CIVIL GEOTECHNICAL SERVICES
ABN 26 474 013 724
PO Box 678 Croydon Vic 3136
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17th December 2021

Our Reference: 20561:NB975 Rev.1

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
TRIJENA – STAGE 9 (MICKLEHAM)

Please find attached our Report No's 20561/R001 to 20561/R005 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 commenced in January 2021 and was completed in December 2021.

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).

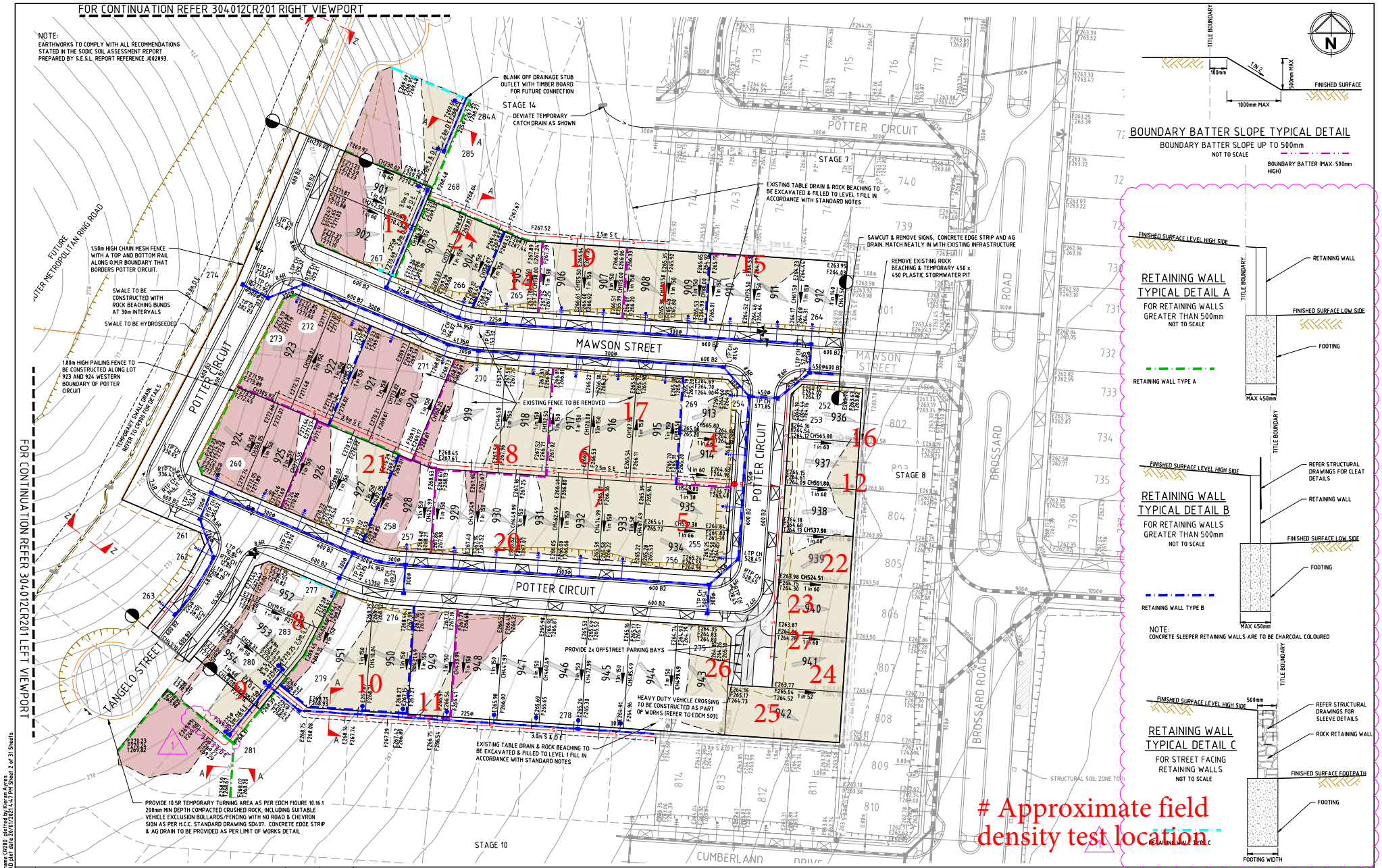
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

FIGURE 1



Rev	Amendments	Approved	Date
1	DRAINAGE ALIGNMENT & RETAINING WALL DETAILS AMENDED	M.T.S.	20-01-21
0	ISSUED FOR CONSTRUCTION	M.T.S.	08-12-20
D	AMENDED HOUSE DRAIN LOCATIONS	M.T.S	29-10-20
C	ADDED NOTES, DETAILS, EASEMENTS, FENCES. AMENDED LOT 913 & 914, T.T.A.A , R.W.	M.T.S	24-09-20
B	ISSUED TO COUNCIL	M.T.S	17-08-20
A	ISSUED FOR TENDER	M.T.S	14-08-20

H 1:500 SCALE @ A1 0 5 10 15 20 25

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POTTER GEORGE TRIJENA

Designed	Checked
W.MAY	J.KOEHLER
Authorised	Date
M.TOOMER-SMITH	14-08-20

TRIJENA
STAGE 9
ROAD LAYOUT PLANS
DETAIL PLAN (SHEET 1)
HUME CITY COUNCIL
PGG (MICKLEHAM) PTY LTD

CONSTRUCTION Drg No 304012CR200 Rev 1

file name 304012CR200.dwg layout name (R200 plotted by Kieran Ayres
file location G:\SK\304012\Civil\ACAD plot date 20/01/2021 4:47 PM Sheet 2 of 31 Sheets

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	20561
		Report No	20561/R001
		Date Issued	30/01/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	TRIJENA - STAGE 9	*Date tested*	19/01/21
Location	MICKLEHAM	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 08:07

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/m³*	1.85	1.83	1.84	1.83	1.79	1.79
Field moisture content	*%*	16.2	17.0	15.0	15.3	16.6	16.8

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/m³*	1.86	1.93	1.86	1.83	1.85	1.82
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	18.5	19.5	17.5	17.0	18.0	19.0

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.5% dry	1.5% dry	1.5% dry	2.0% dry

Density Ratio (R_{HD})	*%*	**99.0**	**95.0**	**99.0**	**100.0**	**97.0**	**98.5**

Material description

No 1 - 6 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA

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

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	20561
		Report No	20561/R002
		Date Issued	12/04/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	TRIJENA - STAGE 9	*Date tested*	23/02/21
Location	MICKLEHAM	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:15

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/m³*	1.94	1.84	1.86	1.93	1.89	1.83
Field moisture content	*%*	18.6	19.4	18.7	22.7	22.7	20.6

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/m³*	1.95	1.91	1.91	1.94	1.91	1.91
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	20.5	21.0	20.5	24.5	24.5	22.5

Moisture Variation From Optimum Moisture Content		2.0% dry	1.5% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry

Density Ratio (R_{HD})	***%***	**99.5**	**96.5**	**97.5**	**100.0**	**99.5**	**96.0**

Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA

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Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	20561
		Report No	20561/R003
		Date Issued	12/03/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	TRIJENA - STAGE 9	*Date tested*	10/03/21
Location	MICKLEHAM	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:25

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/m³*	1.92	1.84	1.87	1.86	1.87	1.92
Field moisture content	*%*	17.5	11.5	16.3	14.0	18.8	14.5

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/m³*	1.89	1.89	1.90	1.96	1.96	2.01
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	19.5	13.5	19.0	16.5	21.5	17.0

Moisture Variation From Optimum Moisture Content		2.0% dry	2.0% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry
Density Ratio (R_{HD})	*%*	**101.5**	**97.0**	**98.5**	**95.0**	**95.5**	**96.0**

Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA

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COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	20561
		Report No	20561/R004
		Date Issued	12/04/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AM
Project	TRIJENA - STAGE 9	*Date tested*	16/03/21
Location	MICKLEHAM	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 14:38

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							
Measurement depth	*mm*	175	175	175	-	-	-
Field wet density	*t/m³*	1.98	1.94	1.94	-	-	-
Field moisture content	*%*	16.5	16.6	13.3	-	-	-

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/m³*	1.99	2.03	2.02	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	19.0	16.5	15.0	-	-	-

Moisture Variation From Optimum Moisture Content		2.5% dry	0.0%	2.0% dry	-	-	-

Density Ratio (R_{HD})	*%*	**99.5**	**95.5**	**96.5**	**-**	**-**	**-**

Material description

No 19 - 21 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA

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Accreditation No 9909

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	20561
		Report No	20561/R005
		Date Issued	17/12/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	TRIJENA - STAGE 9	*Date tested*	13/12/21
Location	MICKLEHAM	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 14:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**22**	**23**	**24**	**25**	**26**	**27**
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/m³*	1.91	1.85	1.85	1.86	1.88	1.90
Field moisture content	*%*	15.5	16.7	18.8	16.3	17.1	17.6

Test procedure AS 1289.5.7.1

Test No		22	23	24	25	26	27
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/m³*	2.00	1.91	1.92	1.91	1.92	1.92
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	17.5	18.0	21.0	18.5	19.0	19.5

Moisture Variation From Optimum Moisture Content		2.0% dry	1.0% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry

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})	*%*	**95.5**	**96.5**	**96.5**	**97.5**	**98.0**	**99.0**

Material description

No 22 - 27 Clay Fill

NATA Accredited Laboratory No 9909
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Approved Signatory : Justin Fry