

Creekstone Estate Stage 10, Tarneit, Victoria

Level 1 Inspection & Testing Report

18 April 2026



18 April 2026

Winslow Constructors Pty Ltd
50 Barry Road
Campbellfield, VIC 3061

Level 1 Inspection & Testing Report

Creekstone Estate, Stage 10, Tarneit, Victoria

C&T Consulting Engineers has prepared this report to summarise the Level 1 Inspection & Testing activities conducted for the abovementioned project.

Distribution

Original held by	C&T Consulting Engineers
1 electronic copy	Winslow Constructors
1 electronic copy	C&T Geotechnical (Melbourne)

This report is detailed for the sole use of the intended recipient(s). Should you have any questions related to this report please do not hesitate to contact the undersigned.

For and on behalf of C&T Consulting Engineers



Gee Singh (RPEng), Director
(e) gee@ctgeotech.com.au
(m) 0404 879 558

Contents

1.	Introduction.....	3
2.	Project Background.....	3
3.	Scope of Works.....	3
3.1	Areas & Duration of Works	3
3.2	Placement Methodology.....	4
4.	Level 1 Inspection & Testing Results.....	4
4.1	Subgrade Preparation	4
4.2	Fill Source Materials.....	6
4.3	Inspection of Fill Source Materials	6
4.3.1	Material Suitability.....	6
4.3.2	Building Debris & Vegetative Matter	6
4.3.3	Oversize Particles	6
4.3.4	Fill Moisture	6
4.4	Fill Construction	6
4.4.1	Climate.....	7
4.4.2	Filling Process	7
4.5	Compaction Control & Moisture Testing Results	9
4.6	Compliance Statement	9
5.	Post-Earthworks Maintenance Considerations	9
5.1	Post-Filling Condition Monitoring & Maintenance	9
5.2	As Built Survey Requirements	10
6.	Closure	10
7.	Statement of Limitations	11

Appendices

Appendix A: Field Density Test Summary

Appendix B: Field Density Test Reports

1. Introduction

This report presents the results of the Level 1 inspection activities, compaction control services and laboratory testing services completed for the Creekstone Estate, Stage 10 located in Tarneit, Victoria (the site).

2. Project Background

C&T Geotechnical (Melbourne) was engaged to provide Level 1 Inspection and testing services for the construction of fill materials within proposed residential allotments. Authorisation to proceed was provided by Winslow Constructors (the 'Client') who were the nominated earthworks contractors. Level 1 Inspection & Testing, as defined in AS3798 (2007) Guidelines on Earthworks for Commercial and Residential Developments provides for full time inspection of the construction of controlled fill and compaction testing in accordance with AS1289 Methods of Testing Soils for Engineering Purposes and AS1726 (2017) Geotechnical Site Investigations. C&T Geotechnical (Melbourne) performed the role of the project Geotechnical Inspection & Testing Authority (GITA) with all Level 1 Inspection and Testing services undertaken by an experienced GITA site representative.

3. Scope of Works

3.1 Areas & Duration of Works

This report covers Level 1 Inspection & Testing works from 2 December 2025 to 3 December 2025, involving two days of filling operations. The filling works took place on Lots 1030 to 1038.

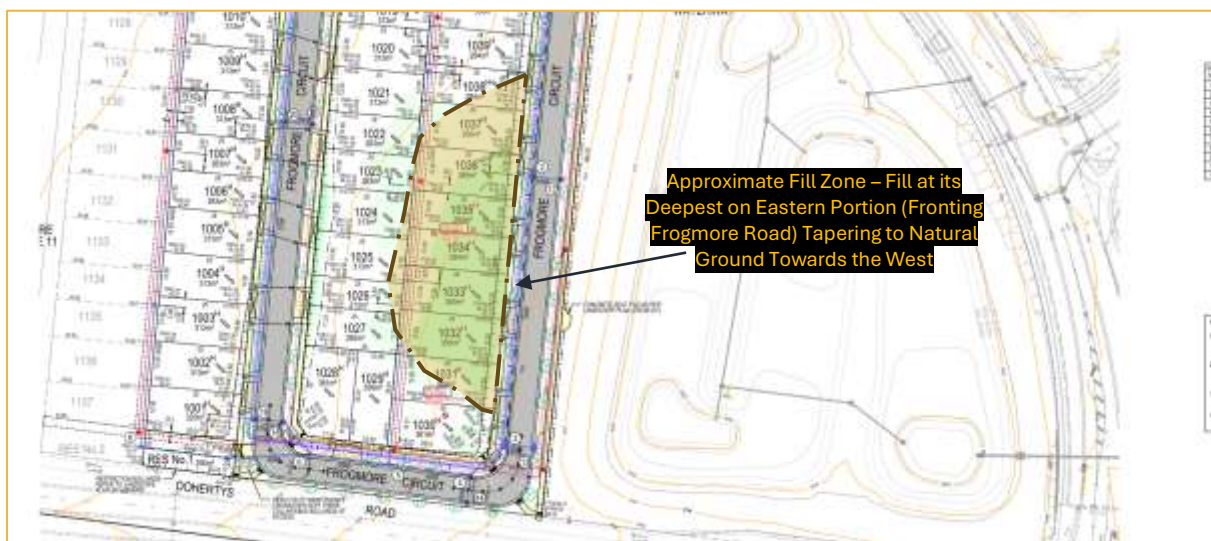


Figure 1: Approximate Level 1 Works Area (Source: BPD 8584E/N10 Rev C)

3.2 Placement Methodology

A geotechnical bulk earthworks specification was not available for the project. The placement of the controlled fill on the above-mentioned areas was carried out in general accordance with the guidelines presented in AS3798 (2007) Guidelines on Earthworks for Commercial & Residential Developments as well as the general notes (Item 20) on the supplied construction drawings prepared by Breese Pitt Dixon (ref: 8584 E/N10 Sheet 2 Rev A).

The fill placement methodology for the works generally involved:

- 1) preparing the base by stripping all loose surficial fill, soft material, vegetation, and materials containing significant organic matter to expose a natural subgrade
- 2) scarifying and moisture conditioning the stripped subgrade
- 3) proof rolling the subgrade under inspection by the project GITA
- 4) removing oversize particles and unsuitable materials from the fill matrix
- 5) placing approved fill material in loose, horizontal layers not exceeding 150 mm in thickness
- 6) moisture conditioning the fill to within +/- 3 % of the Standard Optimum Moisture Content (SOMC)
- 7) compacting the fill to achieve a target density ratio of not less than 95 % Standard Compaction
- 8) completing field density testing at a frequency for large scale developments (Type 1 AS3798) which nominates a frequency of the following:
 - one test per layer or 200 mm per 2500 m²
 - one test per 500 m³ distributed reasonably evenly throughout the full depth and area, or
 - three tests per site visit; whichever requires the most tests.

4. Level 1 Inspection & Testing Results

4.1 Subgrade Preparation

Subgrade preparation works were completed using an onsite scraper. The fill placement zones underwent stripping of topsoil, vegetation and organics until a base comprising residual Newer Volcanic Group logged as Silty CLAY / CLAY (CH), high plasticity, brown to light brown was achieved.

The subgrade was subsequently scarified, moisture conditioned and proof rolled using a fully loaded water truck (approx. 12 tonnes). No soft spots, deflections, springing or rutting was observed and the subgrade was considered suitable for fill placement.



Figure 2: Subgrade Preparation (Source: C&T)



Figure 3: Moisture Conditioning Subgrade Prior to Fill Placement (Source: C&T)

4.2 Fill Source Materials

Fill source materials were nominated by the project contractors and are understood to comprise site won material, sourced from onsite cuts typically from road boxing works on Frogmore Circuit.

4.3 Inspection of Fill Source Materials

C&T performed a visual assessment of the fill source materials for the following:

- 1) identifying fill material suitability (engineering properties) including cohesion and composition
- 2) observing building debris and vegetative matter
- 3) observing oversize rock particles
- 4) examining the fill moisture.

4.3.1 Material Suitability

The fill materials were noted to be compliant with AS3798 Section 4.0 for the intent and purpose of general filling. The materials typically comprised CLAY / Silty CLAY (CH), high plasticity, brown to light brown with trace sand and gravel.

4.3.2 Building Debris & Vegetative Matter

Building debris and vegetative matter were not observed in the nominated fill material.

4.3.3 Oversize Particles

No oversize particles were observed within the fill matrix.

4.3.4 Fill Moisture

The fill was assessed as being on the dry side of the inferred optimum moisture content (OMC).

4.4 Fill Construction

The contractor had the following plant available for the construction of the engineered fill:

- 1) Padfoot Roller
- 2) Scraper
- 3) Water Cart.

4.4.1 Climate

Weather conditions were generally fine / sunny during the works.

4.4.2 Filling Process

The filling process was generally consistent throughout the project. The fill materials were spread over the placement zones using the onsite scraper, in loose layers not exceeding ≈ 100 mm thickness. A water cart was used to moisture condition the base prior to fill spreading at the commencement of each day's works, as well as after spreading each layer of fill.

The Padfoot Roller was used to compact the fill, applying a minimum of 6 – 10 passes per layer observed. The fill materials were compacted to achieve a composite layer measuring approximately 200 mm. Field density testing was subsequently carried out on each composite 200 mm thick layer.



Figure 4: Spreading of Fill Material Across the Placement Zones (Source: C&T)



Figure 5: Spreading of Fill Material & Moisture Conditioning (Source: C&T)



Figure 6: Fill Compaction (Source: C&T)

4.5 Compaction Control & Moisture Testing Results

At the completion of the day's production, compaction control testing was performed to assess the achieved density ratio of each layer. The onsite GITA nominated the location and performed each test. Testing comprised field density tests using a nuclear moisture-density gauge and rapid HILF compaction tests in C&T Geotechnical's NATA accredited testing laboratory (AS1289 5.8.1 and AS1289 5.7.1).

A summary of the field density tests performed for the project is presented in **Appendix A**. Field density and compaction control testing report sheets are presented in **Appendix B** which also includes test location plans. It should be noted that the tests are a representation of the fill placed and support the visual assessment of the works completed.

All tests generally achieved the minimum target density ratio of 95 % Standard Compaction and moisture variation within + / - 3 % of OMC.

4.6 Compliance Statement

C&T Geotechnical (Melbourne) has undertaken Level 1 Inspection and Testing services for the construction of the fill in the aforementioned areas. **Based on observations made and the results of density tests, it is considered that the controlled fill placed has been constructed in accordance with the guidelines provided by AS3798 (2007) as well as the General Notes (Item 20) on the supplied construction drawings prepared by Breese Pitt Dixon (ref: 8584 E/N10 Sheet 2 Rev A).**

5. Post-Earthworks Maintenance Considerations

5.1 Post-Filling Condition Monitoring & Maintenance

Upon completion of earthworks and issuance of this Level 1 Inspection & Testing report, the following considerations must be observed by the built form team to ensure the long-term performance of the fill platform:

- 1) soft spot development: localised softening or disturbances may occur due to:
 - climatic influences
 - temporary water ponding (e.g. in footings, road boxing or similar)
 - construction traffic
 - inadequate surface drainage.

These are not indicative of fill performance failure but are typically the result of environmental or construction operational factors. The remediation of soft spots caused by insufficient maintenance is to be managed by the site operator/owner in accordance with their geotechnical engineer's guidance.

- 1) maintenance responsibility: any softening or surface degradation observed after final proof rolling or handover is considered a maintenance requirement
- 2) drainage management: it is strongly advised that surface drainage be established and maintained effectively to prevent water ingress into the fill materials
- 3) intrusive investigations: any post-completion intrusive geotechnical investigations (e.g. trial pits or boreholes) may compromise the compaction and integrity of the fill
 - such activities must be carefully planned and documented, particularly if undertaken by third parties
 - any intrusive works within the engineered fill (e.g. trial pits, boreholes or service excavations) must include appropriate reinstatement and recompaction to maintain the integrity of the fill. Failure to do so may affect the performance of the fill platform.

5.2 As Built Survey Requirements

- 1) an as-built survey of engineered fill levels is a critical component of the handover documentation
- 2) this survey must be provided by the project contractor, as it falls outside the scope of the Level 1 Inspection & Testing report.

6. Closure

Should you have any questions related to this report please do not hesitate to contact the undersigned.

For and on behalf of C&T Consulting Engineers



Gee Singh (RPEng), Director

(e) gee@ctgeotech.com.au

(m) 0404 879 558

7. Statement of Limitations

This report has been prepared by C&T Consulting Engineers exclusively for the commissioning client and the project described. The scope of work was limited to the services outlined herein and does not include investigation of all possible site conditions or risks.

Findings, opinions, and recommendations are based on conditions observed during limited sampling, testing, and fieldwork at the time of investigation. Subsurface conditions may vary across the site, and changes can occur after the investigation. No warranty is given that conditions described are representative of the entire site or future conditions.

If site conditions encountered during works differ from those described, C&T Consulting Engineers must be contacted promptly for reassessment and advice. Reliance on this report without such consultation is at the user's risk.

Where information has been provided by the client or third parties, it is assumed to be correct unless otherwise stated. C&T Consulting Engineers accepts no liability for errors, omissions, or misinterpretations arising from such information.

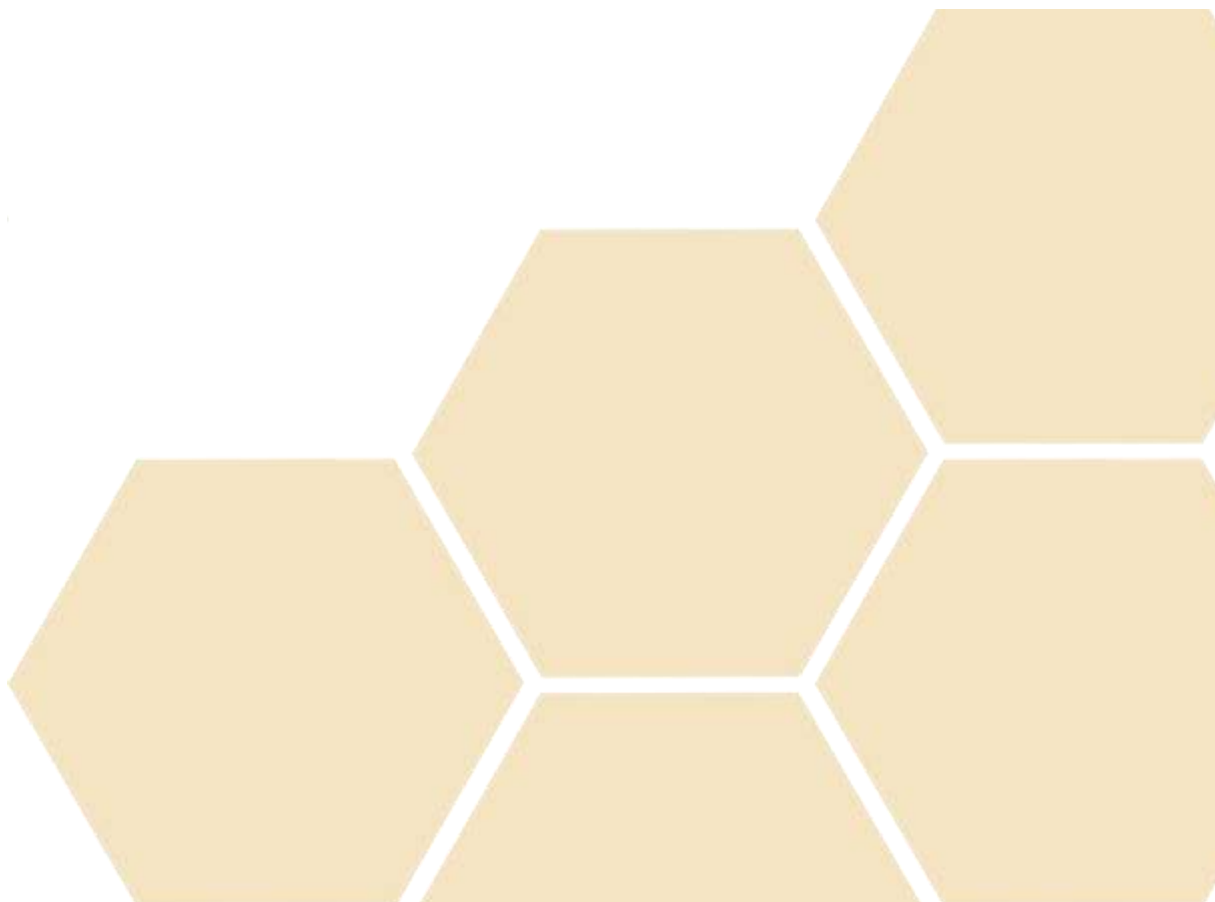
The advice in this report is based on information available at the time of preparation. C&T Consulting Engineers has no ongoing obligation to update or revise this document unless separately engaged.

Plans, diagrams, and sketches included are for illustrative purposes only and should not be used for construction or detailed design without independent verification.

This report remains the property of C&T Consulting Engineers until all fees have been paid in full. Copyright is reserved. No part of this document may be reproduced, modified, or distributed without written permission.

This report is intended for the commissioning client's use for the stated project only. No responsibility is accepted for use by other parties or for other purposes. This report must not be altered or reproduced except in full without written approval.

Appendix A – Field Density Testing Summary



Project Summary Report

Report Date: 01/04/2026
Client: WINSLOW CONSTRUCTORS (CAMPBELLFIELD, VIC)
50 Barry Road, Campbellfield Victoria 3061
Project Number: CTG0298
Project Name: CREEKSTONE NORTH STAGE 10 (LEVEL 1)
Project Location:
Specification: 95% Standard Compaction & +/- 3% Moisture Variation
Test Methods: AS 1289 5.7.1 STD & 5.8.1 & 2.1.1



GEOTECHNICAL

C & T Geotechnical (Melbourne) Pty Ltd
47A Assembly Drive Tullamarine VIC 3043

Phone: 0410 530 191

Email: Tim@ctgeotech.com.au

Lot #	Sample #	Date Sampled	Location	Chainage (m)	Location Offset (m)	Elevation (m)	Layer	Relative Compaction (%)	Moisture Variation (%)	Moisture Content (%)	Field Wet Density (t/m3)
**	0298-S1	02/12/2025	Lot 1032	305	10m West from REL	**	Layer 1 (150mm)	100.5	3.0	31.7	1.85
**	0298-S2	02/12/2025	Lot 1034	330	8m West from REL	**	Layer 2 (300mm)	98.0	2.0	26.0	1.86
**	0298-S3	02/12/2025	Lot 1036	355	9m West from REL	**	Layer 2 (300mm)	97.0	2.5	26.0	1.83
**	0298-S4	03/12/2025	Lot 1031	298	5m West from REL	**	FSL	100.5	2.0	25.3	1.87
**	0298-S5	03/12/2025	Lot 1033	320	15m West from REL	**	FSL	99.5	2.0	21.3	1.91
**	0298-S6	03/12/2025	Lot 1035	345	12m West from REL	**	FSL	106.0	3.0	26.7	1.93

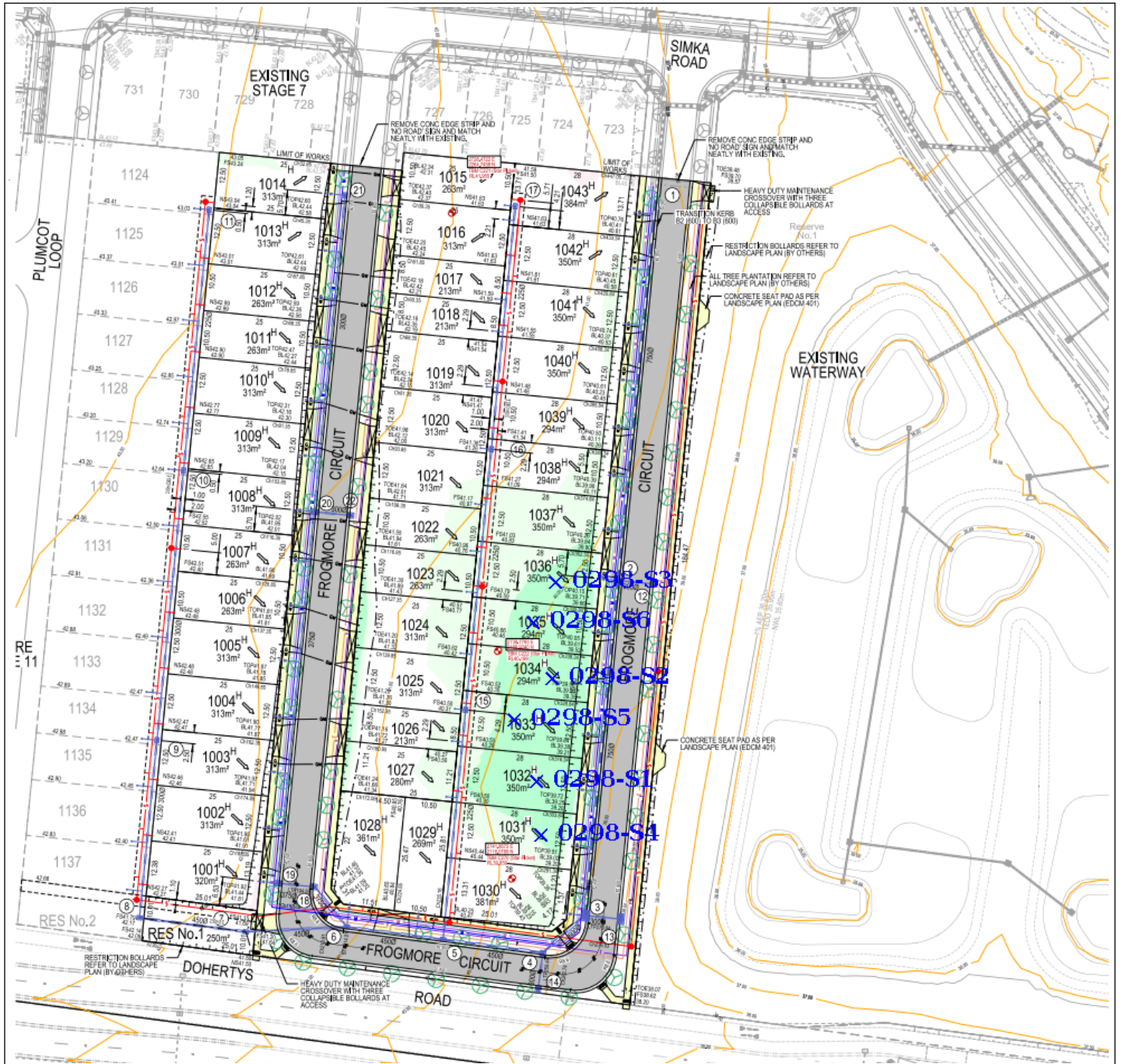
Moisture Variation Note:

Positive values = test is dry of OMC

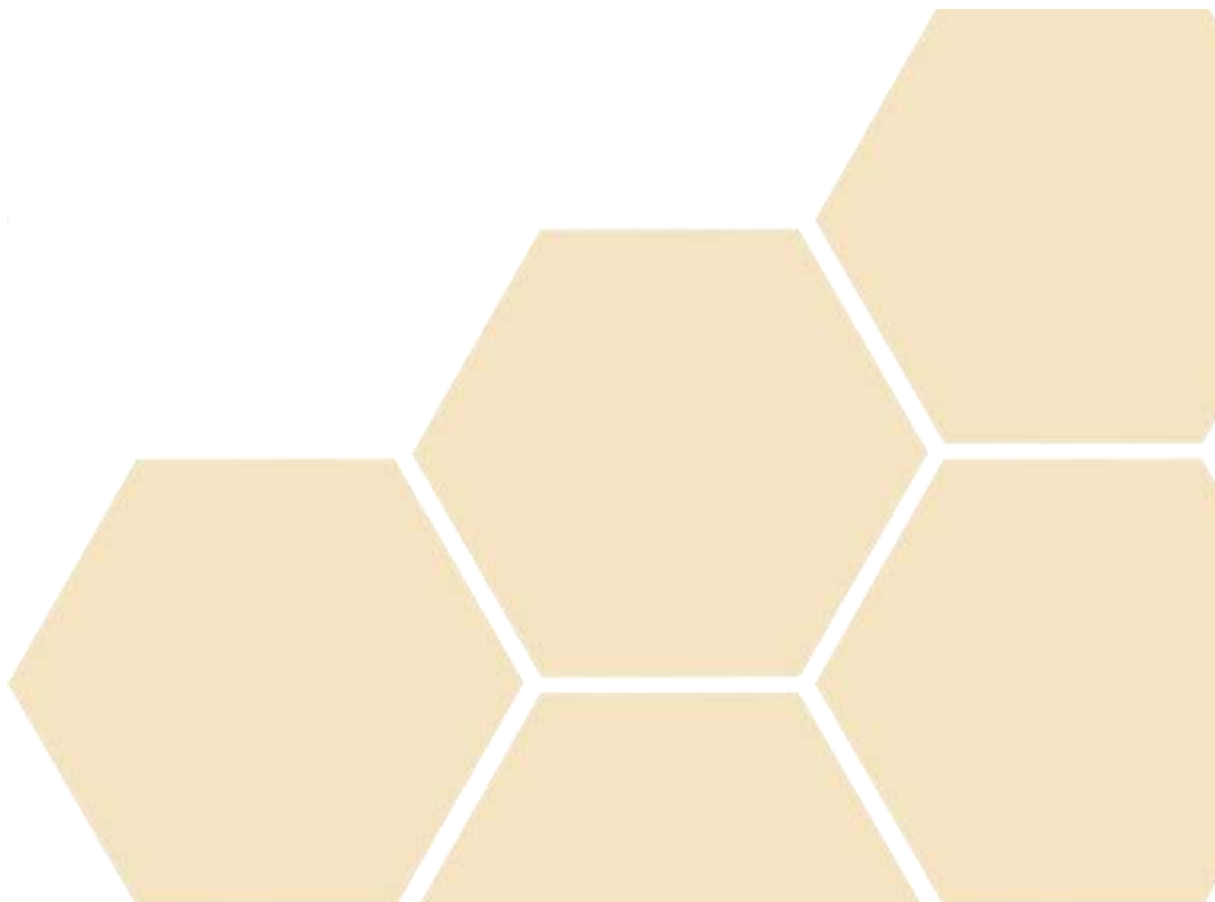
Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location



Appendix B – Field Density Test Reports



Material Test Report

Report Number: CTG0298-1
Issue Number: 1
Date Issued: 11/12/2025
Client: WINSLOW CONSTRUCTORS (CAMPBELLFIELD, VIC)
50 Barry Road, Campbellfield Victoria 3061
Project Number: CTG0298
Project Name: CREEKSTONE NORTH STAGE 10 (LEVEL 1)
Work Request: 1404
Date Sampled: 02/12/2025
Dates Tested: 02/12/2025 - 11/12/2025
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% Standard Compaction & +/- 3% Moisture Variation
Location: Stage 10
Material: silty CLAY, medium to high plasticity, brown
Material Source: Onsite Road boxing



GEOTECHNICAL

C & T Geotechnical (Melbourne) Pty Ltd
47A Assembly Drive Tullamarine VIC 3043

Phone: 0410 530 191

Email: Tim@ctgeotech.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Tim Senserrick

Managing Director

NATA Accredited Laboratory Number: 21552

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	0298-S1	0298-S2	0298-S3
Date Tested	02/12/2025	02/12/2025	02/12/2025
Time Tested	10:00	12:00	12:00
Test Request #/Location	Lot 1032	Lot 1034	Lot 1036
Chainage (m)	305	330	355
Location Offset (m)	10m West from REL	8m West from REL	9m West from REL
Layer / Reduced Level	Layer 1 (150mm)	Layer 2 (300mm)	Layer 2 (300mm)
Thickness of Layer (mm)	150	150	150
Soil Description	CLAY, medium to high plasticity, red/brown	CLAY, medium to high plasticity, red/brown	CLAY, medium to high plasticity, red/brown
Test Depth (mm)	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	5	7	4
Field Wet Density (FWD) t/m ³	1.85	1.86	1.83
Field Moisture Content %	31.7	26.0	26.0
Field Dry Density (FDD) t/m ³	1.40	1.47	1.45
Peak Converted Wet Density t/m ³	**	**	**
Adjusted Peak Converted Wet Density t/m ³	1.84	1.90	1.89
Moisture Variation (Wv) %	**	**	**
Adjusted Moisture Variation %	3.0	2.0	2.5
Hilf Density Ratio (%)	100.5	98.0	97.0
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

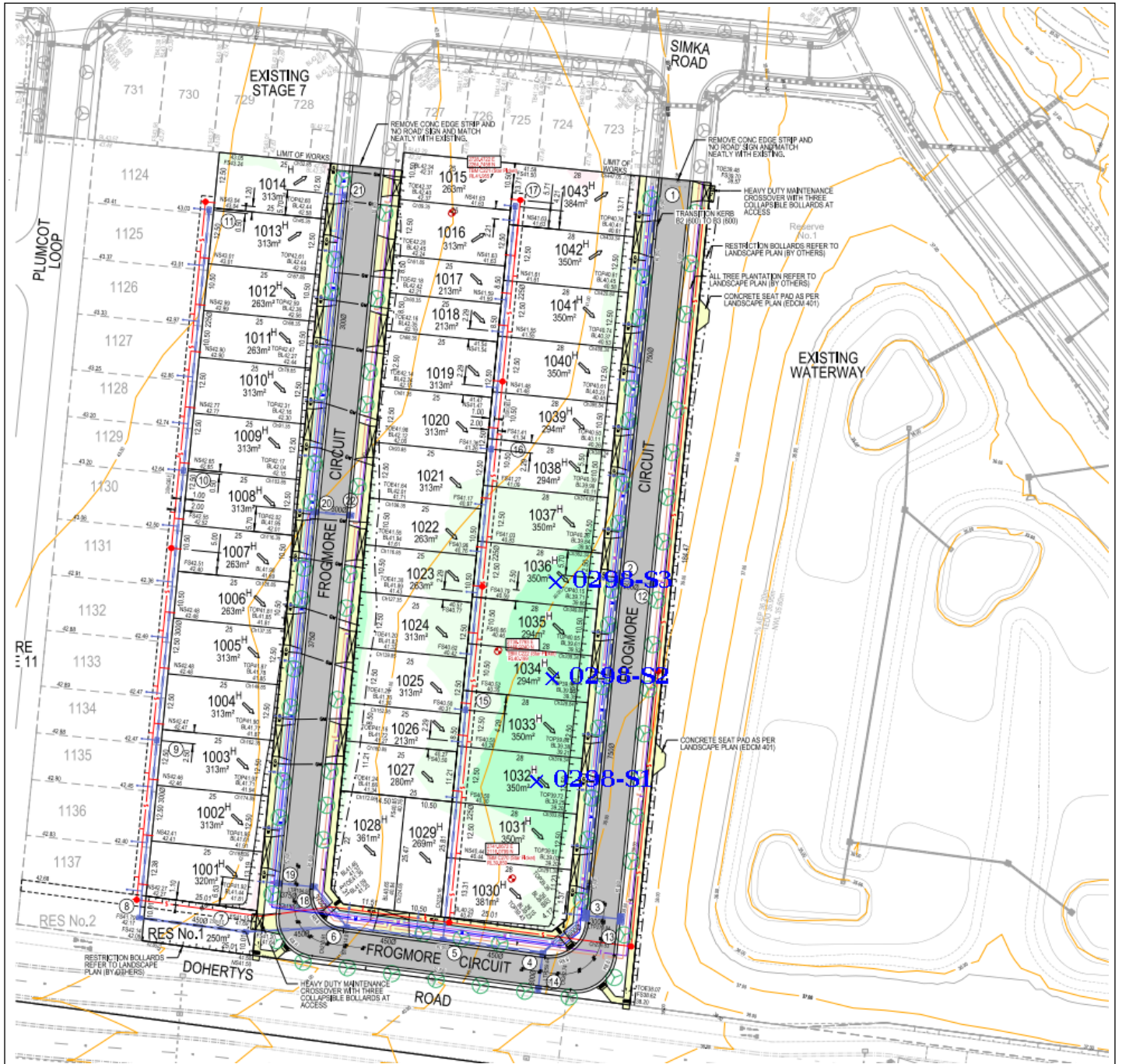
Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location



Material Test Report

Report Number: CTG0298-2
Issue Number: 1
Date Issued: 15/12/2025
Client: WINSLOW CONSTRUCTORS (CAMPBELLFIELD, VIC)
50 Barry Road, Campbellfield Victoria 3061
Project Number: CTG0298
Project Name: CREEKSTONE NORTH STAGE 10 (LEVEL 1)
Work Request: 1424
Date Sampled: 03/12/2025
Dates Tested: 03/12/2025 - 15/12/2025
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% Standard Compaction & +/- 3% Moisture Variation
Location: Stage 10
Material: gravelly CLAY, medium to high plasticity, brown
Material Source: Onsite road boxing



GEOTECHNICAL

C & T Geotechnical (Melbourne) Pty Ltd
47A Assembly Drive Tullamarine VIC 3043

Phone: 0410 530 191

Email: Tim@ctgeotech.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Tim Senserrick

Managing Director

NATA Accredited Laboratory Number: 21552

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	0298-S4	0298-S5	0298-S6
Date Tested	03/12/2025	03/12/2025	03/12/2025
Time Tested	15:00	15:10	15:20
Test Request #/Location	Lot 1031	Lot 1033	Lot 1035
Chainage (m)	298	320	345
Location Offset (m)	5m West from REL	15m West from REL	12m West from REL
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	150	150	150
Soil Description	gravelly CLAY, medium to high plasticity, red/brow	gravelly CLAY, medium to high plasticity, red/brow	gravelly CLAY, medium to high plasticity, red/brow
Test Depth (mm)	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	1.87	1.91	1.93
Field Moisture Content %	25.3	21.3	26.7
Field Dry Density (FDD) t/m ³	1.49	1.58	1.52
Peak Converted Wet Density t/m ³	1.86	1.92	1.82
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.0	2.0	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.5	99.5	106.0
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

