



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

22<sup>nd</sup> October 2019

Our Reference: 18517:NB584

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
NEWHAVEN – STAGES 7A & 7B (TARNEIT)**

Please find attached our Report No's 18517/R001 to 18517/R007 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 August 2018 and was completed in July 2019.

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).

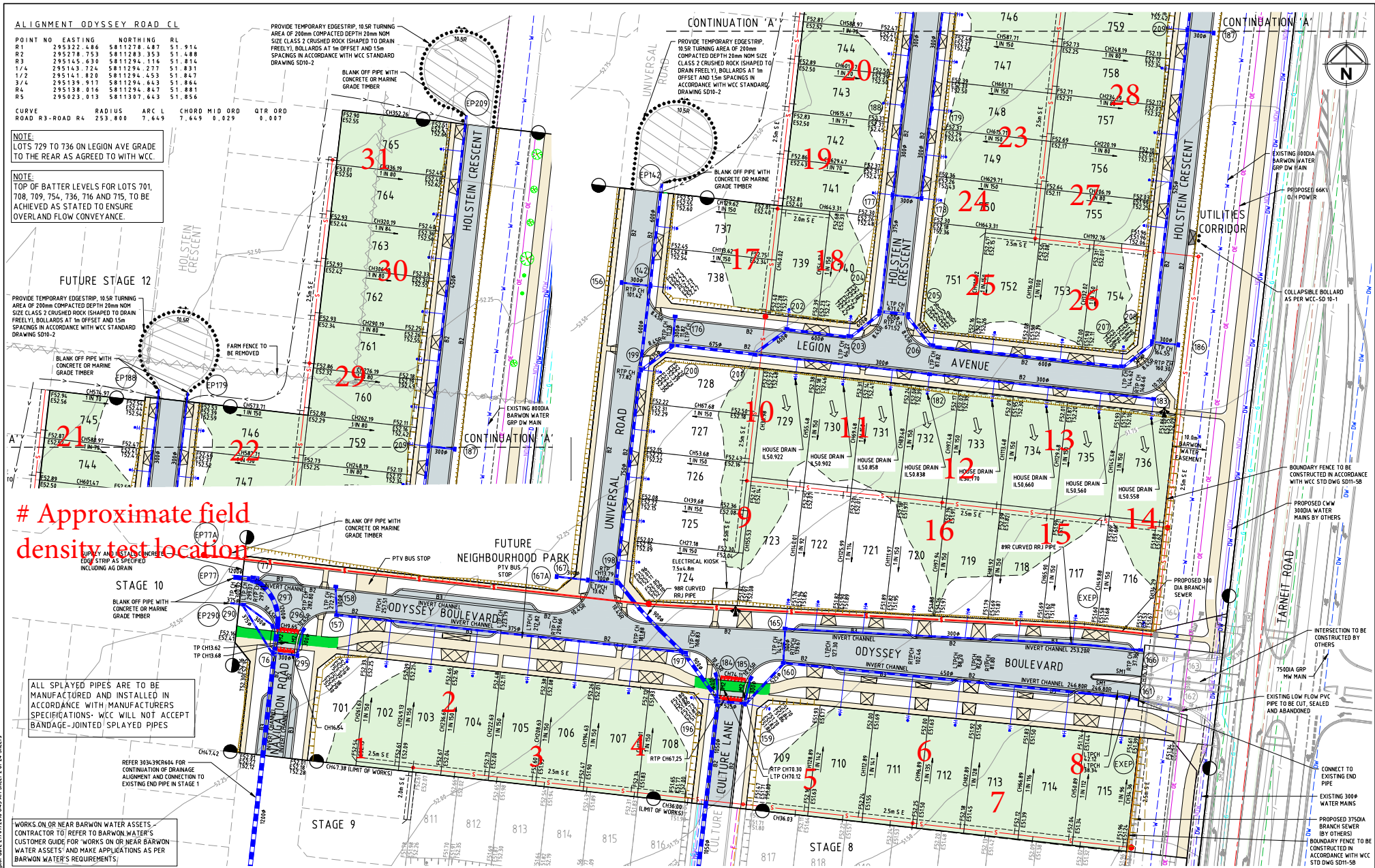
Please contact the undersigned if you require any additional information.

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



**ALIGNMENT ODYSSEUS ROAD CL**

POINT NO	EASTING	NORTHING	RL
R1	295322.486	5811278.487	51.914
R2	295278.753	5811283.353	51.488
R3	295145.630	5811294.116	51.814
R4	295143.724	5811294.277	51.831
1/2	295141.820	5811294.453	51.847
3/4	295139.917	5811294.643	51.864
R5	295138.016	5811294.843	51.881
R5	295023.013	5811307.643	51.856

CURVE	RADIUS	ARC L	CHORD MID ORD	QTR ORD
ROAD R3-ROAD R4	253.800	7.645	7.649	0.007

**NOTE:**  
LOTS 729 TO 736 ON LEGION AVE GRADE TO THE REAR AS AGREED TO WITH WCC.

**NOTE:**  
TOP OF BATTER LEVELS FOR LOTS 701, 708, 709, 754, 736, 716 AND 715, TO BE ACHIEVED AS STATED TO ENSURE OVERLAND FLOW CONVEYANCE.

**FUTURE STAGE 12**

PROVIDE TEMPORARY EDGE STRIP, 10.5R TURNING AREA OF 200mm COMPACTED DEPTH 200mm NOM SIZE CLASS 2 CRUSHED ROCK (SHAPED TO DRAIN FREELY), BOLLARDS AT 1m OFFSET AND 15m SPACINGS IN ACCORDANCE WITH WCC STANDARD DRAWING SD10-2

BLANK OFF PIPE WITH CONCRETE OR MARINE GRADE TIMBER

FARM FENCE TO BE REMOVED

EXISTING 300mm BARON WATER GRP DW MAIN

**# Approximate field density test location**

**STAGE 10**

BLANK OFF PIPE WITH CONCRETE OR MARINE GRADE TIMBER

UPPLY AND INSTALL CONCRETE EDGE STRIP AS SPECIFIED INCLUDING AG DRAIN

ALL SPLAYED PIPES ARE TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS- WCC WILL NOT ACCEPT BANDAGE-JOINTED SPLAYED PIPES

REFER 30343CR604 FOR CONTINUATION OF DRAINAGE ALIGNMENT AND CONNECTION TO EXISTING END PIPE IN STAGE 1

WORKS ON OR NEAR BARON WATER ASSETS- CONTRACTOR TO REFER TO BARON WATER'S CUSTOMER GUIDE FOR WORKS ON OR NEAR BARON WATER ASSETS AND MAKE APPLICATIONS AS PER BARON WATER'S REQUIREMENTS

File name: 30343CR200.dwg, Internal name: CR200, created by: Matthew Spurling, 21/04/2024, 11:52:22 AM, Plot title: 30343CR200, Plot date: 21/04/2024, 11:52:22 AM, Plot scale: 1:1000, Plot units: Millimeters, Plot orientation: Landscape, Plot color: Black, Plot line weight: 0.25, Sheets: 1 of 1



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**PEET**

Designed  
**H. SPURLING**  
Authorised  
**J. SPENCER**  
Checked  
**A. CHARALAMBOUS**  
Date  
**26-07-18**

**NEWHAVEN STAGE 7 ROAD & DRAINAGE LAYOUT PLAN DETAIL PLAN WYNDHAM CITY COUNCIL PEET NO. 1895 PTY LTD**

**CONSTRUCTION 30343CR200**

Dwg No  
**30343CR200**  
Rev  
**0**



## COMPACTION ASSESSMENT

Job No 18517  
 Report No 18517/R001  
 Date Issued 24/05/2019

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 7	Date tested	27/08/18
Location	TARNEIT	Checked by	JHF

<b>Feature</b>	EARTHWORKS	Layer thickness	200 mm	Time: 10:00
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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 <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m<sup>3</sup></i>	1.89	1.85	1.90	-	-	-
Field moisture content <i>%</i>	29.9	23.5	28.4	-	-	-

Test procedure AS 1289.5.7.1

Test No	1	2	3	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	0	0	0	-	-	-
Peak Converted Wet Density <i>t/m<sup>3</sup></i>	1.92	1.89	1.93	-	-	-
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	30.5	25.5	31.0	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% dry	2.0% dry	2.5% dry	-	-	-
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>98.5</b>	<b>98.5</b>	<b>98.5</b>	-	-	-
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Material description

No 1 - 3 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 with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

Job No 18517  
 Report No 18517/R002  
 Date Issued 23/05/2019

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	NEW HAVEN - STAGE 7	Date tested	28/08/18
Location	TARNEIT	Checked by	JHF

<b>Feature</b>	EARTHWORKS	Layer thickness	200 mm	Time: 07:30
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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 <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m<sup>3</sup></i>	1.83	1.84	1.80	-	-	-
Field moisture content <i>%</i>	29.7	28.7	32.0	-	-	-

Test procedure AS 1289.5.7.1

Test No	4	5	6	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	0	0	0	-	-	-
Peak Converted Wet Density <i>t/m<sup>3</sup></i>	1.86	1.87	1.83	-	-	-
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	32.0	30.5	35.0	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.5% dry	-	-	-
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<b>Density Ratio ( <math>R_{HD}</math> )</b>	<b>%</b>	<b>98.5</b>	<b>98.5</b>	<b>98.5</b>	-	-	-
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Material description

No 4 - 6 Clay Fill
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# COMPACTION ASSESSMENT

Job No 18517  
 Report No 18517/R003  
 Date Issued 28/05/2019

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 7	Date tested	29/08/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:00
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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
Field wet density	t/m <sup>3</sup>	1.87	1.86	1.75	1.75	1.80
Field moisture content	%	35.2	30.5	29.4	33.1	32.1

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>	1.90	1.90	1.79	1.78	1.84
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	33.0	30.5	31.5	33.5	31.0

Moisture Variation From Optimum Moisture Content	2.0% wet	0.0%	2.0% dry	0.5% dry	0.0%	2.0% dry
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Density Ratio (R <sub>HD</sub> )	%	98.5	98.0	98.0	98.0	98.0	98.5
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Material description

No 7 - 12 Clay Fill
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## COMPACTION ASSESSMENT

Job No 18517  
 Report No 18517/R004  
 Date Issued 10/01/2019

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 7	Date tested	30/08/18
Location	TARNEIT	Checked by	JHF

<b>Feature</b>	EARTHWORKS	Layer thickness	200 mm	Time: 08:00
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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						
Measurement depth <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m<sup>3</sup></i>	1.87	1.89	1.86	1.86	1.83	1.87
Field moisture content <i>%</i>	24.3	25.5	27.6	28.9	29.0	29.8

Test procedure AS 1289.5.7.1

Test No	13	14	15	16	17	18
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>	0	4	0	0	0	0
Peak Converted Wet Density <i>t/m<sup>3</sup></i>	1.87	1.86	1.86	1.85	1.85	1.84
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	-	1.94	-	-	-	-
Optimum Moisture Content <i>%</i>	26.0	26.5	27.5	29.0	30.0	28.0

Moisture Variation From Optimum Moisture Content	1.5% dry	1.0% dry	0.0%	0.0%	0.5% dry	1.5% wet
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<b>Density Ratio ( <math>R_{HD}</math> )</b>	<b>%</b>	<b>100.0</b>	<b>97.5</b>	<b>100.0</b>	<b>101.0</b>	<b>99.5</b>	<b>101.5</b>
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Material description

No 13 - 18 Clay Fill
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# COMPACTION ASSESSMENT

Job No 18517  
 Report No 18517/R005  
 Date Issued 12/09/2019

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 7	Date tested	28/06/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	08:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	19	20	21	22	23	24
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
Field wet density	t/m <sup>3</sup>	1.98	2.01	1.96	1.97	1.95
Field moisture content	%	24.6	21.9	24.0	23.5	24.4

Test procedure AS 1289.5.7.1

Test No	19	20	21	22	23	24
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>	2.00	2.02	2.02	2.04	2.03
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	26.0	23.5	25.5	26.0	26.5

Moisture Variation From Optimum Moisture Content	1.5% dry	1.5% dry	1.5% dry	2.5% dry	2.0% dry	2.5% dry
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Density Ratio ( R <sub>HD</sub> )	%	98.5	99.0	97.5	96.5	96.0	97.0
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Material description

No 19 - 24 Clay Fill
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Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18517  
Report No 18517/R006  
Date Issued 19/09/2019

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 7	Date tested	01/07/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	25	26	27	28	29	30
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
Field wet density	t/m <sup>3</sup>	1.83	1.91	2.03	1.92	1.96
Field moisture content	%	22.2	21.7	26.0	26.0	25.8

Test procedure AS 1289.5.7.1

Test No	25	26	27	28	29	30
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>	1.91	1.95	2.03	1.97	2.01
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	25.0	24.5	29.0	29.0	28.0

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.0% dry	2.5% dry
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Density Ratio ( R <sub>HD</sub> )	%	96.0	98.5	100.0	97.5	97.5	96.5
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Material description

No 25 - 30 Clay Fill
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Approved Signatory : Justin Fry





# COMPACTION ASSESSMENT

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18517  
Report No 18517/R007  
Date Issued 16/09/2019

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 7	Date tested	01/07/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	14:00
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	31					
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175				
Field wet density	t/m <sup>3</sup>	1.89				
Field moisture content	%	24.5				

Test procedure AS 1289.5.7.1

Test No	31					
Compactive effort				Standard		
Oversize rock retained on sieve	mm	19.0				
Percent of oversize material	wet	0				
Peak Converted Wet Density	t/m <sup>3</sup>	1.93				
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-				
Optimum Moisture Content	%	26.5				

Moisture Variation From Optimum Moisture Content	2.0% dry					
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Density Ratio ( R <sub>HD</sub> )	%	98.0				
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Material description

No 31 - 31 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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