



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

12<sup>th</sup> August 2023

Our Reference: 23021:NB1640

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING**  
**GRACE – STAGE 7 (TARNEIT)**

Please find attached our Report No's 23021/R001 to 23021/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 was performed in January 2023.

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).

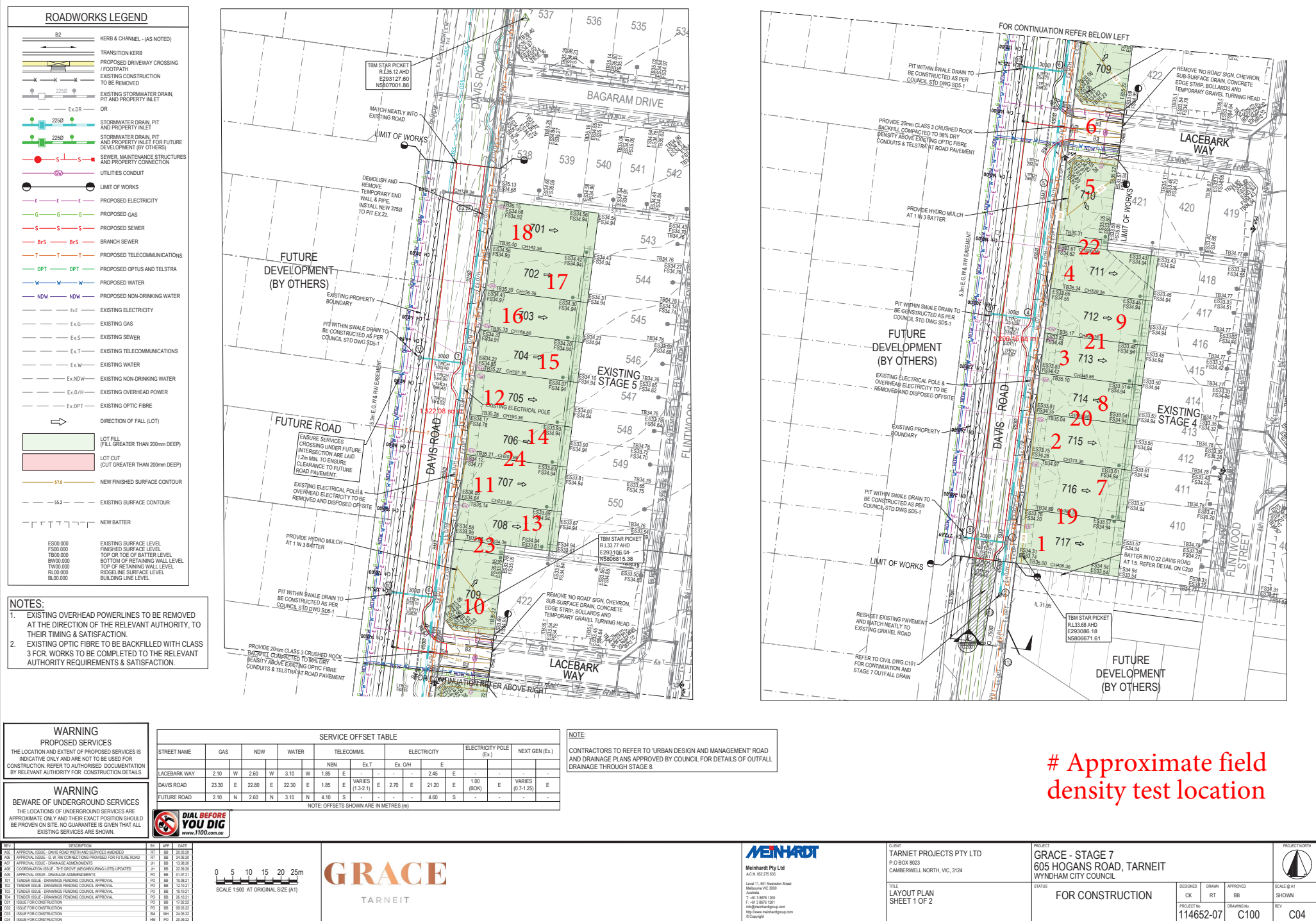
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

# FIGURE 1





## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23021  
Report No 23021/R001  
Date Issued 25/01/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	GRACE - STAGE 7	Date tested	19/01/23
Location	TARNEIT	Checked by	JHF

Feature	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	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 mm	175	175	175	175	175	175
Field wet density t/m <sup>3</sup>	2.05	2.04	1.97	1.96	2.00	1.99
Field moisture content %	25.3	21.4	22.6	20.1	21.2	20.3

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	19.0
Percent of oversize material wet	0	0	0	0	0	0
Peak Converted Wet Density t/m <sup>3</sup>	2.06	2.05	2.01	1.99	2.02	2.02
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	27.5	23.5	25.0	21.5	23.0	23.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.5% dry	1.5% dry	2.0% dry	2.5% dry
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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 ( $R_{HD}$ )	%	99.5	100.0	98.5	98.5	99.0	98.5
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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

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23021  
Report No 23021/R002  
Date Issued 28/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	GRACE - STAGE 7	Date tested	23/01/23
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:00
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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>	1.93	1.93	1.92	1.97	1.97	1.94
Field moisture content %	22.2	18.5	17.5	22.3	21.8	17.6

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	19.0
Percent of oversize material wet	0	0	0	0	0	0
Peak Converted Wet Density t/m <sup>3</sup>	2.01	1.95	1.96	2.00	2.03	2.00
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.0	18.5	19.5	22.5	24.0	19.5

Moisture Variation From Optimum Moisture Content	0.0%	0.0%	1.5% dry	0.0%	2.0% dry	1.5% dry
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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 ( $R_{HD}$ )	%	96.0	99.0	97.5	98.5	97.5	97.0
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Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
Project GRACE - STAGE 7  
Location TARNEIT

Job No 23021  
Report No 23021/R003  
Date Issued 31/01/23

Tested by JB  
Date tested 24/01/23  
Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 11:00

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 mm	175	175	175	175	175	175
Field wet density t/m <sup>3</sup>	1.82	1.76	1.83	1.82	1.85	1.98
Field moisture content %	22.7	23.3	23.0	22.1	21.1	22.1

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	19.0
Percent of oversize material wet	0	0	0	0	0	0
Peak Converted Wet Density t/m <sup>3</sup>	1.87	1.79	1.89	1.89	1.90	2.02
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.5	25.5	25.5	24.5	23.5	25.0

Moisture Variation From Optimum Moisture Content	0.0%	2.5% dry	2.5% dry	2.5% dry	2.0% dry	2.5% dry
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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 ( $R_{HD}$ )	%	97.5	98.5	97.0	96.5	97.5	98.0
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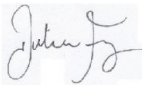
Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13



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## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23021  
Report No 23021/R004  
Date Issued 28/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	GRACE - STAGE 7	Date tested	25/01/23
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:00
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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	175
Field wet density t/m <sup>3</sup>	1.95	1.97	1.99	1.95	1.94	1.95
Field moisture content %	19.0	19.8	17.4	21.9	18.2	16.3

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	19.0
Percent of oversize material wet	0	0	0	0	0	0
Peak Converted Wet Density t/m <sup>3</sup>	2.04	2.00	2.00	1.96	1.98	1.97
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	21.0	20.0	20.0	24.0	19.0	18.0

Moisture Variation From Optimum Moisture Content	1.5% dry	0.0%	2.5% dry	2.0% dry	1.0% dry	1.5% dry
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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 ( $R_{HD}$ )	%	96.0	99.0	99.5	99.5	98.0	99.0
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Material description

No 19 - 24 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry