

CIVIL GEOTECHNICAL SERVICES ABN 26 474 013 724

PO Box 678 Croydon Vic 3136 Telephone: 9723 0744 Facsimile: 9723 0799

20th April 2020

Our Reference: 20141:SB015

Mirvac Pty Ltd Level 5, Building Q3, 6 Riverside Quay, SOUTHBANK VIC 3006

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING SMITHS LANE – STAGE 4, CLYDE NORTH

Please find attached our Report No's 20141/R001 to 20141/R007 that 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 commenced and completed in March 2020.

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

Stephen Burns

FIGURE 1 (1 of 2)



Approximate field density test location



CEDVICE OFFCET TABLE

	G	Gas		ND - Water		Water		Electricity		Telecommunication		Sewer	
Location	Side	Offset (m)	Side	Offset (m)									
OCONNOR AVENUE	NORTH	1.95	NORTH	2.40	NORTH	3.20	SOUTH	1.95	SOUTH	1.20	NORTH	0.80	
MEYER CRESCENT	SOUTH	2.25	SOUTH	2.70	SOUTH	3.20	NORTH	2.60	NORTH	1.85	SOUTH	0.80	
MEYER CRESCENT	WEST	2.25	WEST	2.70	WEST	3.20	EAST	0.90	EAST	0.15	WEST	0.80	
MEYER CRESCENT	N/W	2.25	N/W	2.70	N/W	3.20	S/E	2.60	S/E	1.85	S/W	0.80	
CARCOOLA RISE	SOUTH	2.25	SOUTH	2.70	SOUTH	3.20	NORTH	2.60	NORTH	1.85	NORTH	0.80	
CROPPING STREET	S/W	2.25	S/W	2.70	S/W	3.20	N/E	2.60	N/E	1.85	S/E/W	0.80	
WIRY WAY	SOUTH	2.25	SOUTH	2.70	SOUTH	3.20	NORTH	2.60	NORTH	1.85	SOUTH	0.80	
WONGA COURT	NORTH	2.25	NORTH	2.70	NORTH	3.20	SOUTH	1.10	SOUTH	0.35	NORTH	0.80	
POSTMAN WALK	NORTH	3.05	NORTH	3.45	NORTH	3.85	NORTH	2.40	NORTH	1.85	NORTH	0.80	

NOTE: STREET TREES ARE TO BE PLANTED IN THE CENTRE OF ALL NATURE STRIPS

		20121	HOLE MADE II			
		ROAD LA	YOUT TABLE			
ROAD NAME	RESERVE WIDTH (m)		ROAD WIDTH (m)		VERGE W	IDTH (m)
ROAD NAME	KESEKVE WIDTT(III)	LIP to LIP	INV to INV	BACK to BACK	NORTHWEST	SOUTH/EAST
OCONNOR AVENUE	20.00	6.40 (10.30)	7.30 (11.20)	7.60 (11.50)	6.95 (5.00)	5.45 (3.50)
MEYER CRESCENT	16.00	6.40	7.00	7.60	4.05	4.35
MEYER CRESCENT	16.00	6.40	7.00	7.60	4.35	4.05
MEYER CRESCENT	14.00	6.40	7.00	7.60	4.35	2.05
CARCOOLA RISE	16.00	6.40	7.00	7.60	4.05 (4.35)	4.35 (4.05/2.55)
CROPPING STREET	16.00	6.40	7.00	7.60	4.05	4.35
CROPPING STREET	13.00	4.60	5.20	5.80	2.85	4.35
WIRY WAY	16.00	6.40	7.00	7.60	4.05	4.35
WONGA COURT	14.50	6.40	7.00	7.60	4.35	2.55

NOTE: DIMENSIONS IN PARENTHESES INCLUDES PARKING LA

Approximate field density test location

WARNING BEWARE OF UNDERGROUND SERVICES

he locations of underground services are approximate only an their exact position should be proven on site. No guarantee is given that all existing services are shown, coate all underground services before commencement of work DIAL 1100 BEFORE YOU DIG

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PRELIMINARY PRINT NOT FOR CONSTRUCTION

K:Jobs Datal 1101438 110 Smiths Lane, Clyde (MRVAC), Engl Stage 4 Drawings 1101438-04-010-LAY

FIGURE 1 (2 of 2)





Location

COMPACTION ASSESSMENT

Job No 20141 **CIVIL GEOTECHNICAL SERVICES** Report No 20141/R001 Date Issued 08/04/2020 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB SMITHS LANE - STAGE 4 Date tested 10/03/20 Project

Feature EARTHWORKS Layer thickness 200 mm Time: 08:00

Test procedure	45	12802	1 1	8.581
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CLYDE NORTH

Test No		1	2	3	4	5	6
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		TO	TO	TO	ТО	TO	TO
		FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m³	1.98	1.96	1.97	1.98	1.99	1.98
Field moisture content	%	18.0	18.3	18.7	16.8	15.4	16.4

Test procedure AS 1289.5.7.1

: 000 p: 000 did:: 0 : 10 : 100:: 11:							
Test No		1	2	3	4	5	6
Compactive effort				Star	ndard		
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	2.06	2.06	2.04	2.06	2.07	2.04
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	18.0	17.5	17.5	17.5	16.0	17.0

Moisture Variation From	0.0%	0.5%	1.5%	0.5%	0.5%	0.5%
Optimum Moisture Content		wet	wet	dry	dry	dry

Density Ratio (R _{HD}) %	96.0	95.0	96.5	96.0	96.5	97.0

Material description

No 1 - 6 Clay Fill

NATA

AVRLOT HILF V1.10 MAR 13

Juliu J

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The results of the tests, calibrations and/or measurements included in this

Accreditation No 9909

Approved Signatory : Justin Fry

Checked by

JHF



 CIVIL GEOTECHNICAL SERVICES
 Job No
 20141

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 20141/R002

 Client
 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)
 Tested by
 SB

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectSMITHS LANE - STAGE 4Date tested11/03/20LocationCLYDE NORTHChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 09:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		7	8	9	10	11	12
Location		REFER TO FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m³	1.96	1.96	1.96	1.96	1.96	1.97
Field moisture content	%	15.4	12.4	18.8	18.1	16.8	18.1

Test procedure AS 1289.5.7.1

Test No		7	8	9	10	11	12
Compactive effort				Star	ndard		
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	1.97	1.95	1.98	1.97	1.95	1.96
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	17.5	14.5	19.0	17.5	19.0	17.0

Moisture Variation From	2.0%	2.0%	0.0%	0.5%	2.5%	1.0%
Optimum Moisture Content	dry	dry		wet	dry	wet

Density Ratio (R _{HD})	%	100.0	100.5	99.0	99.5	100.5	101.0

Material description

No 7 - 12 Clay Fill

NATA

Julia L

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 CIVIL GEOTECHNICAL SERVICES
 Job No
 20141

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 20141/R003

 Date Issued
 07/04/2020

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectSMITHS LANE - STAGE 4Date tested12/03/20LocationCLYDE NORTHChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 14:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		13	14	15	16	17	18
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		TO	TO	TO	ТО	TO	TO
		FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m³	2.02	2.02	2.05	2.06	1.99	2.06
Field moisture content	%	15.3	15.0	13.6	13.2	13.4	13.9

Test procedure AS 1289.5.7.1

Test No		13	14	15	16	17	18
Compactive effort				Star	ndard		
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	2.04	2.07	2.04	2.06	2.03	2.12
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	16.0	15.5	15.5	15.5	16.0	13.5

Moisture Variation From	0.5%	0.0%	2.0%	2.0%	2.5%	0.0%
Optimum Moisture Content	dry		dry	dry	dry	

Density Ratio (R _{HD})	%	99.0	98.0	100.5	100.0	98.5	97.0

Material description

No 13 - 18 Clay Fill

NATA

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Julia J



Job No 20141 **CIVIL GEOTECHNICAL SERVICES** Report No 20141/R004 Date Issued 08/04/2020 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB Project SMITHS LANE - STAGE 4 Date tested 12/03/20 **CLYDE NORTH** Location Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 15:00

	19	20	21	-	-	-
!	REFER	REFER	REFER			
ļ	ТО	ТО	то			
	_	_	FIGURE 1			
		<u> </u>				
mm	175	175	175	-	-	-
t/m³	2.05	2.02	2.06	-	-	-
%	13.4	14.5	12.9	-	-	-
	19	20	21	-	-	-
			Stan	dard		
mm	19.0	19.0	19.0	-	-	-
wet	0	0	0	-	_	-
t/m³	2.09	2.07	2.06	-	-	-
′ t/m³	- '	-	-	-	-	-
%	14.5	15.0	14.5	-	-	-
/0	14.5	15.0	14.0		-	
	1.0%	0.5%	1.5%	-	-	-
	mm wet t/m³ v t/m³	TO FIGURE 1 mm 175 t/m³ 2.05 % 13.4 19 mm 19.0 wet 0 t/m³ 2.09 t/m³ 2.09	TO FIGURE 1 TO FIGURE 1 mm 175 175 t/m³ 2.05 2.02 % 13.4 14.5 mm 19.0 19.0 wet 0 0 t/m³ 2.09 2.07 t/m³ - -	TO FIGURE 1 TO FIGURE 1 TO FIGURE 1 TO FIGURE 1 mm 175 175 175 t/m³ 2.05 2.02 2.06 % 13.4 14.5 12.9 Stand Mm mm 19.0 19.0 19.0 wet 0 0 0 t/m³ 2.09 2.07 2.06 t/m³ - - -	TO FIGURE 1 TO FIGURE 1 TO FIGURE 1 mm 175 175 175 - t/m³ 2.05 2.02 2.06 - % 13.4 14.5 12.9 - standard mm 19.0 19.0 - wet 0 0 0 - t/m³ 2.09 2.07 2.06 - t/m³ - - -	TO FIGURE 1 TO FIGURE 1 TO FIGURE 1 mm 175 175 175 -

Material description

No 19 - 21 Clay Fill



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 CIVIL GEOTECHNICAL SERVICES
 Job No
 20141

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 20141/R005

 Date Issued
 02/04/2020

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectSMITHS LANE - STAGE 4Date tested13/03/20LocationCLYDE NORTHChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 14:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		22	23	24	25	26	27
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		TO	TO	TO	TO	TO	TO
		FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m³	2.03	2.04	2.01	1.96	1.98	1.96
Field moisture content	%	15.0	14.0	13.7	20.1	18.6	21.0

Test procedure AS 1289.5.7.1

Test No		22	23	24	25	26	27
Compactive effort				Star	ndard		
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	2.04	2.05	2.02	1.97	1.97	1.98
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	17.0	16.5	15.5	23.0	21.0	23.5

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

Density Ratio (R _{HD})	%	99.5	99.5	99.5	99.5	100.0	99.0

Material description

No 22 - 27 Clay Fill

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 CIVIL GEOTECHNICAL SERVICES
 Job No
 20141

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 20141/R006

 Date Issued
 20/04/2020

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectSMITHS LANE - STAGE 4Date tested16/03/20LocationCLYDE NORTHChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 12:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		28	29	30	32	33	34
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		TO	TO	TO	TO	TO	TO
		FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m³	2.03	2.03	2.02	2.02	2.06	2.06
Field moisture content	%	20.1	18.1	18.4	21.2	15.6	18.7

Test procedure AS 1289.5.7.1

Test No		28	29	30	32	33	34
Compactive effort				Star	ndard		
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	2.06	2.05	2.04	2.05	2.10	2.09
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	17.5	20.0	19.5	20.0	17.0	19.0

Moisture Variation From	2.5%	2.0%	1.0%	1.0%	1.5%	0.5%
Optimum Moisture Content	wet	dry	dry	wet	dry	dry

Density Ratio (R _{HD}) %	ó	98.5	99.0	99.0	98.5	98.0	98.5

Material description

No 28 - 34 Clay Fill

NATA

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Job No 20141 **CIVIL GEOTECHNICAL SERVICES** Report No 20141/R007 Date Issued 20/04/2020 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB Project SMITHS LANE - STAGE 4 Date tested 16/03/20 **CLYDE NORTH** Location Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 13:30

Test No		34	35	36	-	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Annua in teste destinate FO							
Approximate depth below FSL							
··	mm	175	175	175	-	-	-
Measurement depth	mm t/m³	175 2.04	175 2.01	175 2.03	-	-	-
Measurement depth Field wet density				_	- - -	- - -	-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1	t/m³	2.04 15.7	2.01 15.7	2.03 17.5	-	-	-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No	t/m³	2.04	2.01	2.03 17.5		-	-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort	t/m³ %	2.04 15.7	2.01 15.7	2.03 17.5 36 Stan	- - dard	-	-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve	t/m³ % mm	2.04 15.7 34	2.01 15.7 35	2.03 17.5 36 Stand		-	-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material	t/m³ % mm wet	2.04 15.7 34 19.0 0	2.01 15.7 35 19.0 0	2.03 17.5 36 Stand 19.0 0	- - dard	-	- - - - -
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density	t/m³ % mm wet t/m³	2.04 15.7 34	2.01 15.7 35	2.03 17.5 36 Stand	- - dard - -	- - -	- - - - - -
Approximate depth below FSL Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content	t/m³ % mm wet t/m³ t/m³	2.04 15.7 34 19.0 0 2.06	2.01 15.7 35 19.0 0 2.09	2.03 17.5 36 Stand 19.0 0 2.10	- - dard - -	- - - - -	
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density	t/m³ % mm wet t/m³	2.04 15.7 34 19.0 0	2.01 15.7 35 19.0 0 2.09	2.03 17.5 36 Stand 19.0 0	- - dard - - -	- - - - -	
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density	t/m³ % mm wet t/m³ t/m³	2.04 15.7 34 19.0 0 2.06	2.01 15.7 35 19.0 0 2.09	2.03 17.5 36 Stand 19.0 0 2.10	- - dard - - -	- - - - -	

Material description

No 34 - 36 Clay Fill

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Accreditation No 9909

AVRLOT HILF V1.10 MAR 13

