



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

21<sup>st</sup> November 2018

Our Reference: 18676:NB364

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
CORNERSTONE – STAGES 13 (WYNDHAM VALE)**

Please find attached our Report No's 18676/R001 and 18676/R002 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 November 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

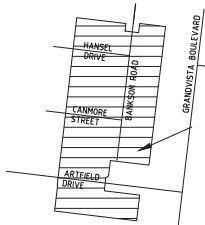
A handwritten signature in blue ink, appearing to read 'Nick Brock', is written over a faint circular stamp.

Nick Brock

# FIGURE 1

### SHEET INDEX

SHT No.	VER	DESCRIPTION
1	G	LAYOUT PLAN - SHEET 1
2	A	INTERSECTION DETAILS
3	A	ROAD LONGSECTIONS - SHEET 1
4	A	ROAD LONGSECTIONS - SHEET 2
5	A	ROAD CROSS SECTIONS - SHEET 1
6	A	ROAD CROSS SECTIONS - SHEET 2
7	A	ROAD CROSS SECTIONS - SHEET 3
8	E	DRAINAGE LONGITUDINAL SECTIONS - SHEET 1
9	C	DRAINAGE LONGITUDINAL SECTIONS - SHEET 2
10	C	DRAINAGE LONGITUDINAL SECTIONS - SHEET 3
11	B	DRAINAGE LONGITUDINAL SECTIONS - SHEET 4
12	F	DRAINAGE LONGITUDINAL SECTIONS - SHEET 5
13	A	TYPICAL CROSS SECTIONS
14	A	SIGNAGE AND LINEMARKING
15	F	LAYOUT PLAN - SHEET 2



SITE LOCALITY PLAN  
NOT TO SCALE

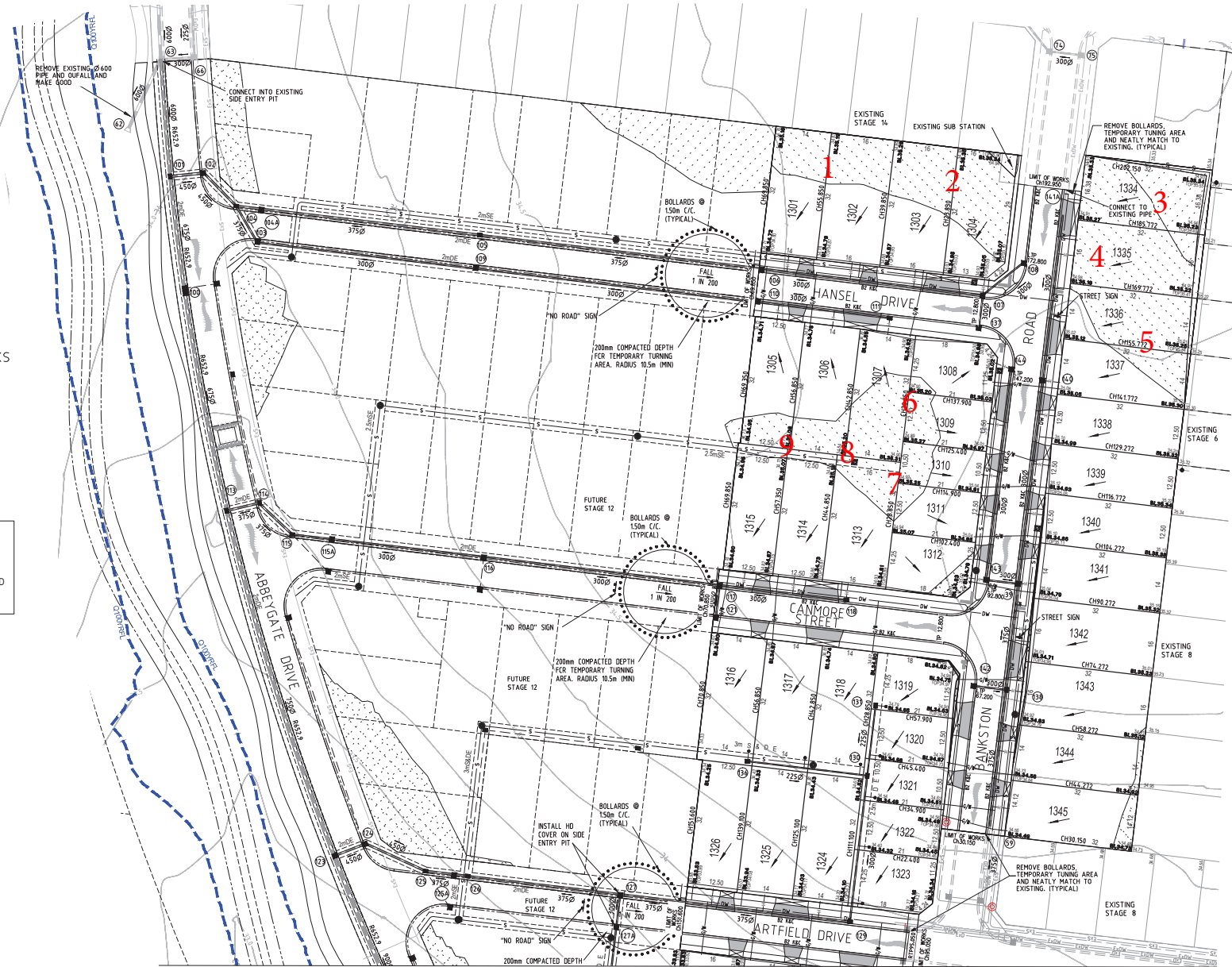
### ATTENTION TO CONTRACTOR

- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN, PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM CO-ORDINATES SHOWN.
- WHERE CONCRETE WORKS ABOUT A SEWER ACCESS CHAMBER SURROUND OR SIMILAR STRUCTURE, AN EXPANSION JOINT OF APPROVAL MATERIAL SHALL BE PROVIDED BETWEEN THE TWO FACES.

### WARNING

**BWARE OF UNDERGROUND SERVICES**  
THE LOCATION 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.

# Approximate field density test location



REFER ROAD LAYOUT - SHEET 15 FOR CONTINUATION

PLAN  
SCALE 1:500



### SERVICE OFFSETS AND LOCATION TABLE

ROAD NAME	RESERVE WIDTH	WATER		GAS		ELECTRICITY		TELECOMMUNICATIONS		BOK		
		DW	NOW	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	
												POLE
HANSEL DRIVE	16.00	3.20 N	2.70 N	2.25 N	S	0.80*	S	2.60	S	1.85	4.35 N	4.05 S
CANMORE STREET	16.00	3.20 N	2.70 N	2.25 N	S	0.80*	S	2.60	S	1.80	4.35 N	4.05 S
BANKSTON ROAD	16.00	3.20 E	2.70 E	2.25 E	W	0.80*	W	2.60	W	1.85	4.05 W	4.35 E
ARTFIELD DRIVE	16.00	3.20 N	2.70 N	2.25 N	S	0.80*	S	2.60	S	1.85	4.35 N	4.05 S

NOTE: \* OFFSET FROM BACK OF KERB

### SYMBOL LEGEND

Drains		Temporary Bench Mark (TBM)	
Sewer <300		Ex/Natural/FS Level	
Sewer >300		FS @ Building Line	
Water		Top Ref. of Batter	
House Drain		Top Ref. Wall Level	
Property Inlet		Fill Prop/Ex	
Street Sign		Fill Prop/Ex (>0.5m depth)	
PSM		Out Prop/Ex (>0.5m depth)	
Retaining Wall		Threshold Treatment	
Conduits 50mm			
Conduits 100mm			
Ex Gas/Elect/Tel			

G 05.09.18	SHEET INDEX UPDATED	
F 31.08.18	BOUNDARY LEVELS REVISED	
E 24.08.18	BOUNDARY LEVELS REVISED	
D 14.08.18	SHEET INDEX AMENDED	
C 19.07.18	SHEET INDEX AMENDED	
B 04.05.18	DRAINAGE AMENDMENTS	
A 7.04.18	CONSTRUCTION ISSUE	
VER	DATE	REMARKS

**breese pitt dixon pty. ltd.**  
land surveyors      civil engineers

1/19 cato street  
hawthorn east, 3123  
telephone 8823 2300  
fax no. 8823 2310

**CORNERSTONE ESTATE**  
**STAGE 13**  
**ROAD LAYOUT-SHEET 1**

MELWAY REF. 204 D7-F7

SURVEY BPD

DESIGN JSB

DRAWN JDD

CHECKED RJ

MUNICIPALITY  
**WYNDHAM**

REFERENCE  
8890 - E/13

SHEET 1 OF 15

SCALE AS SHOWN

DATUM AHD

DATE NOV '17

SHEET 1 OF 15

G



## COMPACTION ASSESSMENT

Job No 18676  
 Report No 18676/R001  
 Date Issued 21/11/2018

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	CORNERSTONE - STAGE 13	Date tested	19/11/18
Location	WYNDHAM VALE	Checked by	JHF

<b>Feature</b>	<b>EARTHWORKS</b>	Layer thickness	200 mm	Time: 09:30
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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						
Measurement depth <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m<sup>3</sup></i>	1.74	1.73	1.81	1.73	1.72	1.68
Field moisture content <i>%</i>	26.3	23.8	29.4	27.5	23.2	24.4

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	6
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material <i>wet</i>	3	3	2	2	0	0
Peak Converted Wet Density <i>t/m<sup>3</sup></i>	1.78	1.76	1.84	1.77	1.76	1.74
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	1.79	1.77	1.85	1.79	-	-
Optimum Moisture Content <i>%</i>	28.0	26.5	29.5	30.0	26.0	26.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	0.0%	2.0% dry	2.5% dry	2.0% dry
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>97.0</b>	<b>98.0</b>	<b>98.0</b>	<b>96.5</b>	<b>97.5</b>	<b>96.5</b>
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Material description

No 1 - 6 Clay Fill
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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 to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

Job No 18676  
 Report No 18676/R002  
 Date Issued 21/11/2018

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	CORNERSTONE - STAGE 13	Date tested	19/11/18
Location	WYNDHAM VALE	Checked by	JHF

<b>Feature</b>	<b>EARTHWORKS</b>	Layer thickness	200 mm	Time: 10:40
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	-	-	-	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth <span style="float: right;">mm</span>	175	-	-	-	-	-
Field wet density <span style="float: right;">t/m<sup>3</sup></span>	1.71	-	-	-	-	-
Field moisture content <span style="float: right;">%</span>	21.2	-	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	7	-	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <span style="float: right;">mm</span>	19.0	-	-	-	-	-
Percent of oversize material <span style="float: right;">wet</span>	0	-	-	-	-	-
Peak Converted Wet Density <span style="float: right;">t/m<sup>3</sup></span>	1.70	-	-	-	-	-
Adjusted Peak Converted Wet Density <span style="float: right;">t/m<sup>3</sup></span>	-	-	-	-	-	-
Optimum Moisture Content <span style="float: right;">%</span>	23.5	-	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	-	-	-	-	-
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>100.5</b>	-	-	-	-
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Material description

No 7 - 7 Clay Fill
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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