



**CIVIL GEOTECHNICAL SERVICES**  
**ABN 26 474 013 724**  
**PO Box 678 Croydon Vic 3136**  
**Telephone: 9723 0744 Facsimile: 9723 0799**

22<sup>nd</sup> March 2024

Our Reference: 23644:NB1820

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
REDSTONE – STAGE 10 (SUNBURY)**

Please find attached our Report No's 23644/R001 to 23644/R003 which relate to the field density testing that was conducted within the filled allotments at the above subdivision. The level 1 inspections and associated field density testing was performed in March 2024.

The inspections and testing of the earthworks was undertaken in general accordance with the Level 1 requirements of AS 3798 - Guidelines on Earthworks for Commercial and Residential Developments.

The site inspection and testing was performed by experienced geotechnicians from this office. Any areas that were deemed unsatisfactory were reworked and retested under their supervision. The testing was performed to the relevant Australian Standards and the accompanying test reports carry NATA endorsement. The attached compaction results, which were located randomly throughout the fill profile, are considered to be representative of the bulk fill materials that were placed across the reported allotments by Winslow Constructors during the aforementioned period. The approximate locations of the field density tests can be seen on the attached plan (Figure 1).

We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in blue ink, appearing to be 'Nick Brock', is written over a light blue circular stamp.

Nick Brock



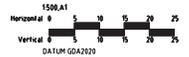
# FIGURE 1 (2 of 2)



# Approximate field density test location

FOR CONTINUATION REFER SHEET 2

Rev	Amendments	Approved	Date
C	COUNCIL COMMENTS ADDED - SECOND ROUND	M.T.S	24/07/23
B	COUNCIL COMMENTS ADDED	M.T.S	16/06/23
A	ISSUE TO COUNCIL	M.T.S	20/06/22



**spiire**  
© Spiire Australia Pty Ltd All Rights Reserved  
This document is prepared by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the contract. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party relying on it or any use of reference to third party on the content of this document.

**spiire**  
spiire.com.au  
ABN 55 050 029 635

**villawood PROPERTIES**  
Communities Designed for Living  
Designed: R. WEINBER  
Authorised: M. TOOMER-SMITH

**Redstone.**  
Your world awaits  
Checked: D CAMERON  
Date: 20/06/22

**REDSTONE ESTATE STAGE 10 ROAD & DRAINAGE FACE PLAN SHEET 2 OF 2**  
VILLAWOOD PROPERTIES HUME CITY COUNCIL  
**PRELIMINARY**  
Dwg No: 305921R03  
Rev: C



# COMPACTION ASSESSMENT

Job No 23644  
 Report No 23644/R001  
 Date Issued 22/03/24

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	REDSTONE ESTATE - STAGE 10	Date tested	15/03/24
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:21
---------	------------	-----------------	--------	-------------

Test procedure AS 1289.2.1.1 & 5.8.1

Test No	1	2	3	4	5	6
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	2.12	2.10	1.94	2.07	1.97
Field moisture content	%	18.3	22.5	18.2	17.6	23.3

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	6
Compactive effort	Standard					
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m <sup>3</sup>	2.16	2.14	1.99	2.12	2.04
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	20.5	24.0	20.5	20.0	23.5

Moisture Variation From Optimum Moisture Content	2.0% dry	1.5% dry	2.5% dry	2.0% dry	0.0%	2.0% dry
--	----------	----------	----------	----------	------	----------

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio ( R <sub>HD</sub> )	%	98.5	98.5	98.0	97.5	97.0	98.5
-----------------------------------	---	------	------	------	------	------	------

Material description

No 1 - 6 Clay Fill
--------------------

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909  
 Accredited for compliance with  
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 23644  
 Report No 23644/R002  
 Date Issued 22/03/24

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	REDSTONE ESTATE - STAGE 10	Date tested	18/03/24
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:23
---------	------------	-----------------	--------	-------------

Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	8	9	10	11	12	
Location	REFER TO FIGURE 1						
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	
Field wet density	t/m <sup>3</sup>	2.16	2.15	2.17	2.00	2.02	2.05
Field moisture content	%	19.5	23.0	21.5	18.6	23.6	20.6

Test procedure AS 1289.5.7.1

Test No	7	8	9	10	11	12	
Compactive effort	Standard						
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0	
Percent of oversize material	wet	0	0	0	0	0	
Peak Converted Wet Density	t/m <sup>3</sup>	2.19	2.19	2.19	2.10	2.10	2.12
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	
Optimum Moisture Content	%	22.0	25.0	23.5	19.5	25.5	22.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.0% dry	1.0% dry	1.5% dry	1.5% dry
--	----------	----------	----------	----------	----------	----------

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio ( R <sub>HD</sub> )	%	99.0	98.5	99.5	95.5	96.0	97.0
-----------------------------------	---	------	------	------	------	------	------

Material description

No 7 - 12 Clay Fill
---------------------

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909  
 Accredited for compliance with  
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 23644  
 Report No 23644/R003  
 Date Issued 22/03/24

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	REDSTONE ESTATE - STAGE 10	Date tested	19/03/24
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:24
---------	------------	-----------------	--------	-------------

### Test procedure AS 1289.2.1.1 & 5.8.1

Test No	13	14	15	16	17	18
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.93	2.03	2.08	1.94	1.83
Field moisture content	%	20.2	19.1	20.1	18.9	19.5

### Test procedure AS 1289.5.7.1

Test No	13	14	15	16	17	18
Compactive effort	Standard					
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m <sup>3</sup>	1.98	2.08	2.09	1.97	1.88
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	22.5	21.5	21.0	21.0	21.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	0.5% dry	2.0% dry	2.0% dry	2.5% dry
--	----------	----------	----------	----------	----------	----------

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio ( R <sub>HD</sub> )	%	97.5	98.0	99.5	98.0	97.5	97.5
-----------------------------------	---	------	------	------	------	------	------

### Material description

No 13 - 18 Clay Fill
----------------------

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909  
 Accredited for compliance with  
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry