

Level One Compliance Report

Bulk Earthworks Filling Operations

Woodlinks Village – Stage 9 & Partial Stages 10 & 11

Collingwood Park

SEPTEMBER 22, 2020

Prepared By

MORRISON GEOTECHNIC PTY LTD

Prepared for:

Shadforths Civil

Document Reference: 16868



MORRISON
GEOTECHNIC

Brisbane Office
Job No: DL20/311
Ref No: 16868
Author: R. Mitchell

22nd September 2020

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

ATTENTION: MS ADELEINE LOVELL
Email: Adeleine.Lovell@shadcivil.com.au

Dear Sir,

**RE: LEVEL ONE COMPLIANCE REPORT FOR
BULK EARTHWORKS FILLING OPERATIONS
WOODLINKS VILLAGE – STAGE 9 and
PARTIAL STAGES 10 AND 11
COLLINGWOOD PARK**

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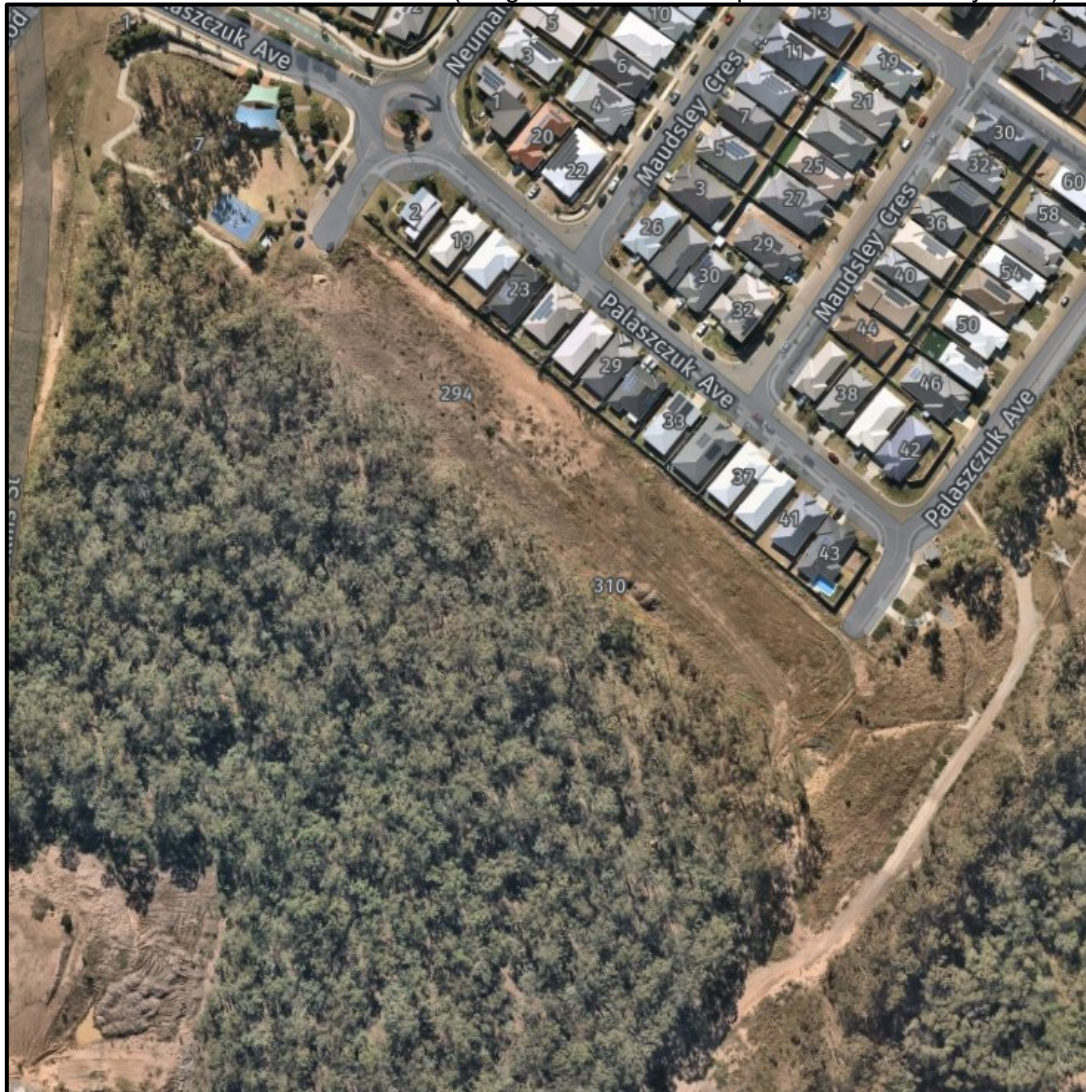
1.0 INTRODUCTION

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 Woodlinks Village Stage 9 and Partial Stages 10 and 11 Development (The Site).

The work was commissioned by Ms. A. Lovell representing Shadforths Civil Ltd Pty (The Client), using Purchase Order 2082-917002. Earthworks were carried out by The Client. Earthworks filling operations were carried out intermittently between August 2020 and September 2020.

Picture 1: Aerial View of the Site (Image Source: Nearmap.com- dated 5th July 2020)



1.2 Previous Earthworks

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

Stockpiled materials were present and were used for filling operations or removed from 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.

Peak Urban Pty Ltd Bulk Earthworks Layout Plan, Project Number 18-0175, Drawing Number 102 and 103, indicates the extents and thickness of fill to be constructed at The Site. The extent of fill covered by this report is contained in Appendix A as a marked-up site plan.

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 West, South, East and existing developments to the North.

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 Peak Urban Earthworks Drawings.

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

3.0 METHODOLOGY

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

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

3.1 Stripped Surface Assessment

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

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

- Silty Clay (CI - CH) – at least stiff, medium to high plasticity, dark brown and moist.
- Clayey Sand (SC) – at least dense, fine to coarse grained sands, low plasticity fines, orange brown and moist.

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

- Walk over assessments confirming that the competent ground was exposed.

- Proof roll testing using large sized and loaded truck. Areas that moved during proof roll testing were removed as required to depths exposing suitable fill foundation.

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

Picture 2: View of Stripping Operations



3.2 Filling Operations

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

Fill materials can be broadly summarised as:

- Sandy Clay (CI) – medium plasticity, fine to coarse grained sand and traces of fine to coarse gravels, brown, grey brown and moist.
- Silty Clay (CI – CH) – medium to high plasticity, dark brown and moist.

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

- 815 and 825 Compactors
- Water Truck
- Dozers
- Excavators
- Grader
- Scrapers
- Articulated Dump Trucks
- Padfoot Roller

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 field density tests in accordance with the required standards (AS 3798 and AS 1289) and specifications.

It is confirmed that Level 1 Inspection has been carried out on the bulk earthworks fill used to form the residential lots and embankments below subgrade for this project. Based on observations made by our Geotechnicians and the results of the field and laboratory tests, the placed and compacted fill at the

project has, as far as we have been able to assess, has been constructed in general accordance with the intent of AS3798 and the specifications.

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

5.0 EXCLUSIONS

This statement does not include any topsoil, which may be placed for use as dressing or any other subsequent earthworks after September 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 Woodlinks Stage 9 and Partial Stage 10 & 11 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

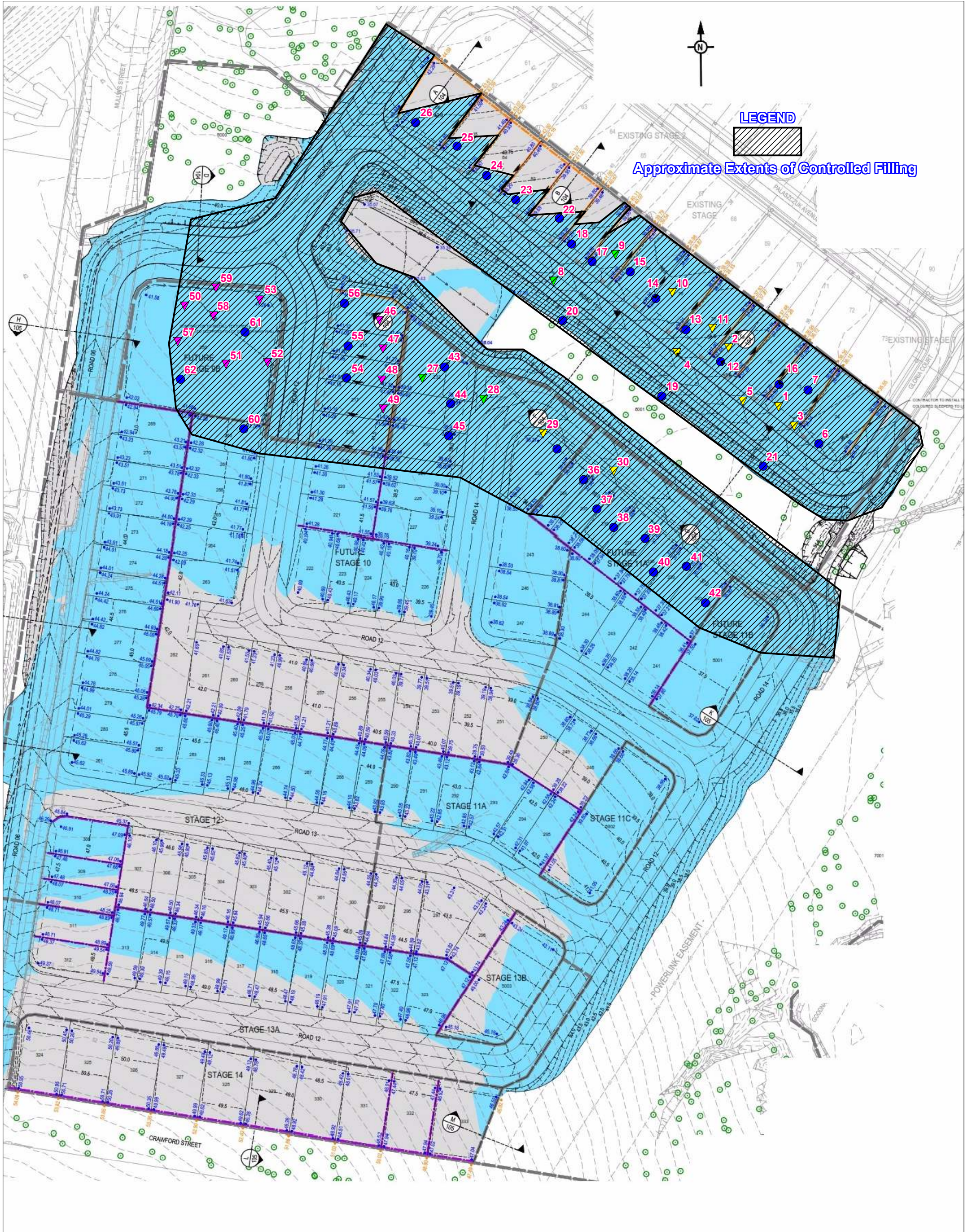
Appendix B – Laboratory Test Results Reports

Appendix A

Site Plan & Test Locations



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MORRISON GEOTECHNIC PTY LTD

ABN: 51 009 878 899

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

Ph: 3279 0900

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

Map Description:	EARTHWORKS FIELD DENSITY TESTING - Level 1 Inspection		
Client:	SHADFORTHS CIVIL PTY LTD		
Project:	WOODLINKS - STAGE 9		
LEGEND:	▼ R.L 32.0 - 34.99	▼ R.L 40.0 - 41.99	
	▼ R.L 35.0 - 37.99	▼ R.L 42.0 - 43.99	
	▼ R.L 38.0 - 39.99	● Final Level	
Project No:	DL20/311	Drawing No:	DL20/311 - 01
Scale:	Not to Scale		

Appendix B

Laboratory Test Reports



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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: DL20/311-1
Issue Number: 1
Date Issued: 27/08/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9667
Date Sampled: 21/08/2020
Dates Tested: 21/08/2020 - 25/08/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-9667A	D20-9667B	
Test Number	1	2	
Date Tested	21/08/2020	21/08/2020	
Time Tested	02:10	02:15	
Test Request #/Location	STG 9 Allotment Fill	STG 9 Allotment Fill	
Easting	6056.84	6028.07	
Northing	3487.21	3506.94	
Elevation (m)	35.44	35.92	
Soil Description	silty Clay,	silty Clay,	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	0.0	
Field Wet Density (FWD) t/m ³	1.97	1.90	
Field Moisture Content %	18.7	13.9	
Field Dry Density (FDD) t/m ³	1.66	1.66	
Peak Converted Wet Density t/m ³	2.02	1.95	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	-0.5	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	97.5	97.0	
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

Phone: (07) 3279 0900

Email: darralab@morrisongeo.com.au

Report Number: DL20/311-2
Issue Number: 1
Date Issued: 28/08/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9704
Date Sampled: 24/08/2020
Dates Tested: 24/08/2020 - 27/08/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Rhys Mitchell
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-9704A	D20-9704B	D20-9704C
Test Number	3	4	5
Date Tested	24/08/2020	24/08/2020	24/08/2020
Time Tested	10:38	10:43	10:48
Test Request #/Location	STG 9 Allotment Fill	STG 9 Allotment Fill	STG 9 Allotment Fill
Easting	6052.11	6018.11	6033.75
Northing	3473.99	3496.93	3482.66
Elevation (m)	35.75	36.38	35.96
Soil Description	silty sandy Clay	silty sandy Clay	silty sandy Clay
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.06	2.02	2.01
Field Moisture Content %	14.4	15.6	7.7
Field Dry Density (FDD) t/m ³	1.80	1.75	1.87
Peak Converted Wet Density t/m ³	2.00	1.97	1.95
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.0	0.5	4.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	103.0	102.5	103.5
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

Email: darralab@morrisongeo.com.au

Report Number: DL20/311-3
Issue Number: 1
Date Issued: 28/08/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9740
Date Sampled: 25/08/2020
Dates Tested: 25/08/2020 - 27/08/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Stock piled fill



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	D20-9740A	D20-9740B	D20-9740C	D20-9740D	D20-9740E	D20-9740F
Test Number	6	7	8	9	10	11
Date Tested	25/08/2020	25/08/2020	25/08/2020	25/08/2020	25/08/2020	25/08/2020
Time Tested	10:03	10:07	10:14	10:19	10:23	10:27
Test Request #/Location	Stage 9 Allotment Fill Lot 74	Stage 9 Allotment Fill Lot 75	Stage 9 Allotment Fill	Stage 9 Allotment Fill	Stage 9 Allotment Fill	Stage 9 Allotment Fill
Easting	6052.08	6056.37	5970.24	5995.82	6019.16	6023.21
Northing	3470.81	3485.18	3529.10	3539.64	3521.84	3502.69
Elevation (m)	**	**	38.40	38.13	37.34	37.16
Layer / Reduced Level	Finish Level	Finish Level	**	**	**	**
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	2.08	2.08	2.08	2.03	2.03	2.04
Field Moisture Content %	16.3	17.9	18.0	19.4	12.6	19.7
Field Dry Density (FDD) t/m ³	1.78	1.77	1.76	1.70	1.80	1.70
Peak Converted Wet Density t/m ³	2.14	2.16	2.15	2.10	2.08	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	1.5	0.0	0.0	-2.0	-2.0	-2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	97.0	96.5	97.0	96.5	97.5	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



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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: darralab@morrisongeo.com.au

Report Number: DL20/311-4
Issue Number: 1
Date Issued: 04/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9774
Date Sampled: 27/08/2020
Dates Tested: 27/08/2020 - 03/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: On site Cut & Stockpiled



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	D20-9774A	D20-9774B	D20-9774C	D20-9774D
Test Number	12	13	14	15
Date Tested	27/08/2020	27/08/2020	27/08/2020	27/08/2020
Time Tested	07:52	07:58	08:10	08:22
Test Request #/Location	STG 9 Allotment Fill Lot 77	STG 9 Allotment Fill Lot 78	STG 9 Allotment Fill Lot 79	STG 9 Allotment Fill Lot 80
Easting	6029.92	6018.85	6005.32	5992.92
Northing	3505.85	3515.58	3525.24	3533.97
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	sandy Clay Brown	sandy Clay Brown	sandy Clay Brown	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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.03	2.07	2.05	2.03
Field Moisture Content %	9.9	11.6	10.5	12.7
Field Dry Density (FDD) t/m ³	1.84	1.86	1.85	1.80
Peak Converted Wet Density t/m ³	2.11	2.09	2.12	2.11
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	1.0	2.5	0.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	96.0	99.0	96.5	96.0
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: darralab@morrisongeo.com.au

Report Number: DL20/311-4
Issue Number: 1
Date Issued: 04/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9774
Date Sampled: 27/08/2020
Dates Tested: 27/08/2020 - 03/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: On site Cut & Stockpiled



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	D20-9774E	D20-9774F	D20-9774G	
Test Number	16	17	18	
Date Tested	27/08/2020	27/08/2020	27/08/2020	
Time Tested	08:46	11:17	11:28	
Test Request #/Location	STG 9 Allotment Fill Lot 75	STG 9 Allotment Fill Lot 81	STG 9 Allotment Fill Lot 82	
Easting	6051.45	5981.60	5967.27	
Northing	3489.34	3543.46	3542.45	
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	
Soil Description	sandy Clay Brown	sandy Clay Brown	sandy Clay 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	2.02	2.06	2.07	
Field Moisture Content %	9.8	13.3	15.2	
Field Dry Density (FDD) t/m ³	1.84	1.82	1.80	
Peak Converted Wet Density t/m ³	2.10	2.11	2.16	
Adjusted Peak Converted Wet Density t/m ³	**	**	**	
Moisture Variation (Wv) %	2.5	-0.5	-2.5	
Adjusted Moisture Variation %	**	**	**	
Hilf Density Ratio (%)	96.5	97.5	96.0	
Compaction Method	Standard	Standard	Standard	

Moisture Variation Note:

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Negative values = test is wet of OMC

Material Test Report



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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: DL20/311-5
Issue Number: 1
Date Issued: 04/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9789
Date Sampled: 28/08/2020
Dates Tested: 28/08/2020 - 03/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite cut and stockpiled fill



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	D20-9789A	D20-9789B	D20-9789C
Test Number	19	20	21
Date Tested	28/08/2020	28/08/2020	28/08/2020
Time Tested	06:59	07:25	07:29
Test Request #/Location	STG 9 Batter Fill	STG 9 Batter Fill	STG 9 Batter Fill
Easting	5908.22	5968.69	6032.23
Northing	3369.66	3513.71	3465.05
Layer / Reduced Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy Clay brown	Sandy Clay brown	Sandy Clay 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	2.12	2.03	2.09
Field Moisture Content %	12.6	15.8	11.7
Field Dry Density (FDD) t/m ³	1.88	1.75	1.87
Peak Converted Wet Density t/m ³	2.10	2.06	2.11
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	4.0	1.0	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.0	98.5	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



**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: nathaniel@mgeo.com.au

Report Number: DL20/311-6
Issue Number: 1
Date Issued: 04/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9797
Date Sampled: 28/08/2020
Dates Tested: 28/08/2020 - 04/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite & Cut



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	D20-9797A	D20-9797B	D20-9797C	D20-9797D	D20-9797E
Test Number	22	23	24	25	26
Date Tested	28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Time Tested	08:19	08:24	08:29	08:33	08:40
Test Request #/Location	STG 9 Allotment Fill Lot 805	STG 9 Allotment Fill Lot 83	STG 9 Allotment Fill Lot 84	STG 9 Allotment Fill Lot 85	STG 9 Allotment Fill Lot 86
Easting	5959.00	5945.48	5934.97	5922.95	5910.45
Northing	3555.18	3564.47	3571.99	3580.91	3589.96
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	sandy Clay Brown	sandy Clay Brown	sandy Clay Brown	sandy Clay Brown	sandy Clay 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	**	**	**	**
Field Wet Density (FWD) t/m ³	2.08	2.14	1.97	2.09	2.10
Field Moisture Content %	12.6	13.9	16.9	12.1	18.9
Field Dry Density (FDD) t/m ³	1.84	1.87	1.68	1.87	1.76
Peak Converted Wet Density t/m ³	2.10	2.14	2.03	2.03	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	3.0	-0.5	0.0	2.0	1.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	99.0	99.5	97.5	103.0	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



**MORRISON
GEOTECHNIC**

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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: nathaniel@mgeo.com.au

Report Number: DL20/311-7
Issue Number: 1
Date Issued: 04/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9820
Date Sampled: 31/08/2020
Dates Tested: 31/08/2020 - 04/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite Cut & Stockpiled



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	D20-9820A	D20-9820B	D20-9820C	D20-9820D
Test Number	27	28	29	30
Date Tested	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Time Tested	10:39	10:43	10:47	10:51
Test Request #/Location	STG 9 Allotment Fill	STG 9 Allotment Fill	STG 9 Allotment Fill	STG 9 Allotment Fill
Easting	5905.79	5924.00	5944.54	5969.21
Northing	3493.38	3482.41	3469.24	3454.79
Elevation (m)	38.52	38.37	37.88	37.15
Soil Description	sandy Clay brown	sandy Clay brown	sandy Clay brown	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 (%)	**	**	**	**
Field Wet Density (FWD) t/m ³	1.99	2.03	2.02	2.06
Field Moisture Content %	19.2	21.9	14.6	13.9
Field Dry Density (FDD) t/m ³	1.67	1.67	1.76	1.81
Peak Converted Wet Density t/m ³	1.97	2.01	2.11	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	-0.5	2.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.0	101.5	95.5	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



**MORRISON
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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: DL20/311-7
Issue Number: 1
Date Issued: 04/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9820
Date Sampled: 31/08/2020
Dates Tested: 31/08/2020 - 04/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite Cut & Stockpiled



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	D20-9820E	D20-9820F	D20-9820G	D20-9820H
Test Number	31	32	33	34
Date Tested	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Time Tested	10:55	10:59	11:04	11:10
Test Request #/Location	STG 9 Allotment Fill	STG 9 Allotment Fill	STG 9 Allotment Fill	STG 9 Allotment Fill
Easting	5986.73	5975.57	5943.47	5921.77
Northing	3440.33	3439.55	3460.69	3473.70
Elevation (m)	36.57	36.75	37.73	38.36
Soil Description	sandy Clay brown	sandy Clay brown	sandy Clay brown	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 (%)	**	**	**	**
Field Wet Density (FWD) t/m ³	2.02	2.04	2.04	2.04
Field Moisture Content %	10.8	12.3	13.4	14.4
Field Dry Density (FDD) t/m ³	1.83	1.82	1.80	1.78
Peak Converted Wet Density t/m ³	2.00	2.13	2.10	2.05
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	4.5	0.0	2.0	0.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.5	96.0	97.0	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

Phone: (07) 3279 0900

Email: nathaniel@mgeo.com.au

Report Number: DL20/311-9
Issue Number: 1
Date Issued: 09/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9842
Date Sampled: 01/09/2020
Dates Tested: 01/09/2020 - 07/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill (Lots 233-240)
Material Source: Onsite Cut & Stockpiled fill



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	D20-9842A	D20-9842B	D20-9842C	D20-9842D
Test Number	35	36	37	38
Date Tested	01/09/2020	01/09/2020	01/09/2020	01/09/2020
Time Tested	11:49	11:53	11:57	12:04
Test Request #/Location	STG 9 Allotment Fill Lot 233	STG 9 Allotment Fill Lot 234	STG 9 Allotment Fill Lot 235	STG 9 Allotment Fill Lot 236
Easting	5948.32	5963.76	5973.89	5983.57
Northing	3463.30	3452.06	3444.64	3436.94
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	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	**	0.0	**
Field Wet Density (FWD) t/m ³	2.08	2.12	2.06	2.09
Field Moisture Content %	11.9	12.3	11.3	11.8
Field Dry Density (FDD) t/m ³	1.86	1.88	1.85	1.87
Peak Converted Wet Density t/m ³	2.01	2.01	2.02	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	103.5	105.0	102.0	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

Phone: (07) 3279 0900

Email: nathaniel@mgeo.com.au

Report Number: DL20/311-9
Issue Number: 1
Date Issued: 09/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9842
Date Sampled: 01/09/2020
Dates Tested: 01/09/2020 - 07/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill (Lots 233-240)
Material Source: Onsite Cut & Stockpiled fill



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	D20-9842E	D20-9842F	D20-9842G	D20-9842H
Test Number	39	40	41	42
Date Tested	01/09/2020	01/09/2020	01/09/2020	01/09/2020
Time Tested	12:09	12:14	12:19	12:24
Test Request #/Location	STG 9 Allotment Fill Lot 237	STG 9 Allotment Fill Lot 238	STG 9 Allotment Fill Lot 239	STG 9 Allotment Fill Lot 240
Easting	5998.31	6006.89	6016.16	6023.89
Northing	3425.28	3418.36	3411.08	3404.87
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	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 (%)	**	**	**	**
Field Wet Density (FWD) t/m ³	2.06	2.09	2.04	2.06
Field Moisture Content %	10.1	9.3	11.3	12.1
Field Dry Density (FDD) t/m ³	1.87	1.91	1.84	1.84
Peak Converted Wet Density t/m ³	2.00	2.01	1.97	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	3.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	103.0	104.0	104.0	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



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: DL20/311-10
Issue Number: 1
Date Issued: 09/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9881
Date Sampled: 03/09/2020
Dates Tested: 03/09/2020 - 09/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite Cut



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	D20-9881A	D20-9881B	D20-9881C
Test Number	43	44	45
Date Tested	03/09/2020	03/09/2020	03/09/2020
Time Tested	02:22	02:28	02:34
Test Request #/Location	STG 9 Allotment Fill Lot 232	STG 9 Allotment Fill Lot 231	STG 9 Allotment Fill Lot 230
Easting	5912.09	5909.54	5904.24
Northing	3495.10	3480.72	3468.10
Layer / Reduced Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. 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	1.99	2.07	2.05
Field Moisture Content %	16.4	11.5	11.9
Field Dry Density (FDD) t/m ³	1.71	1.85	1.83
Peak Converted Wet Density t/m ³	1.99	2.02	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	1.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.0	102.5	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



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

Report Number: DL20/311-11
Issue Number: 1
Date Issued: 10/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9905
Date Sampled: 04/09/2020
Dates Tested: 04/09/2020 - 10/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite Cut



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	D20-9905A	D20-9905B	D20-9905C	D20-9905D
Test Number	46	47	48	49
Date Tested	04/09/2020	04/09/2020	04/09/2020	04/09/2020
Time Tested	10:19	10:24	10:28	10:33
Test Request #/Location	Stage 9 Allotment Fill Lot 214	Stage 9 Allotment Fill Lot 215	Stage 9 Allotment Fill Lot 216	Stage 9 Allotment Fill Lot 217
Easting	5890.97	5888.48	5883.62	5880.12
Northing	3513.06	3501.98	3489.75	3478.42
Elevation (m)	40.00	40.19	40.18	40.30
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.07	2.05	2.04	2.10
Field Moisture Content %	10.1	11.9	8.9	9.7
Field Dry Density (FDD) t/m ³	1.88	1.83	1.88	1.91
Peak Converted Wet Density t/m ³	2.03	2.02	2.02	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	3.0	4.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	102.0	101.5	101.5	103.0
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



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: DL20/311-12
Issue Number: 1
Date Issued: 11/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9918
Date Sampled: 05/09/2020
Dates Tested: 05/09/2020 - 10/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

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

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D20-9918A	D20-9918B	D20-9918C	D20-9918D
Test Number	50	51	52	53
Date Tested	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Time Tested	07:23	07:32	07:37	07:42
Test Request #/Location	STG 9 Allotment Fill (Lot 250)	STG 9 Allotment Fill (Lot 250)	STG 9 Allotment Fill (Lot 250)	STG 9 Allotment Fill (Lot 250)
Easting	5836.84	5823.99	5837.61	5843.04
Northing	3533.05	3502.51	3496.20	3520.72
Elevation (m)	40.65	41.08	40.7	40.61
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	2.02	2.06	2.08	2.02
Field Moisture Content %	20.7	19.2	23.2	7.2
Field Dry Density (FDD) t/m ³	1.68	1.73	1.68	1.88
Peak Converted Wet Density t/m ³	2.01	2.03	2.03	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.5	0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.0	102.0	102.5	99.5
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



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

Report Number: DL20/311-12
Issue Number: 1
Date Issued: 11/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9918
Date Sampled: 05/09/2020
Dates Tested: 05/09/2020 - 10/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

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

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-9918E	D20-9918F	D20-9918G
Test Number	54	55	56
Date Tested	05/09/2020	05/09/2020	05/09/2020
Time Tested	08:45	08:51	08:57
Test Request #/Location	STG 9 Allotment Fill (Lot 216)	STG 9 Allotment Fill (Lot 215)	STG 9 Allotment Fill (Lot 214)
Easting	5872.19	5872.19	5874.41
Northing	3483.69	3483.69	3494.91
Layer / Reduced Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. 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	2.08	2.02	2.09
Field Moisture Content %	13.3	15.5	14.9
Field Dry Density (FDD) t/m ³	1.83	1.75	1.82
Peak Converted Wet Density t/m ³	2.00	1.96	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	4.5	5.5	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	104.0	103.0	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: nathaniel@mgeo.com.au

Report Number: DL20/311-13
Issue Number: 1
Date Issued: 11/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9935
Date Sampled: 07/09/2020
Dates Tested: 07/09/2020 - 11/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite Cut



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	D20-9935A	D20-9935B	D20-9935C
Test Number	57	58	59
Date Tested	07/09/2020	07/09/2020	07/09/2020
Time Tested	10:26	10:30	10:34
Test Request #/Location	Stage 9 Allotment Fill (lot 250)	Stage 9 Allotment Fill (lot 250)	Stage 9 Allotment Fill (lot 250)
Easting	5819.26	5821.29	5826.18
Northing	3502.22	3514.40	3525.40
Elevation (m)	41.17	41.13	41.05
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. 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	1.98	2.01	2.04
Field Moisture Content %	20.5	18.9	19.1
Field Dry Density (FDD) t/m ³	1.64	1.69	1.72
Peak Converted Wet Density t/m ³	1.97	1.99	2.00
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.5	101.0	102.0
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: nathaniel@mgeo.com.au

Report Number: DL20/311-14
Issue Number: 1
Date Issued: 14/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/311
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 9
Work Request: 9944
Date Sampled: 08/09/2020
Dates Tested: 08/09/2020 - 14/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 9 Allotment Fill
Material Source: Onsite Cut



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	D20-9944A	D20-9944B	D20-9944C
Test Number	60	61	62
Date Tested	08/09/2020	08/09/2020	08/09/2020
Time Tested	08:00	08:12	08:23
Test Request #/Location	STG 9 Allotment Fill (Lot 268)	STG 9 Allotment Fill (Lot 250)	STG 9 Allotment Fill (Lot 250)
Easting	5832.19	5830.47	57860.18
Northing	3478.07	3512.45	3489.75
Layer / Reduced Level	Finish Level	Finish Level	Finish Level
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. 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	1.94	2.00	1.99
Field Moisture Content %	10.3	11.0	9.5
Field Dry Density (FDD) t/m ³	1.76	1.80	1.82
Peak Converted Wet Density t/m ³	1.95	2.00	1.95
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	4.0	2.0	4.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.5	100.0	102.0
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC