	28/08/2019	28/08/2019
Time Tested	14:10	14:20
Test Request #/Location	General Fill Area	General Fill Area
Easting	477635	477654
Northing	6939418	6939334
Elevation (m)	63.2	62.40
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0
Field Wet Density (FWD) t/m ³	2.00	1.96
Field Moisture Content %	9.8	11.3
Field Dry Density (FDD) t/m ³	1.82	1.76
Peak Converted Wet Density t/m ³	2.10	2.06
Adjusted Peak Converted Wet Density t/m ³	**	**
Moisture Variation (Wv) %	3.0	2.0
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	95.5	95.5
Compaction Method	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-16
Issue Number: 1
Date Issued: 04/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4517
Date Sampled: 30/08/2019
Dates Tested: 30/08/2019 - 03/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General 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	D19-4517A	D19-4517B	D19-4517C	D19-4517D
Test Number	66	67	68	69
Date Tested	30/08/2019	30/08/2019	30/08/2019	30/08/2019
Time Tested	10:05	10:12	10:18	10:27
Test Request #/Location	General Fill	General Fill	General Fill	General Fill
Easting	477702.15	477693.55	477676.50	477691.73
Northing	6939318.56	6939324.52	6939332.92	6939359.57
Elevation (m)	62.22	62.40	62.62	64.07
Soil Description	On-Site	On-Site	On-Site	On-Site
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	12.2	10.1
Field Wet Density (FWD) t/m ³	2.09	2.13	2.05	2.12
Field Moisture Content %	11.3	11.0	11.3	11.6
Field Dry Density (FDD) t/m ³	1.88	1.92	1.84	1.90
Peak Converted Wet Density t/m ³	2.12	2.13	**	**
Adjusted Peak Converted Wet Density t/m ³	**	**	2.13	2.14
Moisture Variation (Wv) %	1.5	1.5	**	**
Adjusted Moisture Variation %	**	**	1.5	1.5
Hilf Density Ratio (%)	98.5	100.0	96.0	99.0
Compaction Method	Standard	Standard	Standard	Standard

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: DL19/307-17
Issue Number: 1
Date Issued: 05/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4550
Date Sampled: 02/09/2019
Dates Tested: 02/09/2019 - 03/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill - Retests
Material Source: Onsite



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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	D19-4550A	D19-4550B	D19-4550C	D19-4550D
Test Number	70	71	72	73
Date Tested	02/09/2019	02/09/2019	02/09/2019	02/09/2019
Time Tested	10:40	10:42	10:44	10:45
Test Request #/Location	Retest of D19-4448A	Retest of D19-4448B	Retest of D19-4491C	Retest of D19-4491D
Easting	477731	477716	477683	477625
Northing	6939208	6939262	6939310	6939262
Elevation (m)	57.80	59.20	60.99	59.32
Soil Description	Gravelly Sandy Clay. Brown	Gravelly Sandy Clay. Brown	Gravelly Sandy Clay. Brown	Gravelly Sandy Clay. Brown
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	3.5	0.0	0.0
Field Wet Density (FWD) t/m ³	2.07	2.22	2.13	2.07
Field Moisture Content %	10.5	10.7	11.2	8.4
Field Dry Density (FDD) t/m ³	1.87	2.01	1.92	1.91
Peak Converted Wet Density t/m ³	2.10	**	2.17	2.10
Adjusted Peak Converted Wet Density t/m ³	**	2.15	**	**
Moisture Variation (Wv) %	1.5	**	0.0	2.5
Adjusted Moisture Variation %	**	1.5	**	**
Hilf Density Ratio (%)	98.5	103.0	98.0	98.0
Compaction Method	Standard	Standard	Standard	Standard

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

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Report Number: DL19/307-19
Issue Number: 1
Date Issued: 13/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4654
Date Sampled: 06/09/2019 14:30
Dates Tested: 06/09/2019 - 13/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



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Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-4654A	D19-4654B	D19-4654C	D19-4654D	D19-4654E	D19-4654F
Test Number	78	79	80	81	82	83
Date Tested	06/09/2019	06/09/2019	06/09/2019	06/09/2019	06/09/2019	06/09/2019
Time Tested	13:40	13:45	13:50	14:00	14:10	14:15
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477649	477675	477698	477658	477648	477702
Northing	6939276	6939283	6939282	6939262	6939264	6939240
Elevation (m)	60.62	60.40	60.04	60.22	59.75	59.65
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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 (%)	4.7	0.0	1.1	20.2	4.8	18.1
Field Wet Density (FWD) t/m ³	2.12	2.12	2.05	2.22	2.05	2.19
Field Moisture Content %	8.9	6.1	8.2	12.0	12.4	12.7
Field Dry Density (FDD) t/m ³	1.95	2.00	1.90	1.98	1.83	1.95
Peak Converted Wet Density t/m ³	**	2.03	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	2.09	**	2.08	2.24	2.15	2.27
Moisture Variation (Wv) %	**	2.0	**	**	**	**
Adjusted Moisture Variation %	4.5	**	4.5	0.0	-0.5	0.0
Hilf Density Ratio (%)	101.5	104.5	98.5	99.0	95.5	96.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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

Material Test Report

Report Number: DL19/307-20
Issue Number: 1
Date Issued: 16/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4721
Date Sampled: 11/09/2019 13:20
Dates Tested: 11/09/2019 - 13/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General 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	D19-4721A	D19-4721B	D19-4721C
Test Number	84	85	86
Date Tested	11/09/2019	11/09/2019	11/09/2019
Time Tested	13:00	13:10	13:20
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area
Easting	477676	477678	477704
Northing	6939352	6939347	6939340
Elevation (m)	63.88	63.57	63.35
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.13	2.07	2.07
Field Moisture Content %	10.8	9.7	8.2
Field Dry Density (FDD) t/m ³	1.92	1.88	1.91
Peak Converted Wet Density t/m ³	2.13	2.08	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	1.5	3.0	4.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.0	99.5	99.0
Compaction Method	Standard	Standard	Standard

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

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Brisbane Laboratory

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Report Number: DL19/307-27
Issue Number: 1
Date Issued: 28/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4962
Date Sampled: 24/09/2019 13:40
Dates Tested: 24/09/2019 - 26/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite Material



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	D19-4962A	D19-4962B	D19-4962C	D19-4962D	D19-4962E
Test Number	112	113	114	115	116
Date Tested	24/09/2019	24/09/2019	24/09/2019	24/09/2019	24/09/2019
Time Tested	13:54	14:00	14:10	14:15	14:48
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477773	477606	477616	477612	477695
Northing	6939035	6939261	6939255	6939271	6939321
Elevation (m)	62.35	62.37	62.41	62.03	64.36
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.19	2.12	2.17	2.18	2.17
Field Moisture Content %	11.3	9.3	8.4	8.9	10.9
Field Dry Density (FDD) t/m ³	1.97	1.94	2.00	2.00	1.96
Peak Converted Wet Density t/m ³	2.14	2.16	2.14	2.16	2.14
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	0.5	1.0	2.0	2.0	1.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	102.5	98.0	101.5	101.0	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard

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

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Report Number: DL19/307-21
Issue Number: 1
Date Issued: 20/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4782
Date Sampled: 13/09/2019
Dates Tested: 13/09/2019 - 17/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: General 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	D19-4782A	D19-4782B	D19-4782C	D19-4782D
Test Number	91	92	93	94
Date Tested	13/09/2019	13/09/2019	13/09/2019	13/09/2019
Time Tested	14:00	14:10	14:15	14:20
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477641	477655	477684	477715
Northing	6939327	6939329	6939321	6939308
Elevation (m)	62.90	62.86	63.00	63.15
Soil Description	Gravelly Clayey Sand. Brown	Gravelly Clayey Sand. Brown	Gravelly Clayey Sand. Brown	Gravelly Clayey Sand. Brown
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 (%)	11.7	13.0	0.0	8.3
Field Wet Density (FWD) t/m ³	2.07	2.18	2.04	2.10
Field Moisture Content %	8.2	11.0	9.1	9.9
Field Dry Density (FDD) t/m ³	1.92	1.96	1.86	1.91
Peak Converted Wet Density t/m ³	**	**	2.07	**
Adjusted Peak Converted Wet Density t/m ³	2.05	2.08	**	2.13
Moisture Variation (Wv) %	**	**	3.0	**
Adjusted Moisture Variation %	0.0	2.0	**	1.0
Hilf Density Ratio (%)	101.0	104.5	98.0	98.5
Compaction Method	Standard	Standard	Standard	Standard

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

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Report Number: DL19/307-23
Issue Number: 1
Date Issued: 21/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4802
Date Sampled: 16/09/2019 12:00
Dates Tested: 16/09/2019 - 17/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4802A	D19-4802B	D19-4802C	D19-4802D
Test Number	95	96	97	98
Date Tested	16/09/2019	16/09/2019	16/09/2019	16/09/2019
Time Tested	13:45	13:50	13:55	14:00
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477623	477644	477666	477691
Northing	6939355	6939332	6939328	6939323
Elevation (m)	63.66	63.60	63.61	63.41
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	12.4	0.0	0.0
Field Wet Density (FWD) t/m ³	2.08	2.18	2.04	2.02
Field Moisture Content %	9.1	10.2	7.4	8.2
Field Dry Density (FDD) t/m ³	1.90	1.98	1.90	1.86
Peak Converted Wet Density t/m ³	2.11	**	2.04	2.08
Adjusted Peak Converted Wet Density t/m ³	**	2.15	**	**
Moisture Variation (Wv) %	2.0	**	4.0	3.0
Adjusted Moisture Variation %	**	1.5	**	**
Hilf Density Ratio (%)	98.5	101.5	100.0	97.0
Compaction Method	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-22
Issue Number: 1
Date Issued: 21/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4746
Date Sampled: 12/09/2019 13:00
Dates Tested: 12/09/2019 - 17/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4746A	D19-4746B	D19-4746C	D19-4746D
Test Number	87	88	89	90
Date Tested	12/09/2019	12/09/2019	12/09/2019	12/09/2019
Time Tested	12:59	13:30	13:45	14:00
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477628	477669	477681	477689
Northing	6939271	6939259	6939271	6939258
Elevation (m)	60.95	61.06	60.89	61.15
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	3.0	0.0	6.6
Field Wet Density (FWD) t/m ³	2.22	2.24	2.14	2.14
Field Moisture Content %	12.7	10.6	10.7	10.6
Field Dry Density (FDD) t/m ³	1.97	2.02	1.93	1.94
Peak Converted Wet Density t/m ³	2.17	**	2.10	**
Adjusted Peak Converted Wet Density t/m ³	**	2.12	**	2.12
Moisture Variation (Wv) %	-0.5	**	2.0	**
Adjusted Moisture Variation %	**	2.0	**	1.5
Hilf Density Ratio (%)	102.5	105.5	102.0	101.5
Compaction Method	Standard	Standard	Standard	Standard

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

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Report Number: DL19/307-24
Issue Number: 1
Date Issued: 21/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4836
Date Sampled: 18/09/2019 08:40
Dates Tested: 18/09/2019 - 19/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4836A	D19-4836B	D19-4836C	D19-4836D
Test Number	99	100	101	102
Date Tested	18/09/2019	18/09/2019	18/09/2019	18/09/2019
Time Tested	09:30	09:35	09:40	09:45
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477706	477723	477709	477737
Northing	6939340	6939339	6939323	6939324
Elevation (m)	64.02	64.25	63.32	63.50
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.00	1.97	1.98	1.97
Field Moisture Content %	8.7	8.0	7.9	7.2
Field Dry Density (FDD) t/m ³	1.84	1.83	1.83	1.84
Peak Converted Wet Density t/m ³	1.99	2.04	2.06	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	3.5	4.5	4.5	4.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	100.5	96.5	96.0	95.5
Compaction Method	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-25
Issue Number: 1
Date Issued: 25/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Contact: -
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4898
Date Sampled: 20/09/2019 11:00
Dates Tested: 20/09/2019 - 25/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4898A	D19-4898B	D19-4898C	D19-4898D
Test Number	103	104	105	106
Date Tested	20/09/2019	20/09/2019	20/09/2019	20/09/2019
Time Tested	08:30	08:35	08:40	08:45
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477749	477727	477713	477692
Northing	6939341	6939337	6939334	6939343
Elevation (m)	64.35	64.37	64.26	64.20
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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 (%)	14.1	9.9	4.9	17.4
Field Wet Density (FWD) t/m ³	2.10	2.07	2.18	2.12
Field Moisture Content %	8.0	7.1	9.9	8.6
Field Dry Density (FDD) t/m ³	1.95	1.94	1.98	1.95
Peak Converted Wet Density t/m ³	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	2.13	2.11	2.16	2.14
Moisture Variation (Wv) %	**	**	**	**
Adjusted Moisture Variation %	2.0	3.0	1.5	2.0
Hilf Density Ratio (%)	98.5	98.5	101.0	99.0
Compaction Method	Standard	Standard	Standard	Standard

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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Email: darralab@morrisongeo.com.au

Report Number: DL19/307-29
Issue Number: 1
Date Issued: 28/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4988
Date Sampled: 25/09/2019 14:00
Dates Tested: 25/09/2019 - 27/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4988A	D19-4988B	D19-4988C	D19-4988D	D19-4988E	D19-4988F
Test Number	120	121	122	123	124	125
Date Tested	25/09/2019	25/09/2019	25/09/2019	25/09/2019	25/09/2019	25/09/2019
Time Tested	11:00	11:05	11:10	11:20	13:30	13:40
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477641	477622	477618	477644	477685	477624
Northing	6939272	6939261	6939271	6939269	6939321	6939370
Elevation (m)	62.77	63.16	63.92	63.74	63.83	64.01
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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 (%)	10.7	13.7	11.4	0.0	9.4	7.8
Field Wet Density (FWD) t/m ³	2.17	2.12	2.11	2.20	2.16	2.13
Field Moisture Content %	11.4	11.3	10.5	10.4	12.1	12.2
Field Dry Density (FDD) t/m ³	1.95	1.90	1.91	1.99	1.93	1.90
Peak Converted Wet Density t/m ³	**	**	**	2.07	**	**
Adjusted Peak Converted Wet Density t/m ³	2.20	2.22	2.16	**	2.19	2.22
Moisture Variation (Wv) %	**	**	**	2.5	**	**
Adjusted Moisture Variation %	0.0	0.5	2.5	**	0.0	0.5
Hilf Density Ratio (%)	99.0	95.5	97.5	106.0	98.5	96.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-29
Issue Number: 1
Date Issued: 28/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4988
Date Sampled: 25/09/2019 14:00
Dates Tested: 25/09/2019 - 27/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4988G
Test Number	126
Date Tested	25/09/2019
Time Tested	14:15
Test Request #/Location	General Fill Area
Easting	477717
Northing	6939320
Elevation (m)	64.05
Soil Description	Clayey Sand. Brown
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	6.5
Field Wet Density (FWD) t/m ³	2.19
Field Moisture Content %	10.3
Field Dry Density (FDD) t/m ³	1.99
Peak Converted Wet Density t/m ³	**
Adjusted Peak Converted Wet Density t/m ³	2.22
Moisture Variation (Wv) %	**
Adjusted Moisture Variation %	0.5
Hilf Density Ratio (%)	98.5
Compaction Method	Standard

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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Email: darralab@morrisongeo.com.au

Report Number: DL19/307-26
Issue Number: 1
Date Issued: 26/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4915
Date Sampled: 23/09/2019 07:00
Dates Tested: 23/09/2019 - 26/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4915A	D19-4915B	D19-4915C	D19-4915D	D19-4915E
Test Number	107	108	109	110	111
Date Tested	23/09/2019	23/09/2019	23/09/2019	23/09/2019	23/09/2019
Time Tested	10:30	10:35	13:00	13:10	13:20
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	4777371	477727	477713	477382	477769
Northing	6939320	6939334	6939305	6939318	6939337
Elevation (m)	64.7	64.00	64.13	63.89	63.85
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	37.5	37.5
Percentage of Wet Oversize (%)	6.5	14.5	15.4	14.2	15.3
Field Wet Density (FWD) t/m ³	2.20	2.21	2.21	2.11	2.20
Field Moisture Content %	9.0	8.3	7.6	7.2	10.2
Field Dry Density (FDD) t/m ³	2.02	2.04	2.06	1.97	1.99
Peak Converted Wet Density t/m ³	**	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	2.12	2.18	2.19	2.18	2.26
Moisture Variation (Wv) %	**	**	**	**	**
Adjusted Moisture Variation %	2.5	2.5	4.0	4.0	0.0
Hilf Density Ratio (%)	104.0	101.5	101.0	97.0	97.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

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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Email: darralab@morrisongeo.com.au

Report Number: DL19/307-28
Issue Number: 1
Date Issued: 28/09/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 4964
Date Sampled: 24/09/2019
Dates Tested: 24/09/2019 - 26/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D19-4964A	D19-4964B	D19-4964C
Test Number	117	118	119
Date Tested	24/09/2019	24/09/2019	24/09/2019
Time Tested	14:30	14:35	14:40
Test Request #/Location	General Fill (Retest of D19-4836B)	General Fill (Retest of D19-4836C)	General Fill (Retest of D19-4836D)
Easting	477723	477709	477737
Northing	6939339	6939323	6939324
Elevation (m)	64.25	63.32	63.50
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	37.5	19.0	19.0
Percentage of Wet Oversize (%)	4.3	0.0	0.0
Field Wet Density (FWD) t/m ³	2.18	2.15	2.19
Field Moisture Content %	12.3	10.9	10.9
Field Dry Density (FDD) t/m ³	1.94	1.94	1.98
Peak Converted Wet Density t/m ³	**	2.15	2.13
Adjusted Peak Converted Wet Density t/m ³	2.13	**	**
Moisture Variation (Wv) %	**	-0.5	0.0
Adjusted Moisture Variation %	-0.5	**	**
Hilf Density Ratio (%)	102.0	100.5	103.0
Compaction Method	Standard	Standard	Standard

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: swoodley@mgeo.com.au

Report Number: DL19/307-30
Issue Number: 1
Date Issued: 01/10/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 5010
Date Sampled: 26/09/2019 11:00
Dates Tested: 26/09/2019 - 30/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-5010A	D19-5010B	D19-5010C	D19-5010D	D19-5010E	D19-5010F
Test Number	127	128	129	130	131	132
Date Tested	26/09/2019	26/09/2019	26/09/2019	26/09/2019	26/09/2019	26/09/2019
Time Tested	12:00	12:10	12:20	13:50	14:10	14:20
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477646	477658	477619	477636	477606	477646
Northing	6939265	6939269	6939349	6939333	6939329	6939339
Elevation (m)	63.19	63.21	64.24	64.76	64.72	64.52
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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	3.5	6.2	16.2	4.2	0.0
Field Wet Density (FWD) t/m ³	2.08	2.14	2.17	2.14	2.06	2.08
Field Moisture Content %	12.5	11.2	10.1	9.9	8.3	8.1
Field Dry Density (FDD) t/m ³	1.85	1.92	1.97	1.95	1.90	1.92
Peak Converted Wet Density t/m ³	2.18	**	**	**	**	2.09
Adjusted Peak Converted Wet Density t/m ³	**	2.18	2.20	2.23	2.08	**
Moisture Variation (Wv) %	0.0	**	**	**	**	4.0
Adjusted Moisture Variation %	**	0.0	0.5	1.0	3.5	**
Hilf Density Ratio (%)	95.5	98.0	98.5	96.0	99.0	99.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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: DL19/307-30
Issue Number: 1
Date Issued: 01/10/2019
Client: SHADFORTH'S CIVIL PTY LTD
99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 5010
Date Sampled: 26/09/2019 11:00
Dates Tested: 26/09/2019 - 30/09/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D19-5010G
Test Number	133
Date Tested	26/09/2019
Time Tested	14:30
Test Request #/Location	General Fill Area
Easting	477629
Northing	6939341
Elevation (m)	64.61
Soil Description	Clayey Sand. Brown
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	0.0
Field Wet Density (FWD) t/m ³	2.00
Field Moisture Content %	8.0
Field Dry Density (FDD) t/m ³	1.86
Peak Converted Wet Density t/m ³	2.06
Adjusted Peak Converted Wet Density t/m ³	**
Moisture Variation (Wv) %	4.0
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	97.5
Compaction Method	Standard

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: DL19/307-38
Issue Number: 1
Date Issued: 19/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6808
Date Sampled: 17/02/2020 13:00
Dates Tested: 17/02/2020 - 18/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill Temp Basin
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	D20-6808A	D20-6808B	
Test Number	171	172	
Date Tested	17/02/2020	17/02/2020	
Time Tested	13:00	13:10	
Test Request #/Location	General Fill Temp Basin	General Fill Temp Basin	
Easting	477649	477650	
Northing	6939226	6939232	
Elevation (m)	56.7	56.8	
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0.0	0.0	
Field Wet Density (FWD) t/m ³	2.22	2.25	
Field Moisture Content %	9.4	10.4	
Field Dry Density (FDD) t/m ³	2.03	2.04	
Peak Converted Wet Density t/m ³	2.14	2.18	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.0	103.0	
Compaction Method	Standard	Standard	

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: DL19/307-35
Issue Number: 1
Date Issued: 10/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6690
Date Sampled: 29/01/2020 15:00
Dates Tested: 29/01/2020 - 31/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill Temp Basin
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland

Senior Soil Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D20-6690A	D20-6690B	D20-6690C	D20-6690D
Test Number	156	157	158	159
Date Tested	29/01/2020	29/01/2020	29/01/2020	29/01/2020
Time Tested	15:00	15:05	15:10	15:20
Test Request #/Location	General Fill	General Fill	General Fill	General Fill
Easting	477645	477643	477639	477640
Northing	6939235	6939221	6939220	6939241
Elevation (m)	56.6	56.4	56.7	56.8
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	37.5	37.5	37.5	37.5
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m ³	2.08	2.12	2.08	2.12
Field Moisture Content %	13.8	10.1	9.6	9.8
Field Dry Density (FDD) t/m ³	1.83	1.92	1.90	1.93
Peak Converted Wet Density t/m ³	2.07	2.06	2.09	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	1.5	2.5	2.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	100.5	103.0	99.5	101.0
Compaction Method	Standard	Standard	Standard	Standard

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: jwieland@mgeo.com.au

Report Number: DL19/307-33
Issue Number: 1
Date Issued: 31/01/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6613
Date Sampled: 22/01/2020 15:00
Dates Tested: 22/01/2020 - 23/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: On Site



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-6613A	D20-6613B	D20-6613C
Test Number	150	151	152
Date Tested	22/01/2020	22/01/2020	22/01/2020
Time Tested	15:00	15:10	15:20
Test Request #/Location	General Fill	General Fill	General Fill
Easting	477683.4	477665.9	477650.0
Northing	6939186.5	6939182.0	6939189.6
Elevation (m)	54.0	54.9	53.8
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	4.5	0.0	0.0
Field Wet Density (FWD) t/m ³	2.10	2.19	2.18
Field Moisture Content %	9.5	8.8	10.7
Field Dry Density (FDD) t/m ³	1.92	2.01	1.96
Peak Converted Wet Density t/m ³	**	2.09	2.03
Adjusted Peak Converted Wet Density t/m ³	2.02	**	**
Moisture Variation (Wv) %	**	2.5	1.0
Adjusted Moisture Variation %	2.5	**	**
Hilf Density Ratio (%)	104.0	105.0	107.0
Compaction Method	Standard	Standard	Standard

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

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Report Number: DL19/307-31
Issue Number: 1
Date Issued: 03/10/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 5045
Date Sampled: 27/09/2019 11:00
Dates Tested: 27/09/2019 - 01/10/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-5045A	D19-5045B	D19-5045C	D19-5045D	D19-5045E	D19-5045F
Test Number	134	135	136	137	138	139
Date Tested	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019
Time Tested	11:00	11:10	11:20	11:30	11:40	11:50
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477702	477698	477696	477683	477722	477713
Northing	6939260	6939244	6939990	6939398	6939378	6939385
Elevation (m)	**	**	65.5	65.2	65.3	65.0
Layer / Reduced Level	Finish Level	Finish Level	**	**	**	**
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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	4.9	3.6	10.1	19.5
Field Wet Density (FWD) t/m ³	2.08	2.09	2.11	2.08	2.15	2.11
Field Moisture Content %	9.4	9.8	8.8	8.2	8.5	11.8
Field Dry Density (FDD) t/m ³	1.90	1.90	1.94	1.92	1.98	1.89
Peak Converted Wet Density t/m ³	2.13	2.13	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	**	**	2.15	2.10	2.15	2.22
Moisture Variation (Wv) %	1.0	1.0	**	**	**	**
Adjusted Moisture Variation %	**	**	2.0	3.0	2.0	0.5
Hilf Density Ratio (%)	97.5	98.5	98.0	99.0	100.0	95.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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: swoodley@mgeo.com.au

Report Number: DL19/307-31
Issue Number: 1
Date Issued: 03/10/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 5045
Date Sampled: 27/09/2019 11:00
Dates Tested: 27/09/2019 - 01/10/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley

Laboratory Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	D19-5045G	D19-5045H
Test Number	140	141
Date Tested	27/09/2019	27/09/2019
Time Tested	12:00	12:10
Test Request #/Location	General Fill Area	General Fill Area
Easting	477741	477708
Northing	6939369	6939373
Elevation (m)	65.1	65.22
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	14.2	4.4
Field Wet Density (FWD) t/m ³	2.29	2.25
Field Moisture Content %	11.9	15.9
Field Dry Density (FDD) t/m ³	2.05	1.94
Peak Converted Wet Density t/m ³	**	**
Adjusted Peak Converted Wet Density t/m ³	2.26	2.22
Moisture Variation (Wv) %	**	**
Adjusted Moisture Variation %	-0.5	0.0
Hilf Density Ratio (%)	101.5	101.5
Compaction Method	Standard	Standard

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: DL19/307-39
Issue Number: 1
Date Issued: 21/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6852
Date Sampled: 19/02/2020 14:00
Dates Tested: 19/02/2020 - 20/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-6852A	D20-6852B	D20-6852C
Test Number	173	174	175
Date Tested	19/02/2020	19/02/2020	19/02/2020
Time Tested	14:30	14:35	14:40
Test Request #/Location	General Fill Basin	General Fill Basin	General Fill Basin
Easting	477652	477649	477647
Northing	6939238	6939227	6939225
Elevation (m)	57.1	57.2	57.1
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	4.6	0.0	0.0
Field Wet Density (FWD) t/m ³	2.22	2.09	2.18
Field Moisture Content %	8.3	8.6	6.6
Field Dry Density (FDD) t/m ³	2.05	1.92	2.04
Peak Converted Wet Density t/m ³	**	2.15	2.15
Adjusted Peak Converted Wet Density t/m ³	2.14	**	**
Moisture Variation (Wv) %	**	0.5	0.0
Adjusted Moisture Variation %	0.5	**	**
Hilf Density Ratio (%)	104.0	97.5	101.5
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-32
Issue Number: 1
Date Issued: 03/10/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 5058
Date Sampled: 30/09/2019 8:00
Dates Tested: 30/09/2019 - 02/10/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D19-5058A	D19-5058B	D19-5058C	D19-5058D	D19-5058E	D19-5058F
Test Number	142	143	144	145	146	147
Date Tested	30/09/2019	30/09/2019	30/09/2019	30/09/2019	30/09/2019	30/09/2019
Time Tested	10:00	10:10	10:20	10:30	10:40	13:00
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477643	477641	477636	477657	477659	477620
Northing	6939417	6939402	6939395	6939380	6939370	6939394
Layer / Reduced Level	FL	FL	FL	FL	FL	FL
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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	5.7	0.0	0.0	0.0	3.4
Field Wet Density (FWD) t/m ³	2.24	2.04	2.05	2.11	2.10	2.06
Field Moisture Content %	9.4	12.0	11.0	8.5	8.5	13.2
Field Dry Density (FDD) t/m ³	2.05	1.82	1.85	1.95	1.93	1.82
Peak Converted Wet Density t/m ³	2.17	**	2.13	2.09	2.08	**
Adjusted Peak Converted Wet Density t/m ³	**	2.14	**	**	**	2.15
Moisture Variation (Wv) %	1.5	**	1.0	3.0	3.0	**
Adjusted Moisture Variation %	**	-0.5	**	**	**	0.5
Hilf Density Ratio (%)	103.5	95.5	96.5	101.0	101.0	96.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

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

Material Test Report

Report Number: DL19/307-32
Issue Number: 1
Date Issued: 03/10/2019
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 5058
Date Sampled: 30/09/2019 8:00
Dates Tested: 30/09/2019 - 02/10/2019
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Sam Woodley
 Laboratory Manager
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	D19-5058G	D19-5058H
Test Number	148	149
Date Tested	30/09/2019	30/09/2019
Time Tested	13:10	13:20
Test Request #/Location	General Fill Area	General Fill Area
Easting	477632	477630
Northing	6939403	6939414
Layer / Reduced Level	FL	FL
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	0.0	9.1
Field Wet Density (FWD) t/m ³	2.04	2.16
Field Moisture Content %	10.4	8.6
Field Dry Density (FDD) t/m ³	1.85	1.99
Peak Converted Wet Density t/m ³	2.10	**
Adjusted Peak Converted Wet Density t/m ³	**	2.16
Moisture Variation (Wv) %	1.5	**
Adjusted Moisture Variation %	**	1.5
Hilf Density Ratio (%)	97.0	100.0
Compaction Method	Standard	Standard

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

Material Test Report

Report Number: DL19/307-37
Issue Number: 1
Date Issued: 13/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6780
Date Sampled: 05/02/2020 10:40
Dates Tested: 05/02/2020 - 12/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill Temp Basin
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	D20-6780A	D20-6780B	D20-6780C	D20-6780D
Test Number	163	164	165	166
Date Tested	05/02/2020	05/02/2020	05/02/2020	05/02/2020
Time Tested	10:20	10:25	10:30	10:40
Test Request #/Location	General Fill Temp Basin	General Fill Temp Basin	General Fill Temp Basin	General Fill Temp Basin
Easting	477632	477636	477634	477630
Northing	6939239	6939244	6939247	6939231
Elevation (m)	56.9	57.2	57.3	58.4
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.14	2.05	2.11	2.14
Field Moisture Content %	9.0	10.2	21.7	9.3
Field Dry Density (FDD) t/m ³	1.96	1.86	1.73	1.96
Peak Converted Wet Density t/m ³	2.10	2.16	2.11	2.10
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	3.0	1.5	2.5	1.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	102.0	95.0	100.0	102.0
Compaction Method	Standard	Standard	Standard	Standard

Moisture Variation Note:

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

Material Test Report

Report Number: DL19/307-37
Issue Number: 1
Date Issued: 13/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6780
Date Sampled: 05/02/2020 10:40
Dates Tested: 05/02/2020 - 12/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill Temp Basin
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	D20-6780E	D20-6780F	D20-6780G	D20-6780H
Test Number	167	168	169	170
Date Tested	05/02/2020	05/02/2020	05/02/2020	05/02/2020
Time Tested	10:45	10:55	11:00	11:15
Test Request #/Location	General Fill Temp Basin	General Fill Temp Basin	General Fill Temp Basin	General Fill Temp Basin
Easting	477632	477637	477631	477637
Northing	6939242	6939249	6939221	6939225
Elevation (m)	57.8	57.9	57.4	57.6
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.07	2.08	2.11	2.12
Field Moisture Content %	9.8	9.2	9.8	8.2
Field Dry Density (FDD) t/m ³	1.88	1.90	1.92	1.96
Peak Converted Wet Density t/m ³	2.06	2.12	2.12	2.11
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	1.5	2.5	2.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	100.0	98.0	100.0	100.5
Compaction Method	Standard	Standard	Standard	Standard

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: DL19/307-34
Issue Number: 1
Date Issued: 10/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6671
Date Sampled: 28/01/2020 14:30
Dates Tested: 28/01/2020 - 29/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-6671A	D20-6671B	D20-6671C
Test Number	153	154	155
Date Tested	28/01/2020	28/01/2020	28/01/2020
Time Tested	14:10	14:20	14:30
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area
Easting	477642	477653	477646
Northing	6939221	6939232	6939220
Elevation (m)	55.97	55.91	55.89
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.07	2.18	2.14
Field Moisture Content %	8.8	7.9	10.7
Field Dry Density (FDD) t/m ³	1.90	2.02	1.93
Peak Converted Wet Density t/m ³	2.09	2.07	2.12
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	3.0	3.5	1.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.0	105.5	101.0
Compaction Method	Standard	Standard	Standard

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: greg@mgeo.com.au

Report Number: DL19/307-36
Issue Number: 1
Date Issued: 11/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6735
Date Sampled: 03/02/2020 09:30
Dates Tested: 03/02/2020 - 04/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill Temp Basin
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Greg Gibson
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-6735A	D20-6735B	D20-6735C
Test Number	160	161	162
Date Tested	03/02/2020	03/02/2020	03/02/2020
Time Tested	10:15	10:20	10:25
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area
Easting	477654	477652	477650
Northing	6939232	6939225	6939217
Elevation (m)	RL: 56.2	RL: 55.9	RL: 55.8
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.17	2.15	2.18
Field Moisture Content %	15.1	12.0	13.2
Field Dry Density (FDD) t/m ³	1.89	1.92	1.93
Peak Converted Wet Density t/m ³	2.13	2.18	2.16
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	-1.0	0.0	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	102.0	98.5	101.0
Compaction Method	Standard	Standard	Standard

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: jwieland@mgeo.com.au

Report Number: DL19/307-40
Issue Number: 1
Date Issued: 24/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6856
Date Sampled: 20/02/2020 10:00
Dates Tested: 20/02/2020 - 24/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-6856A	D20-6856B	D20-6856C
Test Number	176	177	178
Date Tested	20/02/2020	20/02/2020	20/02/2020
Time Tested	10:00	10:10	10:20
Test Request #/Location	General Fill Basin	General Fill Basin	General Fill Basin
Easting	477651	477648	477645
Northing	6939235	6939218	6939214
Elevation (m)	57.3	57.4	57.2
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	2.1
Field Wet Density (FWD) t/m ³	2.07	2.07	2.06
Field Moisture Content %	10.0	7.2	8.0
Field Dry Density (FDD) t/m ³	1.88	1.93	1.91
Peak Converted Wet Density t/m ³	2.10	2.03	**
Adjusted Peak Converted Wet Density t/m ³	**	**	2.03
Moisture Variation (Wv) %	2.5	3.0	**
Adjusted Moisture Variation %	**	**	3.0
Hilf Density Ratio (%)	98.5	102.0	101.5
Compaction Method	Standard	Standard	Standard

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

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Report Number: DL19/307-41
Issue Number: 1
Date Issued: 27/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6895
Date Sampled: 21/02/2020 13:30
Dates Tested: 21/02/2020 - 25/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	D20-6895A	D20-6895B	D20-6895C	D20-6895D	D20-6895E
Test Number	179	180	181	182	183
Date Tested	21/02/2020	21/02/2020	21/02/2020	21/02/2020	21/02/2020
Time Tested	13:00	13:10	13:15	13:20	13:30
Test Request #/Location	General Fill Basin	General Fill Basin	General Fill Basin	General Fill Basin	General Fill Basin
Easting	477705	477701	477696	477686	477689
Northing	6939222	6939216	6939205	6939209	6939220
Elevation (m)	57.5	57.6	57.4	57.6	57.5
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.19	2.13	2.14	2.14	2.16
Field Moisture Content %	11.6	9.9	9.7	10.0	9.9
Field Dry Density (FDD) t/m ³	1.96	1.94	1.95	1.94	1.97
Peak Converted Wet Density t/m ³	2.13	2.13	2.10	2.13	2.14
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	1.5	2.0	3.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	103.0	100.0	101.5	100.5	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-44
Issue Number: 1
Date Issued: 28/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6943
Date Sampled: 26/02/2020 07:30
Dates Tested: 26/02/2020 - 27/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D20-6943A	D20-6943B	D20-6943C	D20-6943D
Test Number	190	191	192	193
Date Tested	26/02/2020	26/02/2020	26/02/2020	26/02/2020
Time Tested	07:30	07:35	10:34	10:41
Test Request #/Location	General Fill	General Fill	General Fill	General Fill
Easting	477669	477660	477665	477672
Northing	6939241	6939240	6939243	6939242
Elevation (m)	59.6	59.4	59.7	59.8
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.19	2.24	2.04	2.08
Field Moisture Content %	9.1	10.3	9.1	9.0
Field Dry Density (FDD) t/m ³	2.01	2.03	1.87	1.91
Peak Converted Wet Density t/m ³	2.13	2.16	2.09	2.13
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	1.5	1.5	2.5	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	103.0	103.5	98.0	97.5
Compaction Method	Standard	Standard	Standard	Standard

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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Email: jwieland@mgeo.com.au

Report Number: DL19/307-42
Issue Number: 1
Date Issued: 27/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Contact: -
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6916
Date Sampled: 24/02/2020 14:00
Dates Tested: 24/02/2020 - 25/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-6916A	D20-6916B	
Test Number	184	185	
Date Tested	24/02/2020	24/02/2020	
Time Tested	14:00	14:20	
Test Request #/Location	General Fill	General Fill	
Easting	477647	477652	
Northing	6939228	6939227	
Elevation (m)	57.8	57.6	
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0.0	0.0	
Field Wet Density (FWD) t/m ³	2.09	2.14	
Field Moisture Content %	11.7	11.9	
Field Dry Density (FDD) t/m ³	1.87	1.91	
Peak Converted Wet Density t/m ³	2.13	2.12	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	1.0	1.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	98.5	101.0	
Compaction Method	Standard	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-43
Issue Number: 1
Date Issued: 27/02/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Contact: -
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 6928
Date Sampled: 25/02/2020 11:00
Dates Tested: 25/02/2020 - 26/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D20-6928A	D20-6928B	D20-6928C	D20-6928D
Test Number	186	187	188	189
Date Tested	25/02/2020	25/02/2020	25/02/2020	25/02/2020
Time Tested	10:00	10:20	14:30	14:40
Test Request #/Location	General Fill Area	General Fill Area	General Fill Area	General Fill Area
Easting	477694	477687	477583	477703
Northing	6939232	6939235	6939229	6939227
Elevation (m)	58.6	58.4	58.3	58.4
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.05	2.08	2.06	2.06
Field Moisture Content %	12.7	9.2	13.0	12.8
Field Dry Density (FDD) t/m ³	1.82	1.90	1.82	1.82
Peak Converted Wet Density t/m ³	2.12	2.10	2.14	2.11
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	0.5	1.0	-0.5	0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	96.5	99.0	96.0	97.5
Compaction Method	Standard	Standard	Standard	Standard

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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Email: nathaniel@mgeo.com.au

Report Number: DL19/307-49
Issue Number: 1
Date Issued: 17/04/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 7658
Date Sampled: 07/04/2020 11:00
Dates Tested: 07/04/2020 - 17/04/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D20-7658A	D20-7658B	D20-7658C
Test Number	218	219	220
Date Tested	07/04/2020	07/04/2020	07/04/2020
Time Tested	11:10	11:20	11:30
Test Request #/Location	Bio Basin	Bio Basin	Bio Basin
Easting	477621	477632	477658
Northing	6939152	6939150	6939142
Elevation (m)	53.62	52.85	52.12
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.10	2.10	2.10
Field Moisture Content %	10.7	11.8	11.3
Field Dry Density (FDD) t/m ³	1.89	1.88	1.89
Peak Converted Wet Density t/m ³	2.14	2.15	2.16
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	0.5	0.0	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	98.0	98.0	97.5
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-45
Issue Number: 1
Date Issued: 09/03/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 7055
Date Sampled: 03/03/2020
Dates Tested: 03/03/2020 - 06/03/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D20-7055A	D20-7055B	D20-7055C	D20-7055D	D20-7055E	D20-7055F
Test Number	194	195	196	197	198	199
Date Tested	03/03/2020	03/03/2020	03/03/2020	03/03/2020	03/03/2020	03/03/2020
Time Tested	13:00	13:10	13:20	13:30	13:40	13:50
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477644	477642	477691	477788	477724	477715
Northing	6939418	6939398	6939424	6939406	6939408	6939956
Layer / Reduced Level	F/L	F/L	F/L	F/L	F/L	F/L
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.07	2.09	2.07	2.07	2.09	2.07
Field Moisture Content %	9.4	8.2	9.1	8.0	11.0	8.7
Field Dry Density (FDD) t/m ³	1.89	1.93	1.90	1.92	1.88	1.90
Peak Converted Wet Density t/m ³	2.06	2.07	2.08	2.08	2.06	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	2.5	2.0	2.5	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	100.0	101.0	99.5	99.5	101.0	100.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

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

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Brisbane Laboratory

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Report Number: DL19/307-46
Issue Number: 1
Date Issued: 17/03/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 7150
Date Sampled: 11/03/2020
Dates Tested: 11/03/2020 - 12/03/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Greg Gibson
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-7150A	D20-7150B	
Test Number	200	201	
Date Tested	11/03/2020	11/03/2020	
Time Tested	13:30	13:39	
Test Request #/Location	General Fill	General Fill	
Easting	477652	477656	
Northing	6939248	6939241	
Elevation (m)	60.8	60.9	
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0.0	0.0	
Field Wet Density (FWD) t/m ³	2.20	2.20	
Field Moisture Content %	10.7	10.9	
Field Dry Density (FDD) t/m ³	1.99	1.99	
Peak Converted Wet Density t/m ³	2.16	2.15	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	0.5	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	102.0	102.5	
Compaction Method	Standard	Standard	

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: DL19/307-47
Issue Number: 1
Date Issued: 25/03/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 7245
Date Sampled: 17/03/2020 13:00
Dates Tested: 17/03/2020 - 25/03/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D20-7245A	D20-7245B	D20-7245C	D20-7245D	D20-7245E	D20-7245F
Test Number	202	203	204	205	206	207
Date Tested	17/03/2020	17/03/2020	17/03/2020	17/03/2020	17/03/2020	17/03/2020
Time Tested	12:10	12:15	12:20	12:30	12:40	12:45
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477707	477704	477713	477720	477727	477736
Northing	6939343	6939333	6939328	6939343	6939323	6939335
Layer / Reduced Level	FL	FL	FL	FL	FL	FL
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. 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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.08	2.06	2.10	2.11	2.06	2.08
Field Moisture Content %	12.3	12.9	12.5	12.6	11.7	14.5
Field Dry Density (FDD) t/m ³	1.86	1.83	1.87	1.88	1.85	1.82
Peak Converted Wet Density t/m ³	2.18	2.13	2.14	2.11	2.17	2.14
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	-1.0	-0.5	0.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	97.0	98.5	100.0	95.0	97.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: DL19/307-48
Issue Number: 1
Date Issued: 06/04/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 7473
Date Sampled: 30/03/2020 07:30
Dates Tested: 30/03/2020 - 03/04/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D20-7473A	D20-7473B	D20-7473C	D20-7473D	D20-7473E
Test Number	208	209	210	211	212
Date Tested	30/03/2020	30/03/2020	30/03/2020	30/03/2020	30/03/2020
Time Tested	07:30	07:40	07:50	08:00	08:10
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477698	477683	477696	477654	477634
Northing	6939238	6939238	6939241	6939244	6939246
Layer / Reduced Level	Finish Level	**	Finish Level	Finish Level	Finish Level
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.08	2.17	2.14	2.11	2.08
Field Moisture Content %	10.7	8.8	7.6	8.2	7.2
Field Dry Density (FDD) t/m ³	1.87	1.99	1.99	1.95	1.94
Peak Converted Wet Density t/m ³	1.97	2.13	2.08	2.02	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	3.5	2.5	2.5	3.0	3.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	105.5	102.0	102.5	104.0	101.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

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: DL19/307-48
Issue Number: 1
Date Issued: 06/04/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL19/307
Project Name: EARTHWORKS SUPERVISION
Project Location: 145 BINNIES ROAD, RIPLEY
Work Request: 7473
Date Sampled: 30/03/2020 07:30
Dates Tested: 30/03/2020 - 03/04/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD, -4% to +2% from OMC
Site Selection: Selected by GTA
Material: General 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	D20-7473F	D20-7473G	D20-7473H	D20-7473I	D20-7473J
Test Number	213	214	215	216	217
Date Tested	30/03/2020	30/03/2020	30/03/2020	30/03/2020	30/03/2020
Time Tested	08:20	08:30	08:40	08:50	09:00
Test Request #/Location	General Fill	General Fill	General Fill	General Fill	General Fill
Easting	477767	477770	477767	477765	477763
Northing	6939256	6939234	6939219	6939206	6939194
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown	Clayey Sand. Brown
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.06	2.26	2.15	2.12	2.12
Field Moisture Content %	7.4	7.5	8.3	7.8	8.6
Field Dry Density (FDD) t/m ³	1.92	2.10	1.98	1.96	1.95
Peak Converted Wet Density t/m ³	2.03	2.05	2.08	2.04	2.05
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	4.0	4.0	2.5	3.0	3.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	101.5	110.0	103.5	103.5	103.0
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC