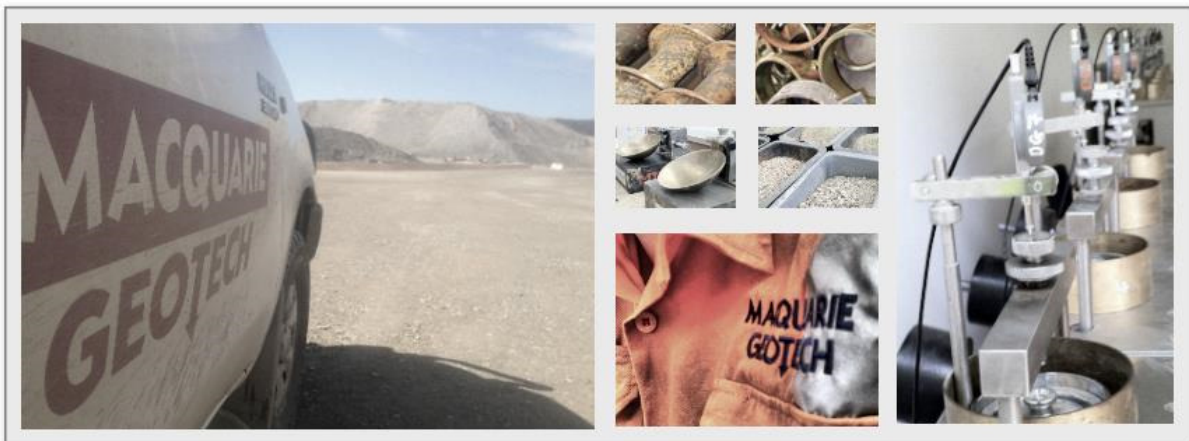


LEVEL 1 INSPECTION & TESTING REPORT

VERVE ESTATE STAGE 6

CLYDE NORTH, VICTORIA

Prepared for Winslow Constructions Pty Ltd



PROJECT DETAILS

<i>Project Reference</i>	GSE1438.1		
<i>Project Testing Laboratory</i>	Melbourne East Laboratory		
<i>Project Title</i>	Proposed Subdivision, Verve Estate Stage 6		
<i>Project Location</i>	Verve Estate, Clyde North, VIC 3978 (City of Casey)		
<i>Period which report covers</i>	<i>Start Date</i>	1509/2025	<i>End Date</i> 17/10/2025
<i>Report Number</i>	GSE1438.1 Level 1 Report	<i>Rev No.</i>	00
<i>Date of Issue</i>	28 th November		

CLIENT DETAILS

<i>Client Name</i>	Winslow Constructions Pty Ltd
<i>Client Address</i>	Building C; Level 3; 20 Jura Way, Clyde North VIC 3978
<i>Project Principal (if applicable)</i>	
<i>Client Project Number (if applicable)</i>	

This document presents the results of the Level 1 Inspection and Testing performed by Macquarie Geotechnical Pty Ltd for the above mentioned project and client, as the nominated project Geotechnical Inspection & Testing Authority (GITA). 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.

If you are not the intended recipient, any use, distribution, disclosure or copying of this report is strictly prohibited.

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TABLE OF CONTENTS

1. INTRODUCTION	4
2. PROJECT OVERVIEW	4
3. SPECIFICATIONS AND DOCUMENTATION	4
3.1. SPECIFICATIONS	4
3.2. DRAWINGS	4
4. CONFORMANCE CRITERIA	4
4.1. COMPACTION AND MOISTURE CONTENT	4
4.2. PROOF ROLL INSPECTIONS	5
4.3. CONSTRUCTION MATERIALS	5
4.4. BENCHING AND BATTERING	5
5. INSPECTION AND TESTING RESULTS	5
5.1. SUBGRADE PREPARATION	5
5.2. CONSTRUCTION MATERIALS	5
5.3. INSPECTION OF FILL SOURCE MATERIALS	6
5.4. MATERIAL SUITABILITY	6
5.5. BUILDING DEBRIS & VEGETATIVE MATTER	6
5.6. OVERSIZE PARTICLES	6
5.7. FILL MOISTURE	6
5.8. CONTAMINATION TESTING	6
5.9. FILL CONSTRUCTION	6
5.10. CLIMATE	6
5.11. COMPACTION CONTROL & MOISTURE TESTING RESULTS	7
5.12. FINAL SURFACE LEVELS	7
6. CONCLUSION	7
7. UNDERSTANDING level 1 inspection & testing	8

Attached: Limitations of Geotechnical Site Investigation
 Appendix A – SITE LAYOUT / SITE PLANS
 Appendix B – TEST SUMMARY
 Appendix D – SITE PHOTOS

References:

AS3798 (2007) Guidelines on Earthworks for Residential and Commercial Developments.
 AS1289 Methods of Testing Soils for Engineering Purposes.

1. INTRODUCTION

Macquarie Geotechnical Pty Ltd has been engaged by Winslow Constructions Pty Ltd to act as the Geotechnical Inspection and Testing Authority (GITA) on the Proposed Subdivision at Verve Estate Stage 6, Clyde North

The objectives as the GITA is to undertake Level 1 inspections and testing to confirm that the placement methodology and material suitability are completed in accordance with the site specific plans and specifications and that of the requirements of AS3798 (2007) 'Guidelines on Earthworks for Commercial and Residential Developments' for the placement of the Fill materials within the work area in accordance with the site specifications and Inspection and Test Plans (ITP's).

2. PROJECT OVERVIEW

The project is located at Verve Estate Stage 6, (City of Casey).

It is understood that the project involves the construction of bulk earth works include removing rocks, levelling the ground, and preparing the site for installation of fill materials. Macquarie Geotech was engaged to provide Level 1 Inspection and Testing services for these components of the project. Authorisation to proceed was provided by Winslow Constructions Pty Ltd (the 'Client').

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 (1993) 'Geotechnical Site Investigations'.

Macquarie Geotech performed the role of the project Geotechnical Inspection & Testing Authority (GITA) with all Level 1 Inspection and Testing services described in this report undertaken by an experienced GITA site representative.

3. SPECIFICATIONS AND DOCUMENTATION

Macquarie Geotechnical Pty. Ltd. undertook supervision acting as the Geotechnical Inspection and Testing Authority (GITA) in accordance with the following specifications, drawings and ITPs:

3.1. SPECIFICATIONS

- AS3798 "Guidelines on Earthworks for Commercial and Residential Developments" (2017).

3.2. DRAWINGS

- VERVE ESTATE, CLYDE NORTH PROPOSED STAGE 6 REFERENCE : 23555E/6
-

4. CONFORMANCE CRITERIA

4.1. COMPACTION AND MOISTURE CONTENT

All materials used within the construction were required to be compacted and conditioned to achieve the minimum acceptance limits as defined in AS3798:2007 Table 5.1 as follows:

- Residential Lot Fill – 95% relative to Standard Compaction
- Pavement General Fill – 95% relative to Standard Compaction
- Pavement Subgrade – 98% relative to Standard Compaction

Fill materials to be placed in Maximum 300mm compacted layers unless otherwise specified on the drawings.

Where tests fail to confirm the required relative compaction, the areas are to be reconditioned, recompacted and retested.

4.2. PROOF ROLL INSPECTIONS

Proof roll inspections to be undertaken as directed by the principal as indicated in the drawings, specifications and ITPs by the GITA and Clients representative.

The area(s) to be deemed as acceptable where no visible deflection, heaving or shoving is observed and where inspection has been undertaken and that the areas are free from vegetation such as roots and organic soils, moisture affected and collapsible soils.

4.3. CONSTRUCTION MATERIALS

Materials used in construction must be assessed to identify the following material characteristics:

- Identify fill Material suitability (engineering property) including cohesion.
- Free of building debris and vegetative matter (cleanliness) of the material.
- Free of distinguished oversize rock particles.
- Examining the material moisture reactivity.

4.4. BENCHING AND BATTERING

Throughout the pad construction, fill placed within the earthworks lots is to be keyed into adjacent fill blocks through benching to ensure adequate keying.

In addition material is to be placed and compacted throughout the extent of the pad to allow batters to be shaped within the compacted material zone. Where required material is to be extended past the edges of the pad to allow battering.

5. INSPECTION AND TESTING RESULTS

5.1. SUBGRADE PREPARATION

Macquarie Geotechnical observed subgrade preparation, which involved the removal of all loose surficial fill, topsoil, soft materials, vegetation.

The exposed subgrade surface was trimmed, levelled, and compacted to a condition suitable as support for the placement of the initial layers of engineered fill, by the contractor. The exposed subgrade was visually assessed by the on-site GITA representative throughout the project.

The subgrade was then proof rolled in the presence of the on-site GITA prior to placement of fill. The majority of the areas were generally found to comply with no visual signs of rutting, springing, or deflections. The areas that were observed to be soft were excavated until a suitable subgrade was achieved. The areas that were found to be wet were ripped and allowed to dry prior to placement of subsequent fill layers.

5.2. CONSTRUCTION MATERIALS

The fill material used was nominated by the on-site contractor. With the fill was sourced from cut to fill operations and various stockpiles from previous stages works. The material was observed to comprise silty/CLAY and Gravelly/Silty/CLAY, medium to high plasticity, brown mottled grey/orange, and generally around the inferred OMC. The site won cut to fill materials comprised Silty CLAY, typically brown/white/orange mottled and ranging from dry to wet of the soils inferred OMC.

5.3. INSPECTION OF FILL SOURCE MATERIALS

Macquarie Geotechnical performed visual assessment of the fill source materials to identify the following:

- material suitability
- materials free of building debris and vegetative matter
- oversize rock particles
- fill moisture.

5.4. MATERIAL SUITABILITY

The fill materials were noted to be compliant with AS3798 Section 4.0 for the intent and purpose of general filling. Visual/tactile assessments were conducted to identify the condition of the fill used during the placement.

5.5. BUILDING DEBRIS & VEGETATIVE MATTER

A small area of the site contained remains of a tree and vegetation matter, this was removed from the fill subgrade, stockpiled and taken to a suitable dump point. No building debris or further vegetation matter was observed within the fill sources.

5.6. OVERSIZE PARTICLES

No oversized particles were observed within the fill sources.

5.7. FILL MOISTURE

The fill source was assessed to range from dry to wet with the optimum moisture content, depending on the source of the material. Portions of the fill material that were found to be dry were moisture conditioned using a water cart prior to placement. Fill material observed to be wet of the optimum moisture was allowed to dry out where required.

5.8. CONTAMINATION TESTING

The project contractor undertook contamination testing of the fill materials conform to the relevant EPA guidelines.

5.9. FILL CONSTRUCTION

The contractor had the following plant available on-site during the construction period for use in the fill placement.

- Padfoot Roller
- Compactor
- Dozer
- Grader
- Watercart
- Excavator

5.10. CLIMATE

During fill placement, the weather conditions ranged from cool to sunny. Occasional rainfall events were observed.

5.11. COMPACTION CONTROL & MOISTURE TESTING RESULTS

In general, all areas were found to achieve the minimum target density ratio of 95% Standard Compaction.

The material was moisture conditioned to allow compaction and to reduce over wet materials or dry materials which could become collapsible after placement as per the site requirements.

Throughout the process and/or at the completion of the day's production, compaction control testing was performed to assess the achieved density ratio of each layer. The on-site GITA nominated the locations and performed each test.

Testing comprised a total of 18 density tests using a nuclear moisture-density gauge and 18 laboratory compaction tests (AS1289.5.8.1 and AS1289 5.7.1).

A summary of the field density tests performed for the project is presented in Appendix B, Field density and compaction control testing reports are presented in Appendix C. It should be noted that the tests are a representation of the fill placed and support the visual assessment of the works completed.

5.12. FINAL SURFACE LEVELS

Observations were made by a Macquarie Geotech staff member that filling had been complete up to the nominated finished levels as per confirmation provided from the contractor's site foreman. The observed final levels are the constructed finished surface levels of the controlled fill.

It should be noted that the overall fill depths are estimated using onsite visual tactile methods and may not be a true representation of fill depths given that conditions on site may change over time. True fill depths should be obtained from the contractor's survey data.

Macquarie Geotechnical also recommend that the surface be covered or maintained if left exposed to reduce the risk of cracking or moisture release or inflow.

6. CONCLUSION

Macquarie Geotechnical as the acting Geotechnical Inspection & Testing Authority (GITA) is of the opinion that the works, as far as it's been able to determine comply with the specifications, drawings and site direction in regards to the inspections and the testing completed throughout the above mentioned period of the earthwork's construction program.

Such inspection and testing was undertaken in accordance with AS3798 - Guidelines on Earthworks for Commercial and Residential Developments, for Level 1 testing and apply to the period of which the observations were made and do not include continued maintenance and protection of the works.

We trust the foregoing is sufficient for your present purposes, and if you have any questions, please contact the undersigned.

Prepared By



James McCulloch
Operations Manager

7. UNDERSTANDING level 1 inspection & testing

The purpose of performing Level 1 Inspection and Testing is to ensure compliance of the fill with the specification. The engagement of a Geotechnical Inspection Testing Authority (GITA) allows the contractor to perform their role in the construction of the filling operation while the GITA monitors the quality control process of the fill placement. The visual observations of thorough processes and work practices by the contractor allows the GITA to approve the subsequent placement of fill without having to wait for the completion of testing and the extended time it takes to get a test result back. The GITA will, however, carry out random spot checks of the filling operations throughout the day's production as confirmation that the placement procedures and the fill moisture content is appropriate. At the end of a day's production the GITA will sign off the completed works as satisfactory. Any failed tests will result in that area of operation requiring rectification in the following mornings activities. This may be as simple as extra rolling with compaction plant if moisture conditioning is suitable. Sometimes these areas may be retested if the GITA feels it is necessary.

While AS3798 (2007) is a guideline on the minimum requirements of filling on commercial and residential developments, some projects require a more detailed project specification to deal with site specific issues. While moisture conditioning of fill sources aids in the ease with which compaction is achieved, it is not necessarily a physical characteristic that determines if the placed fill is acceptable. In some situations, the moisture requirement is an extremely important function of the final constructed product. In these situations, a specific project specification should apply to the project as detailed by the designing geotechnical engineer. These are typical of clay liners for wetlands, dams, landfill liners and caps and an array of other engineering situations. Creating a consolidated platform of which is similar to equivalent surrounding natural conditions is the primary aim of level one processes, preventing the occurrence of differential ground movements to footing structures.

Level 1 Inspection & Testing requires full time inspection and testing of the fill placement undertaken on a site. Macquarie Geotech (project GITA) are notified daily (or at the completion of each day's work) by the project foreman where subsequent days of fill placement under Level 1 is to occur. On projects that rely upon the importation of a fill source, there can be delays in the receipt of sufficient materials to warrant fill placement works which may result in periods of time where a GITA representative is not required on site. It is the contractor's responsibility to notify the GITA when works proceed and their attendance on site is required again. A GITA relies upon the integrity of the contractor to advise when site attendance is required and makes all reasonable visual attempts to assess if the works are the same as the previous day's attendance.

LIMITATIONS OF GEOTECHNICAL SITE INVESTIGATION

Scope of Services

This report has been prepared for the Client in accordance with the Services Engagement Form (SEF), between the Client and Macquarie Geotechnical.

Reliance on Data

Macquarie Geotechnical has relied upon data and other information provided by the Client and other individuals. Macquarie Geotechnical has not verified the accuracy or completeness of the data, except as otherwise stated in the report. Recommendations in the report are based on the data.

Macquarie Geotechnical will not be liable in relation to incorrect recommendations should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed.

Geotechnical Investigation

Findings of Geotechnical Investigations are based extensively on judgment and experience. Geotechnical reports are prepared to meet the specific needs of individual clients. This report was prepared expressly for the Client and expressly for the Clients purposes.

This report is based on a subsurface investigation, which was designed for project-specific factors. Unless further geotechnical advice is obtained this report cannot be applied to an adjacent site nor can it be used when the nature of any proposed development is changed.

Limitations of Site investigation

As a result of the limited number of sub-surface excavations or boreholes there is the possibility that variations may occur between test locations. The investigation undertaken is an estimate of the general profile of the subsurface conditions. The data derived from the investigation and laboratory testing are extrapolated across the site to form a geological model. This geological model infers the subsurface conditions and their likely behavior with regard to the proposed development.

The actual conditions at the site might differ from those inferred to exist.

No subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies.

Time Dependence

This report is based on conditions, which existed at the time of subsurface exploration. Construction operations at or adjacent to the site, and natural events such as floods, or groundwater fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report.

Macquarie Geotechnical should be kept apprised of any such events, and should be consulted for further geotechnical advice if any changes are noted.

Avoid Misinterpretation

A geotechnical engineer or engineering geologist should be retained to work with other design professionals explaining relevant geotechnical findings and in reviewing the adequacy of their plans and specifications relative to geotechnical issues.

No part of this report should be separated from the Final Report.

Sub-surface Logs

Sub-surface logs are developed by geoscientific professionals based upon their interpretation of field logs and laboratory evaluation of field samples. These logs should not under any circumstances be redrawn for inclusion in any drawings.

Geotechnical Involvement During Construction

During construction, excavation frequently exposes subsurface conditions. Geotechnical consultants should be retained through the construction stage, to identify variations if they are exposed.

Report for Benefit of Client

The report has been prepared for the benefit of the Client and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendations and should make their own enquiries and obtain independent advice in relation to such matters

Macquarie Geotechnical assumes no responsibility and will not be liable to any other person or organisations for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisations arising from matters dealt with or conclusions expressed in the report.

Other limitations

Macquarie Geotechnical will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

Other Information

For further information reference should be made to "Guidelines for the Provision of Geotechnical Information in Construction Contracts" published by the Institution of Engineers Australia, 1987.

Appendix A



23555_6R&D set.pdf

Appendix B – See Page 12



Summary (72).pdf



Project Summary Report



Report Date: 23/03/2026
Client: WINSLOW CONSTRUCTORS PTY LTD

Macquarie Geotechnical Pty Ltd
Melbourne East Laboratory
113 Wedgewood Road Hallam Victoria 3803
Phone: 0450 925 137
Email: troy@groundscience.com.au

Project Number: GSE1438.1
Project Name: Verve Estate Stage 6
Project Location:
Specification: 95% Standard Compaction
Test Methods: AS 1289 5.7.1 STD & 5.8.1 & 2.1.1

Lot #	Sample #	Date Sampled	Location	Location		Elevation (m)	Layer	Relative Compaction (%)	Moisture Variation (%)	Moisture Content (%)	Field Wet Density (t/m3)
**	1438.1-S1	30/09/2025	LOT 634	**	**	**	FSL	98.0	1.0	20.9	1.93
**	1438.1-S2	30/09/2025	LOT 633	**	**	**	FSL	97.0	0.5	20.4	1.94
**	1438.1-S3	30/09/2025	LOT 635	**	**	**	FSL	98.5	0.5	20.2	1.96
**	1438.1-S4	01/10/2025	LOT 644/643	**	**	**	-0.3m FSL	98.0	2.0	21.5	1.88
**	1438.1-S5	01/10/2025	LOT 642/641	**	**	**	-0.3m FSL	96.5	0.5	23.8	1.84
**	1438.1-S6	01/10/2025	LOT 640/639	**	**	**	-0.3m FSL	100.0	2.0	22.5	1.92
**	1438.1-S7	01/10/2025	LOT 643/642	**	**	**	FSL	96.0	-1.0	24.2	1.84
**	1438.1-S8	01/10/2025	LOT 641/640	**	**	**	FSL	98.5	2.5	25.6	1.83
**	1438.1-S9	01/10/2025	LOT 638/637	**	**	**	FSL	98.5	2.5	26.7	1.83
**	1438.1-S13	02/10/2025	LOT 619	**	**	**	FSL	97.5	-0.5	20.4	2.10
**	1438.1-S14	02/10/2025	LOT 618	**	**	**	FSL	97.5	-0.5	15.2	2.11
**	1438.1-S15	02/10/2025	LOT 617/616	**	**	**	FSL	99.0	-0.5	23.0	2.10
**	1438.1-S10	02/10/2025	LOT 615	**	**	**	-0.3m FSL	96.0	-3.5	27.8	1.92
**	1438.1-S11	02/10/2025	LOT 621	**	**	**	-0.3m FSL	98.0	-3.5	26.7	1.93
**	1438.1-S12	02/10/2025	LOT 620	**	**	**	-0.3m FSL	95.0	-2.5	23.3	1.95
**	1438.1-S16	02/10/2025	LOT 622	**	**	**	FSL	99.0	-2.0	27.9	1.94
**	1438.1-S17	02/10/2025	LOT 623	**	**	**	FSL	98.0	-2.0	26.9	1.93
**	1438.1-S18	02/10/2025	LOT 624	**	**	**	FSL	97.0	-3.5	28.2	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

