



# LEVEL ONE EARTHWORKS REPORT

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**Proposed Residential  
Development  
Tillerman Stage 2-5 & Future  
Stages  
Park Ridge Rd, Park Ridge**

**OCTOBER 12 2023**

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**Shadforth Civil Pty Ltd  
Authored by: QUALTEST LABORATORY PTY LTD  
REF: 4522**



**Qualtest Laboratory**

Est. 1987

Ref: 4539  
Job: 23-240  
Author: R. Mitchell

12<sup>th</sup> October 2023

Shadforth Civil  
99 Sandalwood Lane  
Forest Glen Qld 4556

**ATTENTION:** **MR ASHLEY GWAMBA**  
Email: [ashley.gwamba@shadcivil.com.au](mailto:ashley.gwamba@shadcivil.com.au)  
Cc: [aden.maythers@shadcivil.com.au](mailto:aden.maythers@shadcivil.com.au)

Dear Sir,

**RE: LEVEL ONE EARTHWORKS REPORT**

**PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT  
TILLERMAN STAGE 2 – 5 AND FUTURE STAGES  
PARK RIDGE ROAD, PARK RIDGE**

**CLIENT: SHADFORTH CIVIL**

**CONSULTANT: PEAKURBAN**

**CONTRACTOR: SHADFORTH CIVIL**

Revision	Date	Author	Reviewer	Description
0	12/10/2023	R. Mitchel	M. Morrison	For Review / Issue to Client

**GEOTECHNICAL AND LABORATORY SERVICES**

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## 1.0 INTRODUCTION

### 1.1 General

This report presents results and documentation for the Level One Inspection and Testing of earthworks filling operations for the Proposed Residential Development, Tillerman Stage 2 – 5 and Future Stages, Park Ridge Road, Park Ridge (The Site).

Qualtest Laboratory Pty Ltd was commissioned by Shadforth Civil (The Client) to provide Level 1 Earthworks Inspection and Testing services as defined in Section 8 of AS3798.

Filling operations covered by this report were constructed between 12<sup>th</sup> June 2023 and 4<sup>th</sup> October 2023.

The purpose of Level 1 commission and this report is to provide an opinion that the earthworks operations carried out by the Client have been carried out in accordance with AS3798, relevant project specifications and Local Authority requirements as appropriate.

This report has been carried out in general accordance with the following: -

- AS3798-2007 - Guidelines on Earthwork for Commercial and Residential Development.
- Peak Urban Engineers Drawings and Notes on Drawings.
- Logan City Council Requirements.

This report does not cover underground services, trench backfill, pavements, retaining walls, filling outside areas shown on Figure 1 or any other works after 4<sup>th</sup> October 2023.

### 1.2 The Development

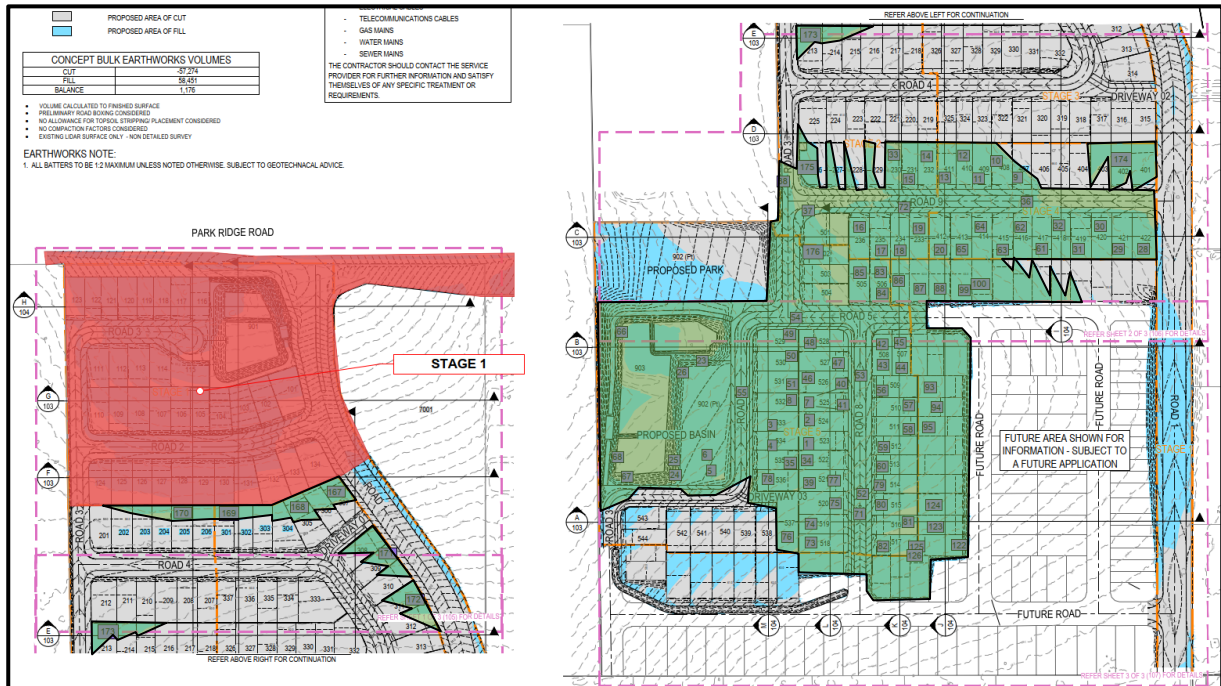
The development comprises of a 174-lot subdivision with associated infrastructure and underground services.

Earthworks to be constructed at the site is presented on Peak Urban drawings, Overall Bulk Earthworks Layout Plan, Project No. 21-0017, Drawing No. 102, Revision 2. These plans are considered to be reasonable indication of the actual fill constructed during our involvement with the following variations: -

- Filling along Road 1 has not been constructed at the time of issuing this report.
- Un-numbered lots at the southern portion of the development.
- No structural fill has been constructed on Lots 538 to 544. Any fill on these lots is limited to topsoil strip only.

The actual extent of filling covered by this report is presented as a marked up earthworks plan below as Figure 1.

**Figure 1: Bulk Earthworks Layout Sheet – Approximate Extents of Controlled Filling – Green Shade**



## 2.0 WORKS AND SPECIFICATIONS

All filling operations at the Site are to be placed and compacted in accordance with the following: -

- AS3798 – Type 1 Earthworks Operations.
- Logan City Council Specifications.
- PeakUrban Consulting Drawings and Notes on Drawings
- Density Ratio – 95% Standard

## 3.0 FILL FOUNDATION

Areas to be filled at the site were observed to be stripped of existing fill, vegetation, grass, redundant services, water affected ground and topsoil to depths exposing competent natural ground.

Compliance of the fill foundation and approval to commence filling was on the basis of: -

- Complete removal of existing fill.
- Adequate removal of topsoil and organics.
- Adequate removal of redundant service trenches.
- Compliant proof roll testing of the stripped surface using onsite heavy earthworks plant.

A picture of the stripped natural surface prior to filling is presented below.

**Picture 1: View of Proof Rolled Strip Natural**



#### **4.0 FILLING OPERATIONS**

Fill at the site was sourced from onsite and included: -

- Onsite Cuts, Trench Spoil and Imported to site from a local source.

Materials used as fill can be broadly summarised as: -

- Onsite – Gravelly Sandy Clay (CL - CI), low to medium plasticity fines, fine to medium sand and gravels, orange brown, red brown and moist.
- Onsite – Silty Clayey Sand (SM - SC) fine to medium sand, low plasticity fines, grey brown and moist.
- Import – Sandy Clay (CI) medium plasticity fines, fine to medium sands, red brown.

Fill was constructed using the following plant: -

- |                           |                   |
|---------------------------|-------------------|
| • Articulated Dump Trucks | • Pad Foot Roller |
| • Excavators              | • Dozer           |
| • Water Truck             | • Grader          |

Fill was observed to be placed in layers within the capacity of the above plant, appropriately moisture conditioned and compacted using several passes.

To the extent that was reasonably practicable, fill materials visibly containing excessive amounts of silts or deleterious materials such as sticks, oversize particles were sorted to remove the contaminants prior to placement, or rejected for use. Some cobble sized particles may remain in the body of the fill, however, are unlikely to be in sufficient quantities to adversely affect the performance of the new fill. Sloping areas requiring filling were benched and continually keyed into the slope prior to and during fill placement.

A Picture of the filling operations is presented below.

**Picture 2: View of Filling Operations**



## **5.0 COMPACTION TESTING**

Compaction testing was carried out on the compacted fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 and tested to AS1289 test methods. All test locations were selected by Qualtest at random and staggered over the fill area and depth. Test locations were not obtained by survey and on this basis, the locations should be considered as approximate only.

Compaction testing achieved the minimum required compaction specification of 95% Standard at the test locations. Areas where the compaction specification was not achieved were reworked and re-tested using random stratified location processes.

The location of the compaction tests and area of fill covered under this report are shown on the Site Plan contained in Appendix A. Compaction test reports are contained in Appendix B.

## **6.0 STATEMENT OF COMPLIANCE**

Our representatives observed the relevant earthworks operations during our engagement including the stripped surface, new fill placement and compaction operations, and compaction testing.

As far as Qualtest could assess, the fill at The Site has been observed to be placed and compacted in accordance with the requirements outlined in Section 2.0.

The fill at The Site can be considered to be “Controlled” as defined in AS2870.

## **7.0 EXCLUSIONS**

The compliance statement specifically excludes any topsoil, which may be placed for use as Lot dressing or any other subsequent earthworks after 4<sup>th</sup> October 2023. All trench backfill, landscaping fill, fill outside the area shown as Figure 1 and other fill placed without our knowledge is also excluded.

Assessments of batter stability, global stability, and material quality such as soaked CBR and site classifications are excluded from this commission. The stability of any fill batters in the long term must take account of the variable materials used for the construction of the fill platforms and all surface loads including traffic loads near the crest of all batters.

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 comprise clay soils, which may result in unfavourable site classifications for individual lots and low subgrade design strengths for pavements.

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.

Controlled fill (Level 1 Fill) provides an overview that the Earthwork Specification has been met. There are instances where significant long-term settlements of controlled fill can occur. Large total and differential settlements can be expected where fill has been placed over soft and compressible soils and where the thickness of controlled fill varies significantly across a lot.

Should you require further information regarding the above please do not hesitate to contact this office.

Yours faithfully,



**MICHAEL MORRISON**

For and on behalf of

**QUALTEST LABORATORY PTY LTD.**

***Appendix A – Site Plan and Compaction Test Locations***

***Appendix B – Compaction Test Reports***



# APPENDIX A

## Site Plan and Compaction Test Locations





**Qualtest Laboratory**

Est. 1987

- - - - - PROPOSED EARTHWORKS PAD SETBACK LINE
- ▭ PROPOSED AREA OF CUT
- ▭ PROPOSED AREA OF FILL

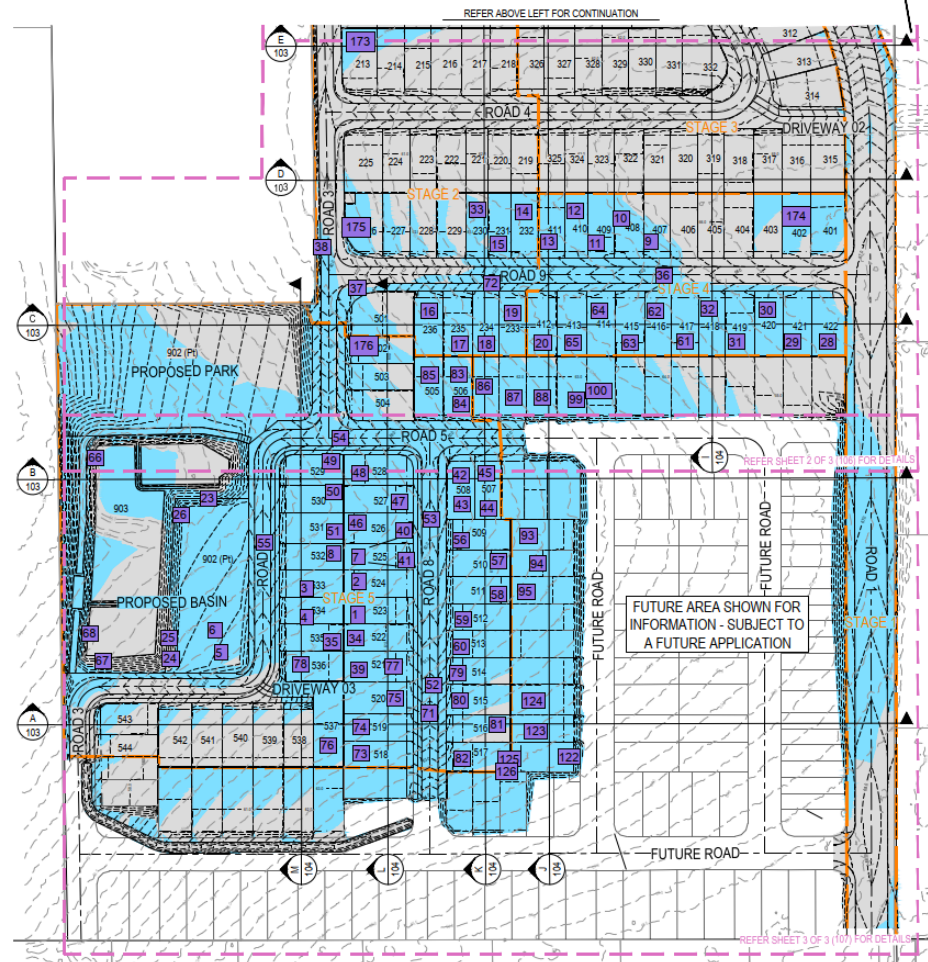
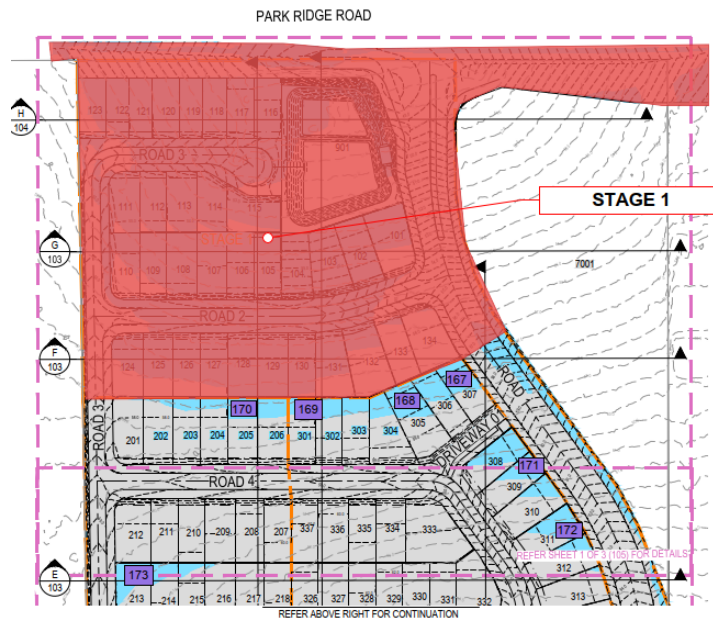
CONCEPT BULK EARTHWORKS VOLUMES	
CUT	-57,274
FILL	58,451
BALANCE	1,176

- ELECTRICAL CABLES
  - TELECOMMUNICATIONS CABLES
  - GAS MAINS
  - WATER MAINS
  - SEWER MAINS
- THE CONTRACTOR SHOULD CONTACT THE SERVICE PROVIDER FOR FURTHER INFORMATION AND SATISFY THEMSELVES OF ANY SPECIFIC TREATMENT OR REQUIREMENTS.

- VOLUME CALCULATED TO FINISHED SURFACE
- PRELIMINARY ROAD BOXING CONSIDERED
- NO ALLOWANCE FOR TOPSOIL STRIPPING/ PLACEMENT CONSIDERED
- NO COMPACTION FACTORS CONSIDERED
- EXISTING LIDAR SURFACE ONLY - NON DETAILED SURVEY

**EARTHWORKS NOTE:**

1. ALL BATTERS TO BE 1:2 MAXIMUM UNLESS NOTED OTHERWISE. SUBJECT TO GEOTECHNICAL ADVICE.



**LEGEND:**

Test Locations



**CLIENT: Shadforth Civil**

**TITLE: Approximate Field Density Test Locations**

**DRAWING NO: 23-240-01**

**DATE: 12<sup>th</sup> October 2023**

**LOCATION: Tillerman Stage 2 – 5, Park Ridge**

**PROJECT NO: 23-240**

**CHECKED BY: GG**



# APPENDIX B

## COMPACTION TEST REPORTS

# Material Test Report

**Report Number:** 23-240-1  
**Issue Number:** 1  
**Date Issued:** 03/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Work Request:** 6375  
**Date Sampled:** 23/06/2023  
**Dates Tested:** 23/06/2023 - 28/06/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman Stage 2, 3, 4 & 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Omsite/Import



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 Phone: 0417 011 515  
 Email: rhys@qualtestgeo.com

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	S6375A	S6375B	S6375C	S6375D	S6375E	S6375H
Test Number	16	17	18	19	20	23
Date Tested	23/06/2023	23/06/2023	23/06/2023	23/06/2023	23/06/2023	23/06/2023
Time Tested	08:00	08:10	08:20	08:30	08:40	15:00
Test Request #/Location	Lot 236	Lot 235	Lot 234	Lot 233	Lot 412	Basin Wall 3m Clay Cap
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR	Northern Wall, O/S NW CNR
Offset	9m South, 4m East	10m South, 3m East	7m South, 5m East	8m South, 5m East	10m South, 4m East	15m East, 0.5m South
Layer / Reduced Level	0.6m Below FSL	0.6m Below FSL	0.4m Below FSL	0.4m Below FSL	0.4m Below FSL	1.6m Below FSL
Soil Description	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	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
Field Wet Density (FWD) t/m <sup>3</sup>	1.90	1.89	2.26	2.26	2.24	1.90
Field Moisture Content %	19.3	17.8	10.4	10.3	10.4	24.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.59	1.61	2.04	2.05	2.03	1.53
Peak Converted Wet Density t/m <sup>3</sup>	1.94	1.93	2.28	2.29	2.29	1.97
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	1.5	2.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>98.0</b>	<b>99.0</b>	<b>98.5</b>	<b>97.5</b>	<b>96.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-2  
**Issue Number:** 1  
**Date Issued:** 10/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6357  
**Date Sampled:** 22/06/2023 8:00  
**Dates Tested:** 22/06/2023 - 04/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman Stage 2, 3, 4 & 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6357A	S6357B	S6357C	S6357D	S6357E
Test Number	7	8	9	10	11
Date Tested	22/06/2023	22/06/2023	22/06/2023	22/06/2023	22/06/2023
Time Tested	08:00	08:10	08:20	08:30	10:30
Test Request #/Location	Lot 525	Lot 532	Lot 407	Lot 408	Lot 409
Line / Offset	O/S SE CNR	O/S SE CNR	O/S SW CNR	O/S SW CNR	O/S SW CNR
Offset	5m North, 7m West	5m North, 8m West	5m North, 3m East	7m North, 3m East	10m North, 4m East
Layer / Reduced Level	0.5m Below FSL	0.5m Below FSL	0.3m Below FSL	0.3m Below FSL	0.3m Below FSL
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	1.92	2.14	1.98	1.99	2.18
Field Moisture Content %	14.7	8.3	13.5	14.1	6.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.67	1.98	1.75	1.74	2.06
Peak Converted Wet Density t/m <sup>3</sup>	1.98	2.15	1.98	1.98	2.21
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	3.0	3.5	3.0	3.0	3.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>99.5</b>	<b>100.5</b>	<b>100.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-2  
**Issue Number:** 1  
**Date Issued:** 10/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6357  
**Date Sampled:** 22/06/2023 8:00  
**Dates Tested:** 22/06/2023 - 04/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman Stage 2, 3, 4 & 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6357F	S6357G	S6357H	S6357I	
Test Number	12	13	14	15	
Date Tested	22/06/2023	22/06/2023	22/06/2023	22/06/2023	
Time Tested	10:40	10:50	11:00	11:10	
Test Request #/Location	Lot 410	Lot 411	Lot 232	Lot 231	
Line / Offset	O/S SW CNR	O/S SW CNR	O/S SE CNR	O/S SE CNR	
Offset	8m North, 4m East	11m North, 4m East	4m North, 7m West	4m North, 8m West	
Layer / Reduced Level	0.3m Below FSL	0.3m Below FSL	0.3m Below FSL	0.3m Below FSL	
Thickness of Layer (mm)	175	175	175	175	
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 <sup>3</sup>	2.21	2.18	2.15	2.25	
Field Moisture Content %	5.9	14.5	13.6	9.8	
Field Dry Density (FDD) t/m <sup>3</sup>	2.09	1.91	1.89	2.05	
Peak Converted Wet Density t/m <sup>3</sup>	2.22	2.19	2.18	2.22	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	
Moisture Variation (Wv) %	2.5	0.0	0.0	1.5	
Adjusted Moisture Variation %	**	**	**	**	
Hilf Density Ratio (%)	99.5	99.5	98.5	101.5	
Compaction Method	Standard	Standard	Standard	Standard	
Report Remarks	**	**	**	**	

## Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 23-240-3  
**Issue Number:** 1  
**Date Issued:** 11/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6429  
**Date Sampled:** 28/06/2023 8:00  
**Dates Tested:** 28/06/2023 - 05/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman Stage 2, 3, 4 & 5 Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S6429A	S6429B	S6429C
Test Number	33	34	35
Date Tested	28/06/2023	28/06/2023	28/06/2023
Time Tested	10:00	10:10	10:20
Test Request #/Location	Lot 230	Lot 522	Lot 535
Line / Offset	O/S SE CNR	O/S NE CNR	O/S NE CNR
Offset	4m West, 8m North	8m West, 3m South	8m West, 3m South
Layer / Reduced Level	0.5m Below FSL	FSL	FSL
Thickness of Layer (mm)	175	175	175
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
Field Wet Density (FWD) t/m <sup>3</sup>	2.21	2.02	1.99
Field Moisture Content %	5.0	9.0	10.1
Field Dry Density (FDD) t/m <sup>3</sup>	2.11	1.85	1.80
Peak Converted Wet Density t/m <sup>3</sup>	2.20	2.04	2.02
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	4.5	4.5	4.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>100.5</b>	<b>99.0</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-5  
**Issue Number:** 1  
**Date Issued:** 13/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6402  
**Date Sampled:** 27/06/2023 7:30  
**Dates Tested:** 27/06/2023 - 07/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman Stage 2, 3, 4 & 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6402A	S6402B	S6402C	S6402D	S6402E
Test Number	24	25	26	27	28
Date Tested	27/06/2023	27/06/2023	27/06/2023	27/06/2023	27/06/2023
Time Tested	09:30	09:40	09:50	10:00	10:10
Test Request #/Location	Basin Western Clay Wall	Basin Northern Clay Wall	Basin Eastern Clay Wall	Basin Southern Clay Wall	Lot 422
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NE CNR	O/S SE CNR	O/S SE CNR
Offset	50m South, 1m East	30m East, 1.5m South	50m South, 1.5m West	25m West, 2m North	8m North, m West
Layer / Reduced Level	1.6m Below FSL	0.7m Below FSL	0.5m Below FSL	0.5m Below FSL	0.1m Below FSL
Thickness of Layer (mm)	175	175	175	175	175
Soil Description	Clay, Red/Brown	Clay, Red/Brown	Clay, Red/Brown	Clay, Red/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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.02	1.99	1.98	2.07	2.05
Field Moisture Content %	22.1	19.5	19.5	17.4	12.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.65	1.67	1.66	1.76	1.82
Peak Converted Wet Density t/m <sup>3</sup>	2.04	2.04	1.98	1.98	1.99
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	0.0	1.5	2.5	2.5	5.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	99.0	98.0	100.0	104.5	103.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-5  
**Issue Number:** 1  
**Date Issued:** 13/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6402  
**Date Sampled:** 27/06/2023 7:30  
**Dates Tested:** 27/06/2023 - 07/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman Stage 2, 3, 4 & 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6402F	S6402G	S6402H	S6402I	
Test Number	29	30	31	32	
Date Tested	27/06/2023	27/06/2023	27/06/2023	27/06/2023	
Time Tested	10:20	10:30	10:40	10:50	
Test Request #/Location	Lot 421	Lot 420	Lot 419	Lot 418	
Line / Offset	O/S SE CNR	O/S SE CNR	O/S SE CNR	O/S SE CNR	
Offset	10m North, 5m West	9m North, 5m West	7m North, 4m West	13m North, 5m West	
Layer / Reduced Level	0.1m Below FSL	0.1m Below FSL	0.3m Below FSL	0.2m Below FSL	
Thickness of Layer (mm)	175	175	175	175	
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 <sup>3</sup>	2.12	2.14	2.07	2.18	
Field Moisture Content %	9.8	5.6	7.9	7.1	
Field Dry Density (FDD) t/m <sup>3</sup>	1.93	2.03	1.92	2.04	
Peak Converted Wet Density t/m <sup>3</sup>	2.01	2.16	2.10	2.18	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	
Moisture Variation (Wv) %	2.0	2.5	4.0	3.0	
Adjusted Moisture Variation %	**	**	**	**	
Hilf Density Ratio (%)	<b>105.5</b>	<b>99.5</b>	<b>98.5</b>	<b>100.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	**	**	

## Moisture Variation Note:

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



# Material Test Report

**Report Number:** 23-240-6  
**Issue Number:** 1  
**Date Issued:** 14/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6332  
**Date Sampled:** 21/06/2023 10:00  
**Dates Tested:** 21/06/2023 - 07/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman stages 2, 3, 4 & 5, Park Ridge.  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Greg Gibson  
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NATA Accredited Laboratory Number: 2316

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	S6332A	S6332B	S6332C	S6332D	S6332E	S6332F
Test Number	1	2	3	4	5	6
Date Tested	21/06/2023	21/06/2023	21/06/2023	21/06/2023	21/06/2023	21/06/2023
Time Tested	10:00	10:10	10:20	10:30	14:00	14:10
Test Request #/Location	Lot 523	Lot 524	Lot 533	Lot 534	Basin	Basin
Line / Offset	O/S NE CNR	O/S NE CNR	O/S NE CNR	O/S NE CNR	O/S NW CNR	O/S NW CNR
Offset	5m South, 7m West	5m South, 7m West	5m South, 7m West	5m South, 7m West	25 South, 20m East	35m South, 25m East
Layer / Reduced Level	0.5m Below FSL	0.7m Below FSL	0.7m Below FSL	0.5m Below FSL	2m Below FSL	1.5m Below FSL
Thickness of Layer (mm)	175	175	175	175	175	175
Soil Description	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	Silty SAND, Brown	Silty 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
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.02	2.26	2.21	2.11	2.14
Field Moisture Content %	7.5	8.6	8.9	9.7	9.6	10.6
Field Dry Density (FDD) t/m <sup>3</sup>	1.96	1.86	2.08	2.01	1.92	1.94
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.07	2.30	2.22	2.14	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	1.5	2.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	97.5	98.0	98.5	99.5	98.5	100.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

### Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-7  
**Issue Number:** 1  
**Date Issued:** 20/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6461  
**Date Sampled:** 30/06/2023  
**Dates Tested:** 30/06/2023 - 07/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Earthworks - STG 2-5 - TILLERMAN RD -  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S6461A	S6461B	S6461C
Test Number	36	37	38
Date Tested	30/06/2023	30/06/2023	30/06/2023
Time Tested	10:38	10:50	11:10
Test Request #/Location	Earthworks - Road box=9	Earthworks - Road box=9	Earthworks - Road box=3
Easting	Front Of Lot 416	Front Of Lot 501	Right Of Lot 226
Northing	**	**	**
Layer / Reduced Level	0.6m Below F/L	0.6m Below F/L	0.6m Below F/L
Thickness of Layer (mm)	175	175	175
Soil Description	Sandy CLAY, Orange	Sandy CLAY, Orange	Sandy CLAY, Orange
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	18	18	25
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	2.05	2.02
Field Moisture Content %	16.0	17.4	19.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.75	1.74	1.69
Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	2.10	2.11	2.11
Moisture Variation (Wv) %	**	**	**
Adjusted Moisture Variation %	0.0	0.0	0.0
Hilf Density Ratio (%)	<b>97.0</b>	<b>97.0</b>	<b>95.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-8  
**Issue Number:** 1  
**Date Issued:** 20/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6517  
**Date Sampled:** 07/07/2023  
**Dates Tested:** 07/07/2023 - 14/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Earthworks - STG 2-5 - TILLERMAN RD - PARK RIDGE  
**Material:** Allotment Fill  
**Material Source:** On-site



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S6517A	S6517B	S6517C
Test Number	39	40	41
Date Tested	07/07/2023	07/07/2023	07/07/2023
Time Tested	12:33	13:00	13:30
Test Request #/Location	Earthworks - LOT= 521	Earthworks - LOT= 523	Earthworks - LOT= 525
Easting	7m From North Boundary	3m From South Boundary	5m From South Boundary
Northing	9m From East Boundary	6m From West Boundary	6m From East Boundary
Layer / Reduced Level	F/L	F/L	F/L
Thickness of Layer (mm)	175	175	175
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.09	2.00	2.05
Field Moisture Content %	19.2	21.4	21.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.75	1.65	1.69
Peak Converted Wet Density t/m <sup>3</sup>	2.10	2.04	2.04
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>98.0</b>	<b>100.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-9  
**Issue Number:** 1  
**Date Issued:** 20/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6525  
**Date Sampled:** 10/07/2023 7:00  
**Dates Tested:** 10/07/2023 - 18/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2 - 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6525A	S6525B	S6525C	S6525D	S6525E
Test Number	42	43	44	45	46
Date Tested	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Time Tested	11:00	11:10	11:20	11:30	11:40
Test Request #/Location	Lot 508	Lot 508	Lot 507	Lot 507	Lot 526
Line / Offset	O/S SE CNR	O/S SE CNR	O/S SE CNR	O/S SE CNR	O/S SE CNR
Offset	5m North, 4m West	15m North, 5m west	4m North, 4m west	15m North, 4m west	5m North, 7m West
Layer / Reduced Level	0.6m Below FSL	0.3m Below FSL	0.6m Below FSL	0.3m Below FSL	0.3m Below FSL
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.01	1.97	2.00	2.08
Field Moisture Content %	11.4	12.0	13.0	11.8	6.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.89	1.80	1.75	1.79	1.95
Peak Converted Wet Density t/m <sup>3</sup>	2.12	2.03	2.08	1.99	2.15
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	1.5	3.0	1.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>99.0</b>	<b>95.0</b>	<b>100.0</b>	<b>97.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-9  
**Issue Number:** 1  
**Date Issued:** 20/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6525  
**Date Sampled:** 10/07/2023 7:00  
**Dates Tested:** 10/07/2023 - 18/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2 - 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6525F	S6525G	S6525H	S6525I	S6525J
Test Number	47	48	49	50	51
Date Tested	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Time Tested	11:50	12:00	12:10	12:20	12:30
Test Request #/Location	Lot 527	Lot 528	Lot 529	Lot 530	Lot 531
Line / Offset	O/S SE CNR	O/S SE CNR	O/S SE CNR	O/S SE CNR	O/S SE CNR
Offset	5m North, 7m West	4m North, 8m West	3m North, 11m West	4m North, 9m West	4m North, 10m West
Layer / Reduced Level	FSL	FSL	0.3m Below FSL	FSL	0.3m Below FSL
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.06	2.07	2.09	2.07	2.01
Field Moisture Content %	8.1	9.4	13.6	14.4	12.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.90	1.89	1.84	1.81	1.80
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.12	2.09	2.14	2.12
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	2.5	0.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	95.5	98.0	100.0	97.0	95.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-10  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6549  
**Date Sampled:** 11/07/2023 7:00  
**Dates Tested:** 11/07/2023 - 13/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Greg Gibson  
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NATA Accredited Laboratory Number: 2316

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	S6549A	S6549B	S6549C	S6549D	S6549E
Test Number	56	57	58	59	60
Date Tested	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Tested	10:00	10:10	10:20	10:30	10:40
Test Request #/Location	Lot 509	Lot 510	Lot 511	Lot 512	Lot 513
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR
Offset	10m South, 4m East	7m South, 5m East	10m South, 3m East	13m South, 6m East	8m South, 4m East
Layer / Reduced Level	0.3m Below FSL	0.3m Below FSL	FSL	FSL	FSL
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.07	2.08	2.09	2.13	2.12
Field Moisture Content %	8.4	8.3	8.4	10.4	10.6
Field Dry Density (FDD) t/m <sup>3</sup>	1.91	1.92	1.93	1.93	1.92
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.16	2.15	2.15	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.0	2.5	1.5	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>96.5</b>	<b>97.0</b>	<b>99.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

### Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-10  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6549  
**Date Sampled:** 11/07/2023 7:00  
**Dates Tested:** 11/07/2023 - 13/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6549F	S6549G	S6549H	S6549I	S6549J
Test Number	61	62	63	64	65
Date Tested	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Tested	10:50	11:00	11:10	11:20	11:30
Test Request #/Location	Lot 417	Lot 416	Lot 415	Lot 414	Lot 413
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR
Offset	10m South, 4m East	14m South, 6m East	9m South, 4m East	7m South, 5m East	10m South, 3m East
Layer / Reduced Level	0.5m Below FSL	0.5m Below FSL	0.5m Below FSL	0.5m Below FSL	0.5m Below FSL
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.06	2.08	2.12	2.06	2.07
Field Moisture Content %	8.2	8.4	8.3	7.8	8.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.90	1.92	1.95	1.91	1.92
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.16	2.15	2.16	2.16
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	2.5	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>96.5</b>	<b>98.5</b>	<b>95.5</b>	<b>96.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-11  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6550  
**Date Sampled:** 11/07/2023 7:00  
**Dates Tested:** 11/07/2023 - 18/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 100% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** Embankment Fill  
**Material Source:** Onsite



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NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	S6550A	S6550B	S6550C	S6550D
Test Number	52	53	54	55
Date Tested	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Time Tested	13:30	13:40	13:50	14:00
Test Request #/Location	Road 08	Road 08	Road 05	Road 03
Chainage (m)	O/S CNR Lot 514 & 515	O/S CNR Lot 508 & 509	O/S CNR Lot 528 & 529	O/S CNR Lot 531 & 532
Location Offset (m)	Centre of road	Centre of road	Centre of road	Centre of road
Layer / Reduced Level	0.3m Below Subgrade	0.3m Below Subgrade	0.3m Below Subgrade	0.3m Below Subgrade
Thickness of Layer (mm)	175	175	175	175
Soil Description	Sandy clay, some rock, brown/mottled grey	Sandy clay, some rock, brown/mottled grey	Sandy clay, some rock, brown/mottled grey	Sandy clay, some rock, brown/mottled grey
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 (%)	12	0	0	18
Field Wet Density (FWD) t/m <sup>3</sup>	2.09	2.07	2.13	2.16
Field Moisture Content %	14.2	12.1	11.1	11.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.83	1.84	1.92	1.93
Peak Converted Wet Density t/m <sup>3</sup>	**	1.98	2.01	**
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	2.01	**	**	2.12
Moisture Variation (Wv) %	**	2.5	3.0	**
Adjusted Moisture Variation %	2.5	**	**	2.0
Hilf Density Ratio (%)	<b>104.0</b>	<b>104.5</b>	<b>106.0</b>	<b>102.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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



# Material Test Report

**Report Number:** 23-240-12  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6568  
**Date Sampled:** 12/07/2023 8:00  
**Dates Tested:** 12/07/2023 - 21/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stages 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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NATA Accredited Laboratory Number: 2316

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	S6568A	S6568B	S6568C
Test Number	66	67	68
Date Tested	12/07/2023	12/07/2023	12/07/2023
Time Tested	13:00	13:10	13:20
Test Request #/Location	Stage 2 Basin Northern Wall	Stage 2 Basin Western Wall	Stage 2 Basin Southern Wall
Line / Offset	O/S NW CNR	O/S SW CNR	O/S SW CNR
Offset	8m South, 30m East	5m East, 15m North	1.5m North, 11m East
Layer / Reduced Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175
Soil Description	Sandy CLAY, Red/Brown	Sandy CLAY, Red/Brown	Sandy CLAY, Red/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
Field Wet Density (FWD) t/m <sup>3</sup>	1.98	2.08	2.18
Field Moisture Content %	17.1	11.9	9.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.69	1.86	2.00
Peak Converted Wet Density t/m <sup>3</sup>	2.07	2.00	2.19
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	0.0	4.5	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>104.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 23-240-13  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6569  
**Date Sampled:** 12/07/2023 8:00  
**Dates Tested:** 12/07/2023 - 19/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** Embankment Fill  
**Material Source:** Onsite



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## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

	S6569A	S6569B	
Sample Number	S6569A	S6569B	
Test Number	71	72	
Date Tested	12/07/2023	12/07/2023	
Time Tested	12:00	12:10	
Test Request #/Location	Road 09	Road 09	
Chainage (m)	O/S CNR LOTS 415 & 416	O/S CNR LOTS 234 & 233	
Location Offset (m)	5m North	6m North	
Layer / Reduced Level	0.4m Below Subgrade	0.4m Below Subgrade	
Thickness of Layer (mm)	175	175	
Soil Description	Sandy CLAY, Brown	Sandy CLAY, Brown	
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 <sup>3</sup>	2.03	2.01	
Field Moisture Content %	13.4	15.0	
Field Dry Density (FDD) t/m <sup>3</sup>	1.79	1.75	
Peak Converted Wet Density t/m <sup>3</sup>	2.14	2.08	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	-0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>95.0</b>	<b>96.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 23-240-14  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6607  
**Date Sampled:** 14/07/2023 8:30  
**Dates Tested:** 14/07/2023 - 19/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stages 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S6607A	S6607B	S6607C
Test Number	83	84	85
Date Tested	14/07/2023	14/07/2023	14/07/2023
Time Tested	10:00	10:10	10:20
Test Request #/Location	Lot 506	Lot 506	Lot 505
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NW CNR
Offset	5m East, 5m South	5m East, 12m South	5m East, 5m South
Layer / Reduced Level	0.6m Below FSL	0.3m Below FSL	0.6m Below FSL
Thickness of Layer (mm)	175	175	175
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
Field Wet Density (FWD) t/m <sup>3</sup>	1.94	2.00	2.15
Field Moisture Content %	14.6	15.1	18.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.69	1.74	1.82
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.04	2.08
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	1.0	0.5	1.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>98.0</b>	<b>103.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-15  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6584  
**Date Sampled:** 13/07/2023 7:00  
**Dates Tested:** 13/07/2023 - 21/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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NATA Accredited Laboratory Number: 2316

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	S6584A	S6584B	S6584C	S6584D	S6584E
Test Number	73	74	75	76	77
Date Tested	13/07/2023	13/07/2023	13/07/2023	13/07/2023	13/07/2023
Time Tested	10:00	10:10	10:20	10:30	10:40
Test Request #/Location	Lot 518	Lot 519	Lot 520	Lot 537	Lot 521
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR
Offset	4m South, 10m East	5m South, 9m East	3m South, 13m East	14m South, 4m East	4m South, 7m East
Layer / Reduced Level	Final Level	Final Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.13	2.12	2.13	2.14	2.14
Field Moisture Content %	10.8	10.1	10.5	10.6	11.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	1.93	1.93	1.93	1.92
Peak Converted Wet Density t/m <sup>3</sup>	2.11	2.10	2.12	2.12	2.12
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	2.0	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.0</b>	<b>101.0</b>	<b>100.5</b>	<b>101.0</b>	<b>101.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

### Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-15  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6584  
**Date Sampled:** 13/07/2023 7:00  
**Dates Tested:** 13/07/2023 - 21/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6584F	S6584G	S6584H	S6584I	S6584J
Test Number	78	79	80	81	82
Date Tested	13/07/2023	13/07/2023	13/07/2023	13/07/2023	13/07/2023
Time Tested	10:50	11:00	11:10	11:20	11:30
Test Request #/Location	Lot 536	Lot 514	Lot 515	Lot 516	Lot 517
Line / Offset	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR	O/S NW CNR
Offset	4m South, 8m East	3m South, 7m East	4m South, 8m East	4m South, 10m East	3m South, 7m East
Layer / Reduced Level	Final Level	Final Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175	175	175
Soil Description	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	Sandy CLAY, Brown	Silty 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
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.23	1.98	2.00	1.92
Field Moisture Content %	9.3	11.2	11.0	6.4	8.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	2.01	1.78	1.87	1.77
Peak Converted Wet Density t/m <sup>3</sup>	2.19	2.26	2.04	2.07	1.97
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.0	0.0	3.0	2.5	4.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>99.0</b>	<b>97.5</b>	<b>96.5</b>	<b>97.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-16  
**Issue Number:** 1  
**Date Issued:** 24/07/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6673  
**Date Sampled:** 19/07/2023 11:30  
**Dates Tested:** 19/07/2023 - 20/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stages 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	S6673A	S6673B	S6673C	S6673D	S6673E
Test Number	86	87	88	89	90
Date Tested	19/07/2023	19/07/2023	19/07/2023	19/07/2023	19/07/2023
Time Tested	12:00	12:10	12:20	12:30	12:40
Test Request #/Location	Adjacent to Lot 234	Adjacent to Lot 233	Adjacent to Lot 412	Adjacent to Lot 413	Adjacent to Lot 414
Line / Offset	O/S SW CNR Lot 234	O/S SW CNR Lot 233	O/S SW CNR Lot 412	O/S SW CNR Lot 413	O/S SW CNR Lot 414
Offset	12m South, 4m East	10m South, 5m East	9m South, 3m East	7m South, 3m East	13m South, 5m East
Layer / Reduced Level	Final Level	Final Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175	175	175
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	0	0	0
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	1.99	2.16	2.12	2.16
Field Moisture Content %	9.5	14.3	11.3	11.4	12.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.85	1.74	1.94	1.90	1.92
Peak Converted Wet Density t/m <sup>3</sup>	2.10	2.08	2.10	2.09	2.09
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.0	2.0	2.5	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>95.5</b>	<b>103.0</b>	<b>101.5</b>	<b>103.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-17  
**Issue Number:** 1  
**Date Issued:** 09/08/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6751  
**Date Sampled:** 26/07/2023  
**Dates Tested:** 26/07/2023 - 27/07/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2 - 5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Greg Gibson  
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NATA Accredited Laboratory Number: 2316

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

	S6751A	S6751B	
Sample Number	S6751A	S6751B	
Test Number	91	92	
Date Tested	26/07/2023	26/07/2023	
Time Tested	13:00	13:10	
Test Request #/Location	Bio Basin	Bio Basin	
Line / Offset	O/S SE CNR	O/S SE CNR	
Offset	10m North, 15m West	60m North, 17m West	
Layer / Reduced Level	Final Level	Final Level	
Thickness of Layer (mm)	175	175	
Soil Description	Sandy CLAY, Clay	Sandy CLAY, 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 <sup>3</sup>	2.23	1.99	
Field Moisture Content %	9.8	8.0	
Field Dry Density (FDD) t/m <sup>3</sup>	2.03	1.84	
Peak Converted Wet Density t/m <sup>3</sup>	2.12	2.06	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	2.5	3.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>105.0</b>	<b>96.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 23-240-18  
**Issue Number:** 1  
**Date Issued:** 22/08/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 6995  
**Date Sampled:** 11/08/2023  
**Dates Tested:** 11/08/2023 - 21/08/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S6995A	S6995B	S6995C
Test Number	93	94	95
Date Tested	11/08/2023	11/08/2023	11/08/2023
Time Tested	12:30	12:45	13:00
Test Request #/Location	Lot adjacent to Lot	Lot adjacent to Lot	Lot adjacent to Lot
Line / Offset	O/S SE CNR Lot 509	O/S SE CNR Lot 510	O/S SE CNR Lot 511
Offset	10m East, 4m North	8m East, 5m North	10m East, 4m North
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	175	175	175
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
Field Wet Density (FWD) t/m <sup>3</sup>	2.01	1.85	1.90
Field Moisture Content %	18.0	17.7	17.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.71	1.57	1.61
Peak Converted Wet Density t/m <sup>3</sup>	2.09	1.95	1.98
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	0.0	3.0	0.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>96.5</b>	<b>95.0</b>	<b>96.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

## Moisture Variation Note:

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



# Material Test Report

**Report Number:** 23-240-21  
**Issue Number:** 1  
**Date Issued:** 08/09/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 7117  
**Date Sampled:** 23/08/2023 12:30  
**Dates Tested:** 23/08/2023 - 04/09/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S7117A	S7117B	S7117C
Test Number	122	123	124
Date Tested	23/08/2023	23/08/2023	23/08/2023
Time Tested	12:40	12:50	13:02
Test Request #/Location	Adjacent Lot 517	Adjacent Lot 516	Adjacent Lot 515
Line / Offset	O/S NE CNR Lot 517	O/S NE CNR Lot 516	O/S NE CNR Lot 515
Offset	4m South, 8m East	3m South, 10m East	4m South, 7m East
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	175	175	175
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
Field Wet Density (FWD) t/m <sup>3</sup>	1.94	1.91	2.02
Field Moisture Content %	7.6	7.3	7.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.80	1.78	1.88
Peak Converted Wet Density t/m <sup>3</sup>	1.95	1.96	2.00
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	3.5	3.0	1.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>99.0</b>	<b>97.5</b>	<b>101.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-23  
**Issue Number:** 1  
**Date Issued:** 18/09/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 7180  
**Date Sampled:** 28/08/2023 12:30  
**Dates Tested:** 28/08/2023 - 15/09/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2-5, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite/Import



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S7180A	S7180B	
Test Number	125	126	
Date Tested	28/08/2023	28/08/2023	
Time Tested	12:30	12:45	
Test Request #/Location	Lot Adjacent to Lot 517	Lot Adjacent to Lot 517	
Line / Offset	O/S SW CNR Lot 517	O/S SW CNR Lot 517	
Offset	10m East, 5m South	18m East, 8m South	
Layer / Reduced Level	FSL	FSL	
Thickness of Layer (mm)	175	175	
Soil Description	Sandy CLAY, Brown	Sandy CLAY, Brown	
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 <sup>3</sup>	2.16	2.10	
Field Moisture Content %	8.9	12.2	
Field Dry Density (FDD) t/m <sup>3</sup>	1.98	1.87	
Peak Converted Wet Density t/m <sup>3</sup>	2.11	2.11	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	2.5	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>102.5</b>	<b>99.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-27  
**Issue Number:** 1  
**Date Issued:** 04/10/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 7482  
**Date Sampled:** 22/09/2023  
**Dates Tested:** 22/09/2023 - 03/10/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2, Park Ridge  
**Material:** General Fill  
**Material Source:** Import



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Approved Signatory: Greg Gibson  
ql-greg

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S7482A	S7482B	
Test Number	167	168	
Date Tested	22/09/2023	22/09/2023	
Time Tested	10:00	11:00	
Test Request #/Location	Lot 307	Lot 305	
Line / Offset	O/S NE CNR	O/S NE CNR	
Offset	5m West, 6m South	4m West, 6m South	
Layer / Reduced Level	Final Level	Final Level	
Thickness of Layer (mm)	175	175	
Soil Description	Sandy CLAY, Brown	Sandy CLAY, Brown	
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 <sup>3</sup>	2.16	2.15	
Field Moisture Content %	10.8	12.5	
Field Dry Density (FDD) t/m <sup>3</sup>	1.95	1.91	
Peak Converted Wet Density t/m <sup>3</sup>	2.05	2.04	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	4.5	3.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>106.0</b>	<b>105.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** 23-240-28  
**Issue Number:** 1  
**Date Issued:** 12/10/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 7572  
**Date Sampled:** 03/10/2023  
**Dates Tested:** 03/10/2023 - 04/10/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Remarks:** Testing conducted well after placement of fill materials, moisture variation not reflective of placement moistures at the time of construction  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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Approved Signatory: Rhys Mitchell  
 Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	S7572A	S7572B	S7572C	S7572D
Test Number	169	170	171	172
Date Tested	03/10/2023	03/10/2023	03/10/2023	03/10/2023
Time Tested	11:00	11:10	11:20	11:30
Test Request #/Location	Lot 301	Lot 205	Lot 309	Lot 311
Line / Offset	4m from Back of Lot	3m from Back of Lot	4m from Back of Lot	6m from Back of Lot
Offset	Centre of Lot	Centre of Lot	Centre of Lot	Centre of Lot
Layer / Reduced Level	Final Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175	175
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 <sup>3</sup>	2.06	2.06	1.92	1.83
Field Moisture Content %	7.7	8.4	12.4	13.6
Field Dry Density (FDD) t/m <sup>3</sup>	1.91	1.90	1.71	1.61
Peak Converted Wet Density t/m <sup>3</sup>	2.07	2.08	1.85	1.85
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	5.0	5.0	4.5	4.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.0	99.0	104.0	99.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** 23-240-28  
**Issue Number:** 1  
**Date Issued:** 12/10/2023  
**Client:** SHADFORTH CIVIL PTY LTD  
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556  
**Contact:** ZACH HUTCHINSON  
**Project Number:** 23-240  
**Project Name:** LEVEL 1 & LEVEL 2 TESTING  
**Project Location:** TILLERMAN STAGE 2 - PARK RIDGE  
**Client Reference:** 2482-2001  
**Work Request:** 7572  
**Date Sampled:** 03/10/2023  
**Dates Tested:** 03/10/2023 - 04/10/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Preparation Method:** AS 1289.1.1 - Sampling and preparation of soils  
**Remarks:** Testing conducted well after placement of fill materials, moisture variation not reflective of placement moistures at the time of construction  
**Specification:** 95% Standard  
**Site Selection:** Selected by GTA  
**Location:** Tillerman, Stage 2, Park Ridge  
**Material:** General Fill  
**Material Source:** Onsite



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*Rhys Mitchell*

Approved Signatory: Rhys Mitchell  
Field Technician

NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	S7572E	S7572F	S7572G	S7572H
Test Number	173	174	175	176
Date Tested	03/10/2023	03/10/2023	03/10/2023	03/10/2023
Time Tested	11:40	11:50	12:00	12:10
Test Request #/Location	Lot 213	Lot 402	Lot 226	Lot 502
Line / Offset	2m from North Boundary	6m from Back of Lot	5m from Back of Lot	5m from Front of Lot
Offset	3m from Right Boundary	5m from Right Boundary	5m from Left Boundary	Centre of Lot
Layer / Reduced Level	Final Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175	175
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 <sup>3</sup>	1.92	2.06	1.84	1.83
Field Moisture Content %	12.0	6.5	14.7	14.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.71	1.93	1.60	1.60
Peak Converted Wet Density t/m <sup>3</sup>	1.86	2.08	1.81	1.80
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	5.0	4.5	5.5	5.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	103.5	99.0	101.5	101.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

## Moisture Variation Note:

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