



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

10th September 2021

Our Reference: 21066:NB1044

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
SMITHS LANE – STAGE 11 (CLYDE NORTH)**

Please find attached our Report No's 21066/R001 to 21066/R006 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 February 2021 and was completed in March 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

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

Nick Brock

FIGURE 1



LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN & PIT
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- TACTILE PAVERS (INDICATIVE ONLY)
- ELECTRICITY (UNDERGROUND)
- ELECTRICITY (OVERHEAD)
- OPTIC FIBRE
- TELECOMMUNICATIONS
- GAS
- WATER
- RECYCLED WATER
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING STORMWATER DRAIN
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LEVEL
- FINISHED RIDGE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- ROOF LINE
- RETAINING WALL
- ZERO LOT LINES
- PAVEMENT TREATMENT
- STRUCTURAL FALL > 200mm DEEP
- EX. STRUCTURAL FALL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOL DRAIN
- 'NO ROAD' SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY
- TREE PROTECTION ZONE (TPZ)

ROAD LAYOUT TABLE

ROAD NAME	RESERVE WIDTH (m)	ROAD WIDTH (m)			VERGE WIDTH (m)	
		LIP to LIP	INV to INV	BACK to BACK	NORTHWEST	SOUTHEAST
DIVERSITY ROAD	16.00	6.40	7.30	7.60	4.05	4.35
EQUALITY STREET	16.00	6.40	7.30	7.60	4.35	4.05
RESPECT AVENUE	16.00	6.40	7.30	7.60	4.35	4.05
GENERATION DRIVE	14.50	5.10 (7.20)	6.00 (8.10)	6.30 (8.40)	4.10	4.10 (2.00)
GENERATION DRIVE	20.00	6.65	7.55	7.85	4.25	8.20
LANARK STREET	14.50	5.10	6.00	6.30	4.10	4.10

NOTE: DIMENSIONS IN PARENTHESES INCLUDES PARKING LANE

SERVICE OFFSET TABLE

Location	Gas		ND - Water		Water		Electricity		Telecommunication		Sewer		Irrigation	
	Side	Offset (m)	Side	Offset (m)	Side	Offset (m)	Side	Offset (m)	Side	Offset (m)	Side	Offset (m)	Side	Offset (m)
RESPECT AVENUE	E	2.25	E	2.70	E	3.20	W	2.60	W	1.85	E & W	1.00	-	-
EQUALITY STREET	N	2.25	N	2.70	N	3.20	S	2.60	S	1.85	N & S	1.00	-	-
DIVERSITY ROAD	N	2.25	N	2.70	N	3.20	S	2.60	S	1.85	N & S	1.00	-	-
GENERATION DRIVE(14.5m)	N	2.00	N	2.45	N	2.95	S	1.20	S	0.85	N	0.80	S	-3.50
GENERATION DRIVE(20m)	N	2.00	N	2.45	N	2.95	S	2.60	S	1.85	N	0.80	S	6.50
LANARK STREET	E	2.00	E	2.45	E	2.95	W	1.20	W	0.85	E	1.00	-	-

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

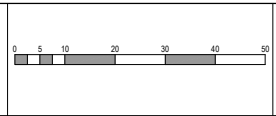
Approximate field density test location

WARNING
BEWARE OF UNDERGROUND SERVICES
 The locations 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.
 Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
 www.1100.com.au

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REV	DESCRIPTION	DATE	DRN	APP	REV	DESCRIPTION	DATE	DRN	APP
P1	ISSUED FOR INFORMATION	27.11.20	CD	LM					



Designed by: C. DAWSON 27.11.20
 Drawn by: M.F. JAURIGUE
 Approved by: L. MURRAY 27.11.20
 PS Number: PS837147B

BW Beveridge Williams
 1 Glenferrie Road
 Malvern VIC 3144
 ph: 03 9524 8888
 www.beveridgewilliams.com.au

Project Details: SMITHS LANE STAGE 11 CITY OF CASEY, R5112
 Drawing Title: LAYOUT PLAN

Sheet Ref: 1101438	Stage No: 11	Drawing No: 010	Rev: P1
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Sheet 04 of 19
 Scale: 1:500 @ A1
 Project Ref: 1101438 Stage No: 11 Drawing No: 010 Rev: P1

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COMPACTION ASSESSMENT

Job No 21066
 Report No 21066/R001
 Date Issued 06/09/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	SMITHS LANE - STAGE 11	Date tested	23/02/21
Location	CLYDE NORTH	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	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
Field wet density	t/m ³	1.92	1.91	1.94	1.99	1.98
Field moisture content	%	17.0	15.9	15.6	22.0	15.6

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
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m ³	1.96	1.99	2.01	2.05	2.00
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	19.0	18.0	16.5	24.0	17.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	1.0% dry	1.5% dry	1.5% dry	2.5% dry
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Density Ratio (R _{HD})	%	97.5	96.0	96.5	97.0	99.0	98.0
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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 21066
Report No 21066/R002
Date Issued 06/09/2021

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	SMITHS LANE - STAGE 11	Date tested	24/02/21
Location	CLYDE NORTH	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 ³	1.99	1.99	1.98	2.10	2.09	2.08
Field moisture content	%	15.3	15.3	15.9	14.4	14.3	16.7

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 ³	2.02	2.04	1.99	2.07	2.15	2.14
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-	-
Optimum Moisture Content	%	15.5	17.5	18.0	14.0	15.0	19.0

Moisture Variation From Optimum Moisture Content	0.0%	2.0% dry	2.0% dry	0.5% wet	0.5% dry	2.0% dry
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Density Ratio (R _{HD})	%	98.5	98.0	99.5	101.5	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

Job No 21066
 Report No 21066/R003
 Date Issued 06/09/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	SMITHS LANE - STAGE 11	Date tested	25/02/21
Location	CLYDE NORTH	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:00
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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	mm	175	175	175	175	175
Field wet density	t/m ³	1.96	1.96	1.93	1.84	1.85
Field moisture content	%	21.9	20.4	20.6	21.7	19.1

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
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m ³	1.99	2.00	1.98	1.90	1.89
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	25.0	22.5	22.5	24.0	21.0

Moisture Variation From Optimum Moisture Content	2.5% dry	2.0% dry	2.0% dry	2.5% dry	2.0% dry	2.5% dry
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Density Ratio (R _{HD})	%	98.5	98.0	97.5	97.0	98.0	98.5
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Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 21066
 Report No 21066/R004
 Date Issued 10/09/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	SMITHS LANE - STAGE 11	Date tested	26/02/21
Location	CLYDE NORTH	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	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 ³	2.10	2.10	2.09	2.08	2.09
Field moisture content	%	19.9	20.2	18.9	21.6	23.4

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 ³	2.20	2.12	2.16	2.15	2.12
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	21.0	20.5	21.5	23.5	25.5

Moisture Variation From Optimum Moisture Content	1.0% dry	0.5% dry	2.5% dry	2.0% dry	2.0% dry	1.5% dry
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Density Ratio (R _{HD})	%	95.5	99.0	96.5	97.0	98.5	98.5
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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



COMPACTION ASSESSMENT

Job No 21066
 Report No 21066/R005
 Date Issued 06/09/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	SMITHS LANE - STAGE 11	Date tested	01/03/21
Location	CLYDE NORTH	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	11:00
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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 ³	1.94	1.95	1.94	1.94	1.93
Field moisture content	%	20.6	20.5	19.0	19.9	21.1

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 ³	1.99	1.98	1.98	1.98	1.99
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	21.0	22.5	21.5	20.0	22.0

Moisture Variation From Optimum Moisture Content	0.5% dry	2.0% dry	2.5% dry	0.0%	1.0% dry	0.0%
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Density Ratio (R _{HD})	%	97.5	99.0	97.5	98.0	97.5	98.0
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Material description

No 25 - 30 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

Job No 21066
 Report No 21066/R006
 Date Issued 13/08/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	SMITHS LANE - STAGE 11	Date tested	02/03/21
Location	CLYDE NORTH	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	12:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	31	32	33	34	35	36
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 ³	2.00	2.00	2.00	2.03	2.00
Field moisture content	%	21.4	18.2	18.5	19.8	16.4

Test procedure AS 1289.5.7.1

Test No	31	32	33	34	35	36
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 ³	2.08	2.05	2.08	2.06	2.05
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	22.0	20.0	20.5	22.5	19.0

Moisture Variation From Optimum Moisture Content	0.5% dry	2.0% dry	2.0% dry	2.5% dry	2.5% dry	2.0% dry
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Density Ratio (R _{HD})	%	96.5	97.5	96.5	98.5	97.0	99.0
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Material description

No 31 - 36 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