

The Junction Stage 5

GITA Inspection Verification Report

Prepared For: Streetworks Pty Ltd

Report Number P221277A V1

Version Release Date 9 May 2023

Report Released By C Caulfield

Title Project Manager

Signature



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1 Introduction

Terra Firma Laboratories was engaged by Streetworks Pty Ltd as the Geotechnical Inspection and Testing Authority (GITA) to provide Level 1 supervision and testing works on the earthworks component for The Junction Stage 5. This work was conducted over the period of 14/12/2022 to 02/05/2023.

This report presents that the allotment earthworks was carried out in accordance with AS3798-2007 *Guidelines for Earthworks for Commercial and Residential Development* and in compliance with the compaction control specifications established by the contractor.

2 Scope of Work

2.1 Area of Work

The areas of work included lots 501 to 509 and 512 to 520, bounded by streets Blue Lilly Circuit. The site will be a Residential development.

The area on which fill was placed is shown on site plan (Appendix 1: *Test Location Plan*) based on drawings prepared by Charlton Degg (Drawing Reference: 1432_5/R04 D) and provided by Streetworks Pty Ltd.

The supervision work by the GITA involved both inspection of sub grade preparation work and full time inspection and testing of fill placement.

2.2 Specification

The technical specification (Reference from Drawings) for compaction control requirements was provided by Streetworks Pty Ltd and established that:

Test Rolling is required for all layers of structural fill and materials within 150mm of permanent subgrade level so as to withstand test rolling without visible deformation or springing. Corrective action is required where unstable areas exceed 20% of the area being considered by test rolling.

Section 5.2 of AS3798-2007 (Section 5.2) establishes a specification requirement for a minimum density ratio of not less than 95% noting that soils containing more than 20% of particles coarser than 37.5mm cannot be tested for relative compaction using the procedures of AS1289 5.1.1 and AS1289 5.2.1.

In accordance with Table 8.1 (AS3798), for large scale operations, (greater than 1500m²), the minimum testing frequency is 1 test per layer per material type per 2500m² or 1 test per 500m³ distributed reasonable evenly throughout full depth and area or 3 tests per lot. AS3798 defines a lot as “an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work”. All three of these test frequencies must be achieved and this is typically confirmed to have been achieved when 3 tests per visit (day) have been completed.

2.3 Limitations

Terra Firma Laboratories cannot verify any works completed by others outside of the time period specified in the introduction. Uncontrolled works may include, but are not limited to trenching for services, cut and fill works for slab preparation or subsequent removal of vegetation and back fill of holes unless specified in section 2.1 of this report.

Terra Firma Laboratories cannot verify that the material used as a filling medium is free from chemical or other contamination. The scope and the period of Terra Firma Laboratories as described in the introduction are subject to restrictions and limitations. Terra Firma Laboratories did not perform a complete assessment of all possible conditions and circumstances that may exist at the site. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Terra Firma Laboratories.

Verification of finished surface level to design levels is outside of the scope of the GITA report.

Any drawings or marked locations presented in this report should be considered only as pictorial evidence of our work. Therefore, unless otherwise stated, any dimensions should not be used for accurate calculations or dimensioning.

Where data has been supplied by the client or a third party, it is assumed that the information is correct unless otherwise stated. No responsibility is accepted by Terra Firma Laboratories for incomplete or inaccurate data supplied by others.

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3 Construction Method

3.1 Subgrade Preparation

At the time of subgrade inspection the following was observed:

- Subgrade preparation involved stripping the site of topsoil, vegetation and organic matter to a depth of approximately 200mm below existing levels.
- The site was cleared of all trees and stumps to the extent necessary for the fill placement to proceed
- The roots of all trees and any debris was removed from site prior to any fill placement

The sub-grade area was then proof-rolled to confirm it was capable of withstanding test rolling without visible deformation or springing and any areas observed to be soft or otherwise unsuitable were rectified. The sub-grade was watered and scarified prior to fill placement to aid layer bonding.

3.2 Fill Placement

The contractor was observed to have suitable construction equipment and plant available on-site during the construction period for use in the fill placement.

All fill was placed in layers of thicknesses not exceeding 300mm. At the completion of a placed layer, compaction testing was performed to confirm appropriate compaction had been achieved and supported the observations made. It should be noted that the compaction tests are representative samples of the fill placed and support the visual assessment of the works completed. Each house lot does not necessarily require a compaction test to have been conducted within the house allotment but may have been verified by testing conducted within up to a 2500m² area of the house lot.

Final fill placement levels were verified against design level by others. For the purposes of this report, it was observed that finished levels were in accordance with levels marked on site by survey markers.

The final 150mm of material placed across the site was placed as a topsoil layer or growing medium and should be considered as non-structural, as it was placed in an uncontrolled manner, as allowed by specifications and placement of the final 150mm of material was not observed by the GITA.

4 Construction Verification

Compaction Verification testing is summarized in a detailed test register with test certificates attached provided in Appendix 2: *Compaction Test Register and Test Certificates*. A test location

plan (P221277D1, Appendix 1) providing a schematic of test locations across the extent of scope of works for every placed layer of fill is also documented.

A total of 24 density tests (Hilf method in accordance with 1289 5.7.1) were undertaken with 2 failed results. The contractor was notified of any failed tests and the failed areas were ripped, watered, compacted and then re-tested to confirm compliance with the specification. The results summarised in the compaction test register (Appendix 2) confirm that for every layer of fill placed in a specific work area, satisfactory testing was completed.

5 Statement of Compliance

The intention of this report is to provide a description of the earthworks construction for Stage 5 at The Junction. For completed fill areas of greater than 300mm, and for works completed between 14/12/2022 and 02/05/2023, earthworks construction activities were conducted under the full time supervision of the Geotechnical Inspection and Testing Authority. Inspections and testing of the fill areas at this site indicate that both sub grade preparation and fill placement have been conducted in accordance with the specification. The earthworks construction for Stage 5 of The Junction was observed to be constructed in compliance with the requirements of the Technical Specification.



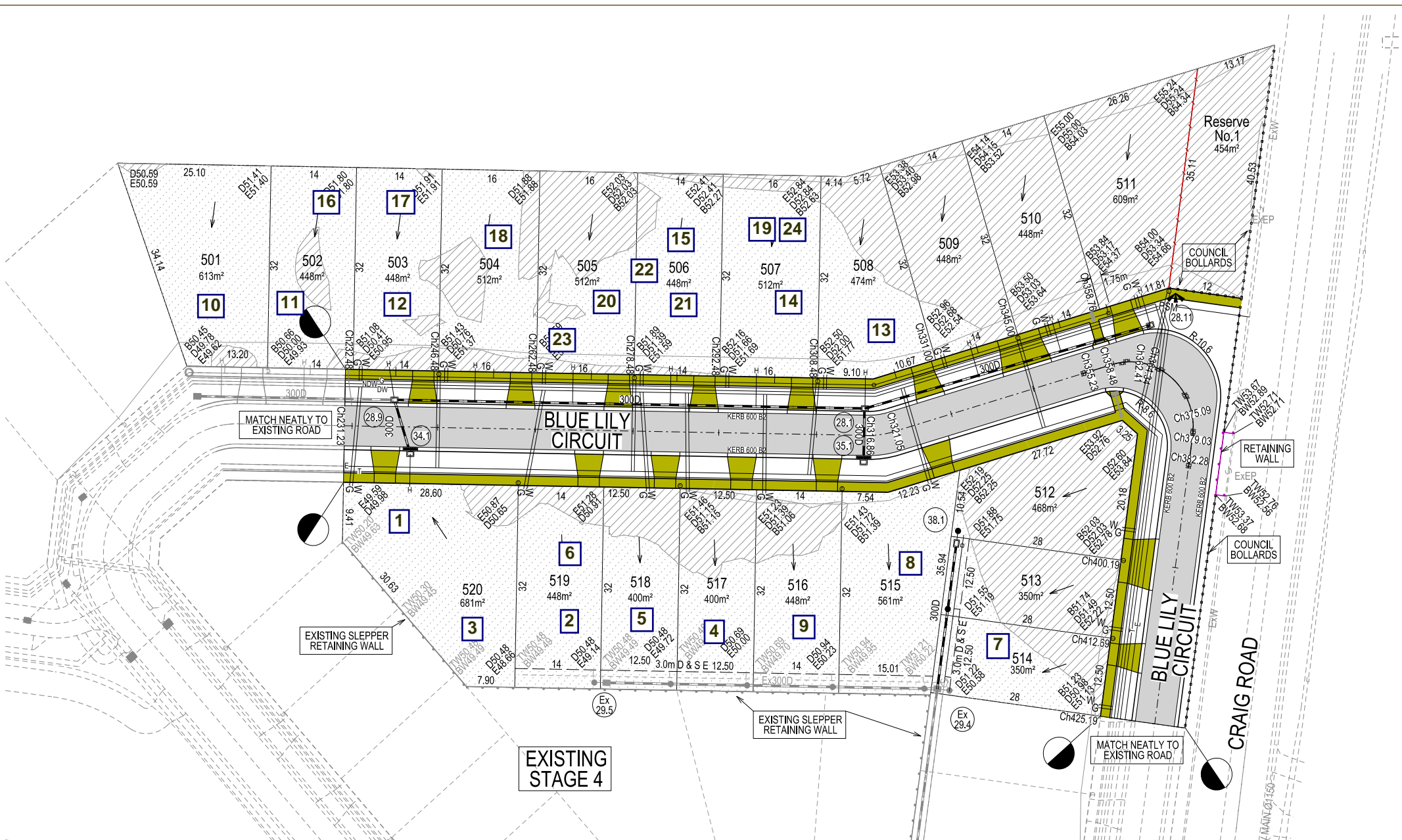
Your Worksite is Our Laboratory.

Appendix 1: Test Location Plan

Our Head Office
47 National Ave
Pakenham, VIC 3810

Our Laboratories
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220

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47 National Ave
Pakenham, VIC 3810

Our Laboratories
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220

Test Location Plan

not to scale

Client: Streetworks Pty Ltd

Project: The Junction, Stage 5

Reference: P221277 D1



Your Worksite is Our Laboratory.

Appendix 2: Compaction Test Register and Test Certificates

Our Head Office
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Compaction Test Register

Client: Streetworks Pty Ltd **Project No:** P221277
Project: The Junction Stage 5 **Specification:** 95%

Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
14/12/2022	1	Layer 1		97.0%	Pass	Lot 520	P221277-1
14/12/2022	2	Layer 2		103.5%	Pass	Lot 519	P221277-1
14/12/2022	3	Layer 3		99.5%	Pass	Lot 520	P221277-1
15/12/2022	4	FSL		102.0%	Pass	Lot 517	P221277-2
15/12/2022	5	FSL		100.0%	Pass	Lot 518	P221277-2
15/12/2022	6	FSL		98.0%	Pass	Lot 519	P221277-2
21/12/2022	7	FSL		97.0%	Pass	Lot 514	P221277-3
21/12/2022	8	FSL		102.0%	Pass	Lot 515	P221277-3
21/12/2022	9	FSL		95.5%	Pass	Lot 516	P221277-3
21/04/2023	10	Layer 1		98.0%	Pass	Lot 501	P221277-4
21/04/2023	11	Layer 2		90.5%	Fail	Lot 502	P221277-4
21/04/2023	12	Layer 2		98.0%	Pass	Lot 503	P221277-4
22/04/2023	13	Layer 1		100.0%	Pass	Lot 508	P221277-9
22/04/2023	14	Layer 2		101.5%	Pass	Lot 507	P221277-9
22/04/2023	15	Layer 3		99.5%	Pass	Lot 506	P221277-9
28/04/2023	16	FSL		96.0%	Pass	Lot 502	P221277-5
28/04/2023	17	FSL		96.0%	Pass	Lot 503	P221277-5
28/04/2023	18	FSL		99.0%	Pass	Lot 504	P221277-5
29/04/2023	19	Layer 2		94.0%	Fail	Lot 507	P221277-6
2/05/2023	20	Layer 2		101.5%	Pass	Lot 505	P221277-7
2/05/2023	21	Layer 2		95.5%	Pass	Lot 506	P221277-7
2/05/2023	22	Layer 4		101.0%	Pass	Lot 506	P221277-8
2/05/2023	23	Layer 4		99.5%	Pass	Lot 505	P221277-8
2/05/2023	24	Layer 2	Test #19	103.0%	Pass	Lot 507	P221277-8

Material Test Report


Report Number: P221277-1
Issue Number: 1
Date Issued: 20/12/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 6567
Work Request: 11105
Date Sampled: 14/12/2022 7:30
Dates Tested: 14/12/2022 - 15/12/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: The Junction Stage 5 Level One
Material: Silty SAND
Material Source: Onsite



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 Email: ccaulfield@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing




 Approved Signatory: Chris Caulfield
 Project Manager
 NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P22-11105A	P22-11105B	P22-11105C
Test Number	1	2	3
Date Tested	14/12/2022	14/12/2022	14/12/2022
Time Tested	13:00	14:00	15:15
Test Request #/Location	1 Lot 520	2 Lot 519	3 Lot 520
Layer / Reduced Level	Layer 1	Layer 2	Layer 3
Thickness of Layer (mm)	300	300	300
Soil Description	Silty SAND	Silty SAND	Silty SAND
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.17	2.13
Field Moisture Content %	12.3	10.5	12.5
Field Dry Density (FDD) t/m ³	1.84	1.97	1.89
Peak Converted Wet Density t/m ³	2.13	2.10	2.14
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	10.0	9.8	10.8
Adj. Field Moisture Content % (AS1289.5.4.1)	12.3	10.5	12.5
Moisture Ratio % (AS1289.5.4.1)	122.5	107.0	115.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-2.5	-0.5	-1.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	97.0	103.5	99.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

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

Material Test Report

Report Number: P221277-2
Issue Number: 1
Date Issued: 20/12/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Work Request: 11113
Date Sampled: 15/12/2022 7:30
Dates Tested: 15/12/2022 - 16/12/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Location: The Junction Stage 5 Level One
Material: Silty SAND
Material Source: Onsite



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P22-11113A	P22-11113B	P22-11113C
Test Number	4	5	6
Date Tested	15/12/2022	15/12/2022	15/12/2022
Time Tested	13:17	13:24	16:02
Test Request #/Location	1 Lot 517	2 Lot 518	3 Lot 519
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300
Soil Description	Silty SAND	Silty SAND	Silty SAND
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	2	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m ³	2.04	2.19	1.98
Field Moisture Content %	6.8	9.6	10.0
Field Dry Density (FDD) t/m ³	1.91	2.00	1.80
Peak Converted Wet Density t/m ³	**	**	2.01
Adjusted Peak Converted Wet Density t/m ³	2.00	2.19	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	10.3	9.1	11.8
Adj. Field Moisture Content % (AS1289.5.4.1)	6.7	9.5	10.0
Moisture Ratio % (AS1289.5.4.1)	**	**	84.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	65.5	104.5	**
Moisture Variation (Wv) %	**	**	2.0
Adjusted Moisture Variation %	3.5	-0.5	**
Hilf Density Ratio (%)	102.0	100.0	98.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report


Report Number: P221277-3
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Lot numbers added
Date Issued: 09/05/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 07844
Work Request: 11180
Date Sampled: 21/12/2022 8:30
Dates Tested: 21/12/2022 - 11/01/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: The Junction Stage 5 Level One
Material: Silty SAND
Material Source: Onsite



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 Approved Signatory: Chris Caulfield
 Project Manager
 NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P22-11180A	P22-11180B	P22-11180C
Test Number	7	8	9
Date Tested	21/12/2022	21/12/2022	21/12/2022
Time Tested	15:30	15:42	16:01
Test Request #/Location	Lot 514	Lot 515	Lot 516
Layer / Reduced Level	Layer final	Layer final	Layer final
Thickness of Layer (mm)	300	300	300
Soil Description	Silty SAND	Silty SAND	Silty SAND
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	4	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	**	**
Field Wet Density (FWD) t/m ³	1.91	1.84	1.87
Field Moisture Content %	9.0	8.1	8.1
Field Dry Density (FDD) t/m ³	1.75	1.71	1.73
Peak Converted Wet Density t/m ³	1.97	**	1.96
Adjusted Peak Converted Wet Density t/m ³	**	1.80	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	11.3	11.1	10.2
Adj. Field Moisture Content % (AS1289.5.4.1)	9.0	7.7	**
Moisture Ratio % (AS1289.5.4.1)	79.5	**	79.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	69.5	**
Moisture Variation (Wv) %	2.5	**	2.5
Adjusted Moisture Variation %	**	3.5	**
Hilf Density Ratio (%)	97.0	102.0	95.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report


Report Number: P221277-4
Issue Number: 1
Date Issued: 28/04/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 08929
Work Request: 12242
Date Sampled: 21/04/2023 8:30
Dates Tested: 21/04/2023 - 27/04/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: The Junction Stage 5 Level One
Material: Silty SAND
Material Source: Onsite



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 Approved Signatory: Chris Caulfield
 Project Manager
 NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P23-12242A	P23-12242B	P23-12242C
Test Number	10	11	12
Date Tested	21/04/2023	21/04/2023	21/04/2023
Time Tested	**	**	**
Test Request #/Location	Lot 501	Lot 502	Lot 503
Layer / Reduced Level	Layer 1	Layer 2	Layer 2
Thickness of Layer (mm)	300	300	300
Soil Description	Silty SAND	Silty SAND	Silty SAND
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m ³	1.98	1.90	1.94
Field Moisture Content %	10.6	12.2	6.3
Field Dry Density (FDD) t/m ³	1.79	1.69	1.83
Peak Converted Wet Density t/m ³	2.02	2.09	1.98
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	**
Adj. Field Moisture Content % (AS1289.5.4.1)	10.6	12.2	6.3
Moisture Ratio % (AS1289.5.4.1)	105.0	104.5	99.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-0.5	-0.5	0.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	98.0	90.5	98.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P221277-5
Issue Number: 1
Date Issued: 05/05/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 08953
Work Request: 12304
Date Sampled: 28/04/2023
Dates Tested: 28/04/2023 - 02/05/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Location: The Junction Stage 5 Level One
Material: Sandy silty CLAY
Material Source: Onsite



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P23-12304A	P23-12304B	P23-12304C
Test Number	16	17	18
Date Tested	28/04/2023	28/04/2023	28/04/2023
Time Tested	**	**	**
Test Request #/Location	1 Lot 502	2 Lot 503	3 Lot 504
Layer / Reduced Level	Final Layer	Final Layer	Final Layer
Thickness of Layer (mm)	300	300	300
Soil Description	Sandy silty CLAY	Sandy silty CLAY	Sandy silty CLAY
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0
Field Wet Density (FWD) t/m ³	2.00	1.94	1.94
Field Moisture Content %	10.5	10.0	16.6
Field Dry Density (FDD) t/m ³	1.82	1.76	1.66
Peak Converted Wet Density t/m ³	2.09	2.02	1.95
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	11.6	10.0	19.6
Adj. Field Moisture Content % (AS1289.5.4.1)	10.5	10.0	16.6
Moisture Ratio % (AS1289.5.4.1)	90.0	100.0	85.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	1.0	0.0	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	96.0	96.0	99.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P221277-6
Issue Number: 1
Date Issued: 05/05/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 08955
Work Request: 12312
Date Sampled: 29/04/2023
Dates Tested: 29/04/2023 - 02/05/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Location: The Junction Stage 5 - Level One
Material: Sandy silty CLAY
Material Source: Onsite



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P23-12312A		
Test Number	19		
Date Tested	29/04/2023		
Time Tested	**		
Test Request #/Location	1 Lot 507		
Layer / Reduced Level	Layer 2		
Thickness of Layer (mm)	300		
Soil Description	Sandy silty CLAY		
Test Depth (mm)	275		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0		
Field Wet Density (FWD) t/m ³	1.93		
Field Moisture Content %	8.9		
Field Dry Density (FDD) t/m ³	1.78		
Peak Converted Wet Density t/m ³	2.06		
Adjusted Peak Converted Wet Density t/m ³	**		
Adj. Optimum Moisture Content % (AS1289.5.4.1)	9.3		
Adj. Field Moisture Content % (AS1289.5.4.1)	8.9		
Moisture Ratio % (AS1289.5.4.1)	95.5		
Adjusted Moisture Ratio % (AS1289.5.4.1)	**		
Moisture Variation (Wv) %	0.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	94.0		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:

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

Material Test Report

Report Number: P221277-7
Issue Number: 1
Date Issued: 05/05/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 08956
Work Request: 12319
Date Sampled: 01/05/2023
Dates Tested: 01/05/2023 - 02/05/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: The Junction Stage 5 Level One
Material: CLAY
Material Source: Outside Bund



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P23-12319A	P23-12319B	
Test Number	20	21	
Date Tested	02/05/2023	02/05/2023	
Time Tested	**	**	
Test Request #/Location	20 Lot 505	21 Lot 506	
Layer / Reduced Level	Layer 2	Layer 2	
Thickness of Layer (mm)	300	300	
Soil Description	Clay	Clay	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	
Field Wet Density (FWD) t/m ³	2.20	2.05	
Field Moisture Content %	12.1	12.8	
Field Dry Density (FDD) t/m ³	1.97	1.82	
Peak Converted Wet Density t/m ³	2.17	2.14	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Adj. Optimum Moisture Content % (AS1289.5.4.1)	11.8	12.5	
Adj. Field Moisture Content % (AS1289.5.4.1)	12.1	12.8	
Moisture Ratio % (AS1289.5.4.1)	102.5	103.0	
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	
Moisture Variation (Wv) %	-0.5	-0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.5	95.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

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

Material Test Report

Report Number: P221277-8
Issue Number: 1
Date Issued: 05/05/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Client Reference: 08957
Work Request: 12338
Date Sampled: 02/05/2023
Dates Tested: 02/05/2023 - 03/05/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Junction Stage 5 - Level one monitoring
Material: Clay
Material Source: Outside Bund



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P23-12338A	P23-12338B	P23-12338C
Test Number	22	23	24
Date Tested	02/05/2023	02/05/2023	02/05/2023
Time Tested	**	**	**
Test Request #/Location	22 Lot 506	23 Lot 505	24 Lot 507 Retest
Layer / Reduced Level	Layer 4	Layer 4	Final Layer
Thickness of Layer (mm)	300	300	300
Soil Description	Clay	Clay	Clay
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0
Field Wet Density (FWD) t/m ³	2.12	2.17	2.15
Field Moisture Content %	15.3	14.1	15.2
Field Dry Density (FDD) t/m ³	1.83	1.90	1.87
Peak Converted Wet Density t/m ³	2.10	2.18	2.08
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	14.8	13.0	16.5
Adj. Field Moisture Content % (AS1289.5.4.1)	15.3	14.1	15.2
Moisture Ratio % (AS1289.5.4.1)	103.5	108.5	92.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-0.5	-1.0	1.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.0	99.5	103.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P221277-9
Issue Number: 1
Date Issued: 09/05/2023
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P221277
Project Name: The Junction Stage 5 Level One
Project Location: Junction Village
Work Request: 12256
Date Sampled: 22/04/2023
Dates Tested: 22/04/2023 - 27/04/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: The Junction Stage 5 Level One
Material: silty sand
Material Source: Onsite



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Approved Signatory: Chris Caulfield
 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P23-12256A	P23-12256B	P23-12256C
Test Number	13	14	15
Date Tested	22/04/2023	22/04/2023	22/04/2023
Time Tested	**	**	**
Test Request #/Location	Lot 508	Lot 507	Lot 506
Layer / Reduced Level	Layer 1	Layer 2	Layer 3
Thickness of Layer (mm)	300	300	300
Soil Description	SAND	SAND	SAND
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m ³	2.03	1.86	1.99
Field Moisture Content %	9.4	3.7	9.0
Field Dry Density (FDD) t/m ³	1.86	1.80	1.83
Peak Converted Wet Density t/m ³	2.03	1.83	2.00
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	**
Adj. Field Moisture Content % (AS1289.5.4.1)	9.4	3.7	9.0
Moisture Ratio % (AS1289.5.4.1)	86.0	70.5	77.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	1.5	2.0	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.0	101.5	99.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

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