



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

24<sup>th</sup> July 2019

Our Reference: 18389:NB530

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
BRIDGEFIELD – STAGES 5 - 7 (ROCKBANK)**

Please find attached our Report No's 18389/R001 to 18389/R004 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 commenced in June 2018 and was completed in October 2018.

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).

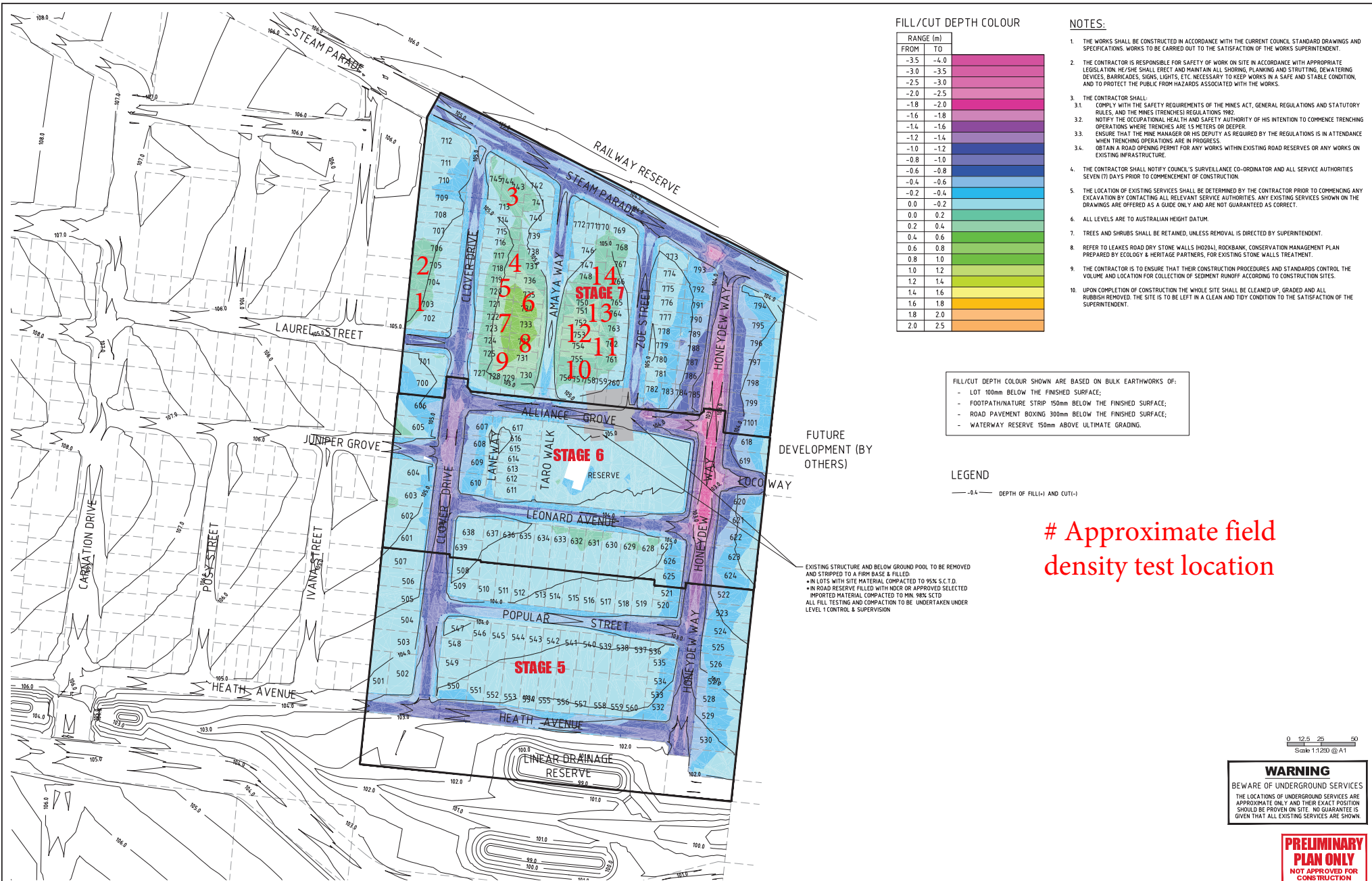
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

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

Nick Brock

# FIGURE 1



THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	ISSUED TO COUNCIL FOR APPROVAL	REMARKS
A	17.11.2017	LP

DRAWN BY	D.KONSTANDIS	DESIGNED BY	LPHAN
CHECKED BY	34.L.H110	AUTHORISED BY	S.RAVIDA
DATUM	AHD		

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CITY OF MELTON  
BRIDGEFIELD ESTATE, ROCKBANK  
STAGES 5 - 7  
BULK EARTHWORKS  
DEPTH COUNTOUR PLAN

DRAWING No.	VERSION
1Q1	A
REFERENCE	
22236E/5	
SHEET	1 OF 2

**WARNING**

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

**PRELIMINARY PLAN ONLY**  
NOT APPROVED FOR CONSTRUCTION

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## COMPACTION ASSESSMENT

Job No 18389  
 Report No 18389/R001  
 Date Issued 11/07/2018

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Tested by WS  
 Date tested 29/06/18  
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
 Project BRIDGEFIELD ESTATE - STAGE 7  
 Location ROCKBANK

**Feature** EARTHWORKS                      *Layer thickness* 200 mm                      *Time:* 12:30

*Test procedure AS 1289.2.1.1 & 5.8.1*

Test No		1	2	3	-	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL							
Measurement depth	mm	175	175	175	-	-	-
Field wet density	t/m <sup>3</sup>	1.91	1.90	1.90	-	-	-
Field moisture content	%	27.6	29.2	33.1	-	-	-

*Test procedure AS 1289.5.7.1*

Test No		1	2	3	-	-	-
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 <sup>3</sup>	1.96	2.01	1.95	-	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	30.0	31.5	35.5	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.5% dry	-	-	-
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>97.5</b>	<b>95.0</b>	<b>97.5</b>	<b>-</b>	<b>-</b>	<b>-</b>
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*Material description*

No 1 - 3 Clay Fill



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 18389  
 Report No 18389/R002  
 Date Issued 24/07/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	BRIDGEFIELD ESTATE - STAGE 5 -7	Date tested	05/07/18
Location	ROCKBANK	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	11:00
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	4	5	6	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth	mm	175	175	175	-	-
Field wet density	t/m <sup>3</sup>	1.86	1.87	1.79	-	-
Field moisture content	%	31.4	27.3	33.1	-	-

Test procedure AS 1289.5.7.1

Test No	4	5	6	-	-	-
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 <sup>3</sup>	1.92	1.94	1.83	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	29.5	26.5	30.5	-	-

Moisture Variation From Optimum Moisture Content	2.0% wet	1.0% wet	2.5% wet	-	-	-
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Density Ratio ( R <sub>HD</sub> )	%	96.5	96.0	98.0	-	-
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Material description

No 4 - 6 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 18389  
 Report No 18389/R003  
 Date Issued 19/10/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	BRIDGEFIELD ESTATE - STAGE 5 -7	Date tested	08/10/18
Location	ROCKBANK	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:00
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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							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.84	1.85	1.88	1.88	1.79	1.80
Field moisture content	%	26.2	24.7	26.4	20.3	25.9	27.3

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	0	0	0	0	3	0
Peak Converted Wet Density	t/m <sup>3</sup>	1.89	1.90	1.89	1.98	1.87	1.82
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	1.88	-
Optimum Moisture Content	%	27.5	26.5	28.5	22.0	27.5	29.5

Moisture Variation From Optimum Moisture Content	1.0% dry	2.0% dry	2.0% dry	1.5% dry	1.5% dry	2.0% dry
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Density Ratio ( R <sub>HD</sub> )	%	97.5	97.5	99.0	95.5	95.0	99.0
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Material description

No 7 - 12 Clay Fill
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Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

Job No 18389  
 Report No 18389/R004  
 Date Issued 16/10/2018

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Tested by WS  
 Date tested 08/10/18  
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
 Project BRIDGEFIELD ESTATE - STAGE 5 -7  
 Location ROCKBANK

**Feature** EARTHWORKS                      *Layer thickness* 200 mm                      *Time:* 11:00

*Test procedure AS 1289.2.1.1 & 5.8.1*

Test No	13	14	-	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth mm	175	175	-	-	-	-
Field wet density t/m <sup>3</sup>	1.81	1.79	-	-	-	-
Field moisture content %	26.3	26.3	-	-	-	-

*Test procedure AS 1289.5.7.1*

Test No	13	14	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	-	-	-	-
Percent of oversize material wet	3	1	-	-	-	-
Peak Converted Wet Density t/m <sup>3</sup>	1.80	1.80	-	-	-	-
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	1.81	1.80	-	-	-	-
Optimum Moisture Content %	29.0	28.5	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	2.0% dry	-	-	-	-
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<b>Density Ratio ( R<sub>HD</sub> )</b> %	<b>99.5</b>	<b>99.5</b>	-	-	-	-
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*Material description*

No 13 - 14 Clay Fill



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