



# Pearce Geotech

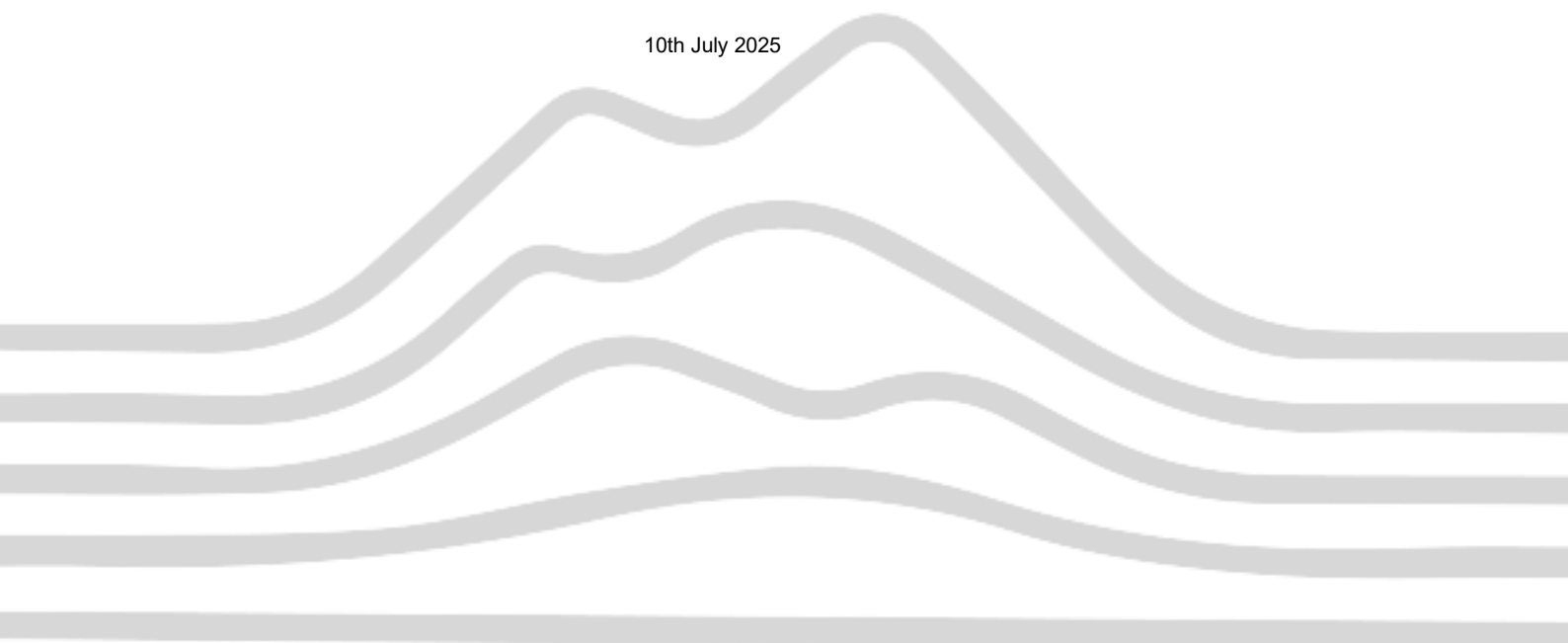
## **MERRIFIELD RESIDENTIAL - STAGE 4**

Level One Report

Winslow Constructors Pty Ltd

P242088

10th July 2025



10th July 2025

Winslow Constructors Pty Ltd  
Level 1, 6 English Street  
Essendon Fields, VIC, 3041

**Attention: Ali Al Musharafawi**

Dear Ali

**RE: Merrifield Residential - Stage 4**  
**Level 1 Compaction Control**

This letter presents a report by Pearce Geotech Pty Ltd (PG) on Level 1 Testing Services undertaken during the construction of fill at Merrifield Residential - Stage 4. One electronic copy provided.

Please do not hesitate to contact the undersigned should there be any queries regarding this report.

For and on behalf of Pearce Geotech Pty Ltd



Regards

Mitch Francis

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## 1 INTRODUCTION

This report presents the results of compaction control and laboratory testing services provided by Pearce Geotech Pty Ltd (PG) during the construction of fill at Merrifield Residential - Stage 4.

PG was engaged by Winslow Constructors Pty Ltd to provide Level 1 testing services for the duration of these works in accordance with the specification supplied. The work was commissioned by Mr Ali Al Musharafawi of Winslow Constructors.

Level 1 testing, as defined in AS3798-2007 "Guidelines on Earthworks for Commercial and Residential Development", 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". The Level 1 testing was undertaken by technicians from PG on the 6<sup>th</sup> of September 2024 & the 4<sup>th</sup> of July 2025.

## 2 SCOPE OF WORK

### 2.1 Area of Work

PG provided testing and supervision of fill placed for the dates shown in Table 4.2.1. Conditioning and placement methodology was observed by experienced PG technicians during the period of works. The testing locations were chosen randomly by PG technicians within the relevant work areas. Additionally, spot checks for density and moisture were conducted to provide feedback to ground staff during the construction of fill.

This report does not include fill other than where mentioned in this report or any other fill that may be placed during this period or subsequent periods at or surrounding the subject site. Maintenance and protection of the fill is the obligation of the contractor and PG takes no responsibility for the state of works outside the dates shown under Table 4.2.1 which may be influenced by weather events or continued work on the subject site.

### 2.2 Placement Specification

While no earthworks specification was supplied, the fill placement and testing requirements for the structural fill were derived from AS 3798 "Guidelines on earthworks for commercial and residential developments" – Table 5.1, with the minimum density ratio as item One (1) below;

**TABLE 5.1**  
**MINIMUM RELATIVE COMPACTION**

| Item | Application  | Minimum relative compaction, %   |   |
|------|--|--|---|
|      |  | Minimum density ratio<br>(at standard compactive effort)<br>(Cohesive soils)<br>(see Note 1) | Minimum density index<br>(Cohesionless soils)<br>(see Note 2) |
| 1    | Residential—lot, fill, house, sites  | 95<br>(see Note 3)   | 70  |
| 2    | Commercial—fills to support minor loadings, including floor loadings of up to 20 kPa and isolated pad or strip footings to 100 kPa | 98<br>(see Note 4)   | 75  |
| 3    | Fill to support pavements (see Note 5)   |  |   |
|      | (a) General fill   | 95   | 70  |
|      | (b) Subgrade (to a depth of 0.3 m)   | 98   | 75  |

### **3 CONSTRUCTION PLANT**

The following construction plant was used on site as required:

- 1 x Excavator
- 1 x Grader
- 1 x Compactor
- 1 x Pad Foot Roller
- 1 x Water Cart
- Dump Trucks as required

### **4 INSPECTION AND TESTING**

#### **4.1 Construction Materials**

Silty gravelly **Clay** was used as fill for this project.

Fill material was sourced from:

- Onsite cuts

Pearce Geotech was not involved in the selection of fill material. All fill material was spread, watered and compacted to achieve the specified compaction control requirements.

#### **4.2 Fill Placement**

Initial site inspection showed areas of fill as per the attached site plan. These areas were consecutively stripped of all deleterious silty topsoil, organic matter and existing fill down to a silty clay. The prepared areas were then moisture conditioned, compacted and proof rolled to achieve the specified limits.

Compaction tests and a proof roll were conducted on each tested layer of compacted fill to ensure compliance with the specification. Samples of the fill material were tested in PG's NATA accredited laboratory (Accreditation Number 18877) to determine the Hilf density ratio and moisture ratio of the material. In total 12 field density tests, 12 Hilf rapid compaction tests and 12 moisture contents were conducted.

Control Fill material was placed by dump truck, spread by grader, simultaneously water conditioned with watercart and compacted. Where the material appeared too wet, dry soil was mixed in and processed to a homogenous state.

**4.2.1 Test Summary**

| Field No. | Date      | Location      | Layer    | Min. Ratio [%] | Density Ratio [%] |
|-----------|-----------|---------------|----------|----------------|-------------------|
| 24-30968A | 6/09/2024 | Refer to Plan | Subgrade | 95% Std        | 99.0              |
| 24-30968B | 6/09/2024 | Refer to Plan | Subgrade | 95% Std        | 99.5              |
| 24-30968C | 6/09/2024 | Refer to Plan | Lift 2   | 95% Std        | 99.5              |
| 24-30968D | 6/09/2024 | Refer to Plan | Lift 1   | 95% Std        | 99.5              |
| 25-34835A | 4/07/2024 | Refer to Plan | FSL      | 95% Std        | 98.0              |
| 25-34835B | 4/07/2024 | Refer to Plan | FSL      | 95% Std        | 100.0             |
| 25-34835C | 4/07/2024 | Refer to Plan | Lift 3   | 95% Std        | 98.0              |
| 25-34835D | 4/07/2024 | Refer to Plan | Lift 3   | 95% Std        | 98.5              |
| 25-34835E | 4/07/2024 | Refer to Plan | FSL      | 95% Std        | 98.5              |
| 25-34835F | 4/07/2024 | Refer to Plan | FSL      | 95% Std        | 98.0              |
| 25-34835G | 4/07/2024 | Refer to Plan | FSL      | 95% Std        | 99.0              |
| 25-34835H | 4/07/2024 | Refer to Plan | Lift 1   | 95% Std        | 99.0              |

**5 STATEMENT OF COMPLIANCE**

PG personnel have provided Level 1 inspection and testing services during construction of the fill at Merrifield Residential - Stage 4. A technician from PG was on site on a fulltime basis during fill placement and observed the construction techniques adopted.

Based on these observations made by PG personnel and the results of field and laboratory tests, we consider that the fill has been placed in accordance with the intent of the specification.

For and on behalf of Pearce Geotech Pty Ltd

Regards

Mitch Francis  
B.Eng. Civil (Hons)




# Appendix A

## Test Results

# Material Test Report


**Report Number:** P242088-1  
**Issue Number:** 1  
**Date Issued:** 18/10/2024  
**Client:** Winslow Constructors Pty Ltd

**Pearce Geotech**  
Pearce Geotech Pty Ltd  
23 Nobility Street Moolap VIC 3221  
Phone: (03) 5248 7887  
Email: Mitch@pgeo.com.au

**Contact:** Will  
**Project Number:** P242088  
**Project Name:** Merrifield Business Park Stage 4  
**Project Location:** Mickleham  
**Work Request:** 30968  
**Date Sampled:** 06/09/2024  
**Dates Tested:** 06/09/2024 - 23/09/2024  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Remarks:** TRN 16740  
**Specification:** 98% Standard  
**Location:** TRN 16740  
**Material:** Clay  
**Material Source:** Insitu



Accredited for compliance with ISO/IEC 17025 - Testing

  
Approved Signatory: Mitch Francis  
Laboratory Manager  
NATA Accredited Laboratory Number: 18877

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

| Sample Number  | 24-30968A  | 24-30968B  | 24-30968E  | 24-30968H  |
|--|------------|------------|------------|------------|
| Date Tested  | 06/09/2024 | 06/09/2024 | 06/09/2024 | 06/09/2024 |
| Time Tested  | 11:04      | 11:09      | 11:25      | 11:41      |
| Test Request #/Location                              | Lot 401    | Lot 402    | Lot 401    | Lot 402    |
| Layer / Reduced Level                                | Subgrade   | Subgrade   | Lift 2     | Lift 1     |
| Thickness of Layer (mm)                              | 200        | 200        | 200        | 200        |
| Soil Description                                     | Clay       | Clay       | Clay       | Clay       |
| Test Depth (mm)                                      | 175        | 175        | 175        | 175        |
| 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>             | 2.04       | 2.04       | 2.04       | 2.04       |
| Field Moisture Content %                             | 15.4       | 15.7       | 17.2       | 15.7       |
| Field Dry Density (FDD) t/m <sup>3</sup>             | 1.77       | 1.77       | 1.74       | 1.76       |
| Peak Converted Wet Density t/m <sup>3</sup>          | 2.06       | 2.05       | 2.05       | 2.05       |
| Adjusted Peak Converted Wet Density t/m <sup>3</sup> | **         | **         | **         | **         |
| Moisture Variation (Wv) %                            | 2.0        | 2.0        | 1.5        | 2.0        |
| Adjusted Moisture Variation %                        | **         | **         | **         | **         |
| Hilf Density Ratio (%)                               | 99.0       | 99.5       | 99.5       | 99.5       |
| 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



## CLIENT NAME:

Winslow Constructors Pty Ltd

## PROJECT NAME:

Merrifield Residential - Stage 4

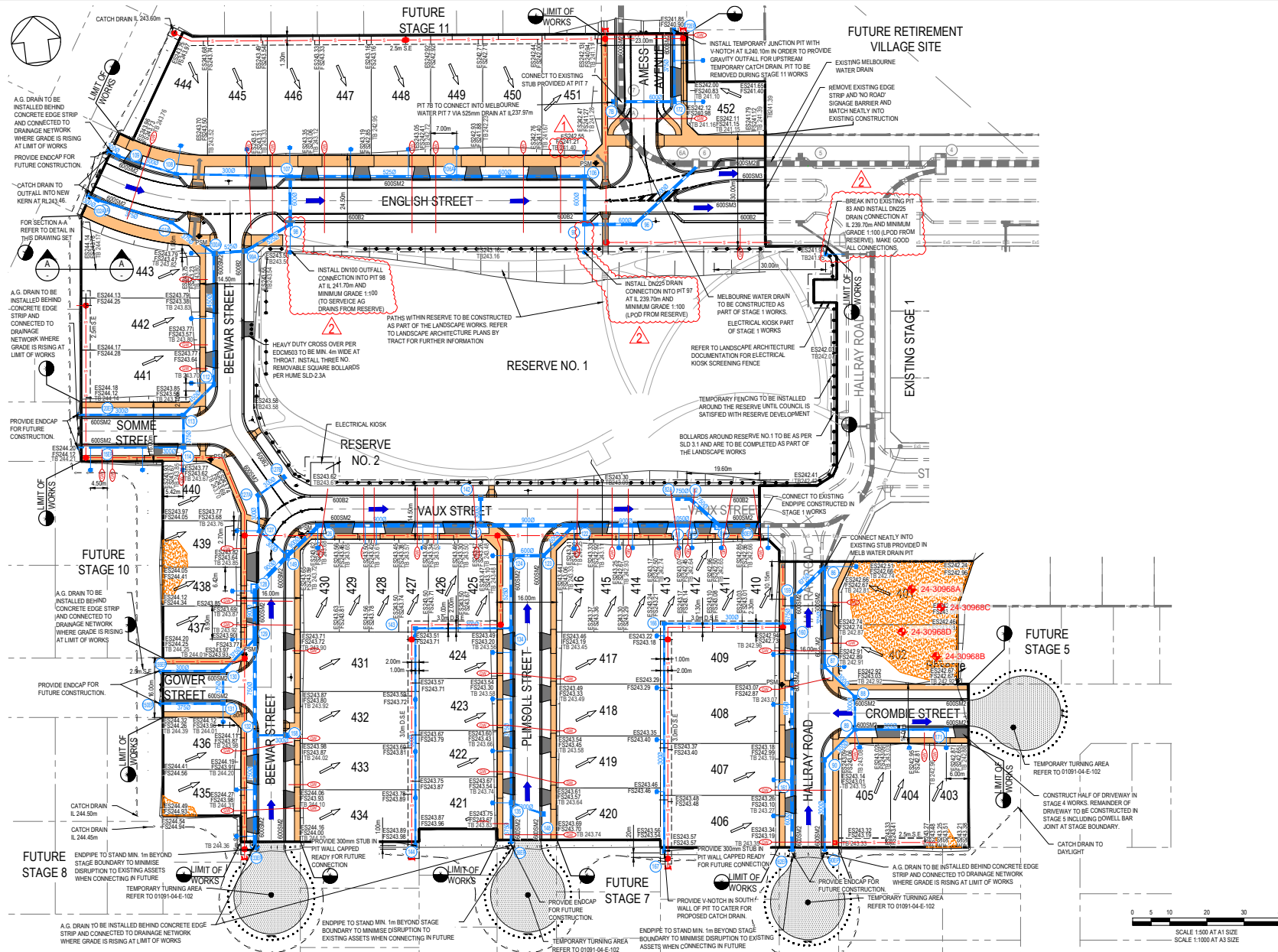
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E admin@pearcegeotech.com.au

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# Material Test Report

**Report Number:** P242088-2  
**Issue Number:** 1  
**Date Issued:** 10/07/2025  
**Client:** Winslow Constructors Pty Ltd  
Level 1, 6 English Street, Essendon Fields Vic 3041  
**Contact:** Ali Al Musharafawi  
**Project Number:** P242088  
**Project Name:** Merrifield Residential Stage 4  
**Project Location:** Mickleham  
**Client Reference:** PO403370  
**Work Request:** 34835  
**Date Sampled:** 04/07/2025  
**Dates Tested:** 04/07/2025 - 08/07/2025  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Remarks:** TRN 19066  
**Specification:** 95% Standard  
**Location:** TRN 19066  
**Material:** Clay  
**Material Source:** In situ



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mitch Francis  
Laboratory Manager  
NATA Accredited Laboratory Number: 18877

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

| Sample Number  | 25-34835A  | 25-34835B  | 25-34835C  | 25-34835D  |
|--|------------|------------|------------|------------|
| Date Tested  | 04/07/2025 | 04/07/2025 | 04/07/2025 | 04/07/2025 |
| Time Tested  | 10:56      | 11:09      | 11:17      | 11:26      |
| Test Request #/Location                              | Lot 401    | Lot 402    | Lot 401    | Lot 402    |
| Layer / Reduced Level                                | FSL        | FSL        | L3         | L3         |
| Thickness of Layer (mm)                              | 200        | 200        | 200        | 200        |
| Soil Description                                     | Clay       | Clay       | Clay       | Clay       |
| Test Depth (mm)                                      | 175        | 175        | 175        | 175        |
| 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>             | 2.00       | 2.00       | 2.01       | 1.99       |
| Field Moisture Content %                             | 22.5       | 23.8       | 23.4       | 23.4       |
| Field Dry Density (FDD) t/m <sup>3</sup>             | 1.64       | 1.61       | 1.63       | 1.61       |
| Peak Converted Wet Density t/m <sup>3</sup>          | 2.05       | 1.99       | 2.05       | 2.01       |
| Adjusted Peak Converted Wet Density t/m <sup>3</sup> | **         | **         | **         | **         |
| Moisture Variation (Wv) %                            | -2.0       | -2.5       | -2.0       | -2.0       |
| Adjusted Moisture Variation %                        | **         | **         | **         | **         |
| Hilf Density Ratio (%)                               | 98.0       | 100.0      | 98.0       | 98.5       |
| Compaction Method                                    | Standard   | Standard   | Standard   | Standard   |
| Remarks  | **         | **         | **         | **         |

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** P242088-2  
**Issue Number:** 1  
**Date Issued:** 10/07/2025  
**Client:** Winslow Constructors Pty Ltd  
Level 1, 6 English Street, Essendon Fields Vic 3041  
**Contact:** Ali Al Musharafawi  
**Project Number:** P242088  
**Project Name:** Merrifield Residential Stage 4  
**Project Location:** Mickleham  
**Client Reference:** PO403370  
**Work Request:** 34835  
**Date Sampled:** 04/07/2025  
**Dates Tested:** 04/07/2025 - 08/07/2025  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Remarks:** TRN 19066  
**Specification:** 95% Standard  
**Location:** TRN 19066  
**Material:** Clay  
**Material Source:** Insitu



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mitch Francis  
Laboratory Manager  
NATA Accredited Laboratory Number: 18877

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1     |            |            |            |            |
|--|------------|------------|------------|------------|
| Sample Number  | 25-34835E  | 25-34835F  | 25-34835G  | 25-34835H  |
| Date Tested  | 04/07/2025 | 04/07/2025 | 04/07/2025 | 04/07/2025 |
| Time Tested  | 11:40      | 11:47      | 11:56      | 12:02      |
| Test Request #/Location                              | Lot 403    | Lot 435    | Lot 438    | Lot 439    |
| Layer / Reduced Level                                | FSL        | FSL        | FSL        | L1         |
| Thickness of Layer (mm)                              | 200        | 200        | 200        | 200        |
| Soil Description                                     | Clay       | Clay       | Clay       | Clay       |
| Test Depth (mm)                                      | 175        | 175        | 175        | 175        |
| 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>             | 1.99       | 2.00       | 1.98       | 1.99       |
| Field Moisture Content %                             | 25.7       | 24.1       | 23.6       | 24.7       |
| Field Dry Density (FDD) t/m <sup>3</sup>             | 1.58       | 1.61       | 1.60       | 1.60       |
| Peak Converted Wet Density t/m <sup>3</sup>          | 2.02       | 2.04       | 2.00       | 2.01       |
| Adjusted Peak Converted Wet Density t/m <sup>3</sup> | **         | **         | **         | **         |
| Moisture Variation (Wv) %                            | -2.5       | -2.0       | -1.5       | -2.5       |
| Adjusted Moisture Variation %                        | **         | **         | **         | **         |
| Hilf Density Ratio (%)                               | 98.5       | 98.0       | 99.0       | 99.0       |
| Compaction Method                                    | Standard   | Standard   | Standard   | Standard   |
| Remarks  | **         | **         | **         | **         |

## Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

## CLIENT NAME:

Winslow Constructors Pty Ltd

## PROJECT NAME:

Merrifield Residential - Stage 4

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