



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

3rd September 2020

Our Reference: 20125:NB760 Rev.1

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
FLORIAN – STAGE 6 (BONSHAW)**

Please find attached our Report No's 20125/R001 and 20125/R004 which relate to the field density testing that was conducted within the filled allotments of the above subdivision. The level 1 inspections and associated field density testing commenced in March 2020 and was completed in August 2020.

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).

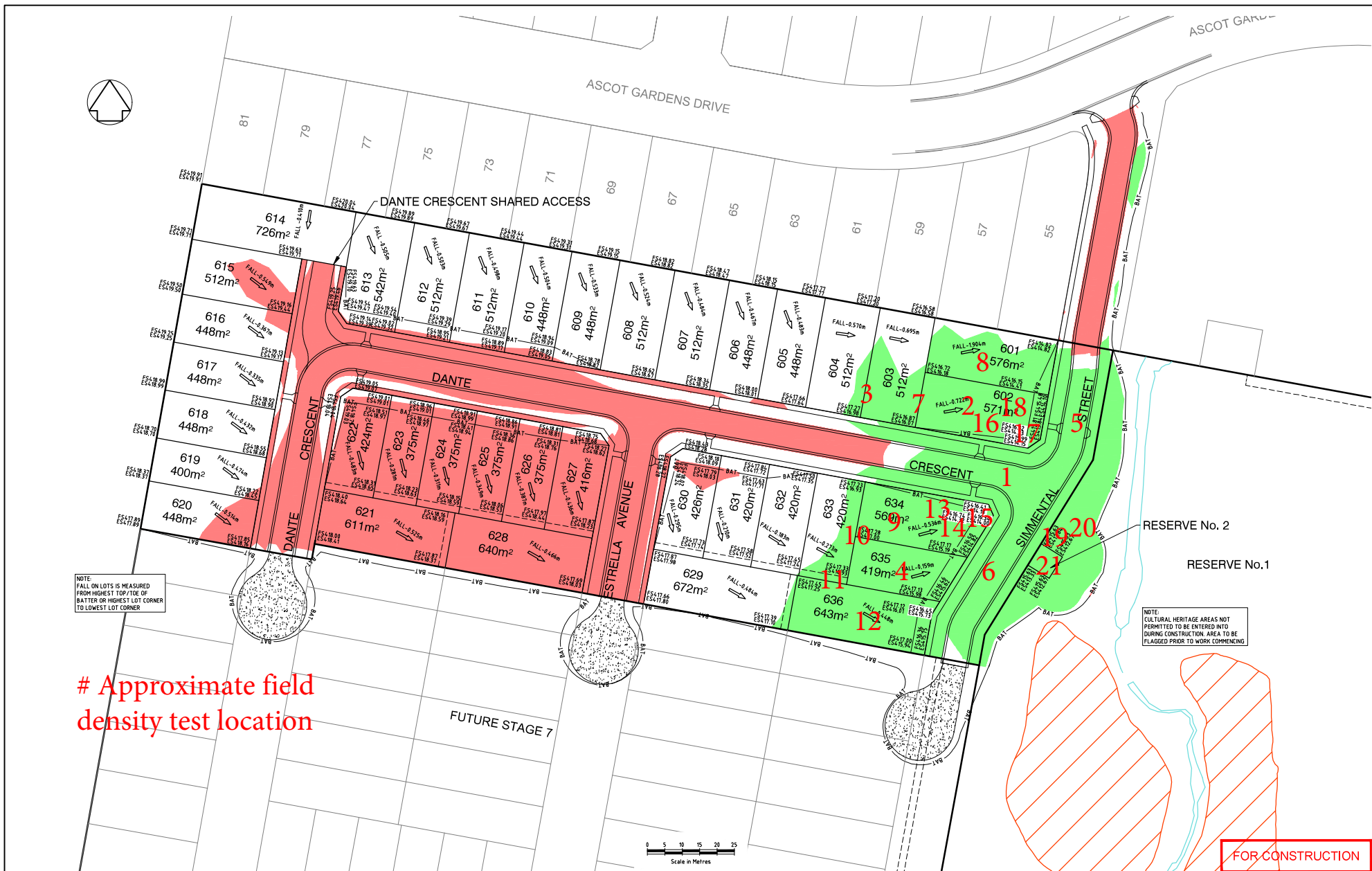
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

FIGURE 1



NOTE:
FALL ON LOTS IS MEASURED
FROM HIGHEST TOP/TOE OF
BATTER OR HIGHEST LOT CORNER
TO LOWEST LOT CORNER.

Approximate field
density test location

NOTE:
CULTURAL HERITAGE AREAS NOT
PERMITTED TO BE ENTERED INTO
DURING CONSTRUCTION AREA TO BE
FLAGGED PRIOR TO WORK COMMENCING

FOR CONSTRUCTION

ISSUE	DESCRIPTION	DATE	LEGEND		DESIGNED	SCALE	PROJECT	CIVIL REF. No.	SHEET	REV
A	ISSUED FOR APPROVAL	16/12/2018	LOT CUT (CUT GREATER THAN 200mm DEEP) LOT FILL (FILL GREATER THAN 200mm DEEP) BATTERS	FS: 4.16.28 FINISHED SURFACE LEVEL ES: 4.17.53 EXISTING SURFACE LEVEL SLOPE & FALL ARROW	I BRAMBLE	1:500	LOT 32 TAIT STREET FLORIAN STAGE 6 BONSHAW PROJECTS PTY LTD	802RD-06-05	5	1
B	ADDRESSED COUNCIL COMMENTS AND POS ALTERATIONS	22/10/2019			CHECKED:	M PARKER		SHEET SIZE:	A1	EARTHWORKS PLAN
1	ISSUED FOR CONSTRUCTION	13/12/2019			AUTHORISED:	C COUGHLAN	DATE:	13/12/2019		



CLIENT: BONSHAW PROJECTS PTY LTD

ACN 100 526 456 W. axiom.com.au E. axiom@axiom.com.au
 P. 03 5231 2058 6 Webster Street, Ballarat Victoria 3350



COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 20125
Report No 20125/R001
Date Issued 18/06/2020

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	FLORIAN ESTATE - STAGE 6	Date tested	20/03/20
Location	BONSHAW	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	08:00
---------	------------	-----------------	--------	-------	-------

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		1	2	3	4	5	6
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1
Approximate depth below FSL	m	0.6	0.4	fsl	0.8	0.4	0.2
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m ³	2.11	2.18	2.14	2.14	2.07	2.04
Field moisture content	%	19.0	21.6	15.2	18.6	19.5	22.9

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	19.0
Percent of oversize material	wet	0	0	2	0	0	0
Peak Converted Wet Density	t/m ³	2.13	2.21	2.21	2.20	2.11	2.06
Adjusted Peak Converted Wet Density	t/m ³	-	-	2.21	-	-	-
Optimum Moisture Content	%	19.0	21.5	17.5	21.0	21.5	23.0

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

Density Ratio (R _{HD})	%	98.5	98.5	97.0	97.0	98.0	99.0
-----------------------------------	---	------	------	------	------	------	------

Material description

No 1 - 6 Clay Fill

AVRLOT HILF V1.10 MAR 13



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 20125
 Report No 20125/R002
 Date Issued 13/06/2020

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	FLORIAN ESTATE - STAGE 6	Date tested	16/04/20
Location	BONSHAW	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	09:30
---------	------------	-----------------	--------	-------	-------

Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	8	9	10	11	12
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1
Approximate depth below FSL	0.2	fsl	0.6	0.4	fsl	0.2
Measurement depth mm	175	175	175	175	175	175
Field wet density t/m ³	2.00	2.00	2.00	1.94	1.95	1.94
Field moisture content %	23.4	23.2	23.0	25.0	24.3	24.7

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	19.0
Percent of oversize material wet	2	4	3	3	1	2
Peak Converted Wet Density t/m ³	2.06	2.06	2.08	2.02	2.04	2.04
Adjusted Peak Converted Wet Density t/m ³	2.07	2.08	2.09	2.03	2.04	2.05
Optimum Moisture Content %	23.0	23.5	22.5	24.5	24.5	24.0

Moisture Variation From Optimum Moisture Content	0.5% wet	0.0%	0.5% wet	0.5% wet	0.0%	0.5% wet
--	----------	------	----------	----------	------	----------

Density Ratio (R _{HD})	%	96.5	96.0	95.5	95.0	95.5	95.0
-----------------------------------	---	------	------	------	------	------	------

Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 20125
 Report No 20125/R003
 Date Issued 03/09/2020

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	FLORIAN ESTATE - STAGE 6	Date tested	27/08/20
Location	BONSHAW	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 07:30
---------	------------	-----------------	--------	-------------

Test procedure AS 1289.2.1.1 & 5.8.1

Test No	13	14	15	16	17	18
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1
Approximate depth below FSL	1.5	1.2	0.9	1.5	1.2	0.9
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m ³	2.03	2.11	2.09	2.00	2.05
Field moisture content	%	22.1	22.9	23.6	22.8	24.8

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	9	16	6	3	1
Peak Converted Wet Density	t/m ³	2.08	2.08	2.11	2.10	2.07
Adjusted Peak Converted Wet Density	t/m ³	2.11	2.12	2.12	2.11	2.07
Optimum Moisture Content	%	21.0	23.0	22.0	21.5	23.0

Moisture Variation From Optimum Moisture Content	1.0% wet	0.0%	1.5% wet	1.0% wet	1.5% wet	2.0% wet
--	----------	------	----------	----------	----------	----------

Density Ratio (R _{HD})	%	96.0	99.5	98.5	95.0	99.0	95.0
-----------------------------------	---	------	------	------	------	------	------

Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 20125
 Report No 20125/R004
 Date Issued 03/09/2020

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	FLORIAN ESTATE - STAGE 6	Date tested	27/08/20
Location	BONSHAW	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 07:30
---------	------------	-----------------	--------	-------------

Test procedure AS 1289.2.1.1 & 5.8.1

Test No	19	20	21	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL	1.5	1.2	0.9			
Measurement depth mm	175	175	175	-	-	-
Field wet density t/m ³	2.17	2.16	2.16	-	-	-
Field moisture content %	19.6	20.9	19.8	-	-	-

Test procedure AS 1289.5.7.1

Test No	19	20	21	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	-	-	-
Percent of oversize material wet	0	0	0	-	-	-
Peak Converted Wet Density t/m ³	2.20	2.20	2.18	-	-	-
Adjusted Peak Converted Wet Density t/m ³	-	-	-	-	-	-
Optimum Moisture Content %	17.5	18.5	17.5	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% wet	2.5% wet	2.5% wet	-	-	-
--	----------	----------	----------	---	---	---

Density Ratio (R _{HD})	%	98.5	98.0	99.0	-	-	-
-----------------------------------	---	------	------	------	---	---	---

Material description

No 19 - 21 Clay Fill

AVRLOT HILF V1.10 MAR 13



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry