



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

2<sup>nd</sup> May 2022

Our Reference: 22151:NB1216

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING**  
**UNITY PARK – STAGE 1 (TARNEIT)**

Please find attached our Report No's 22151/R001 to 22151/R002 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 April 2022.

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).

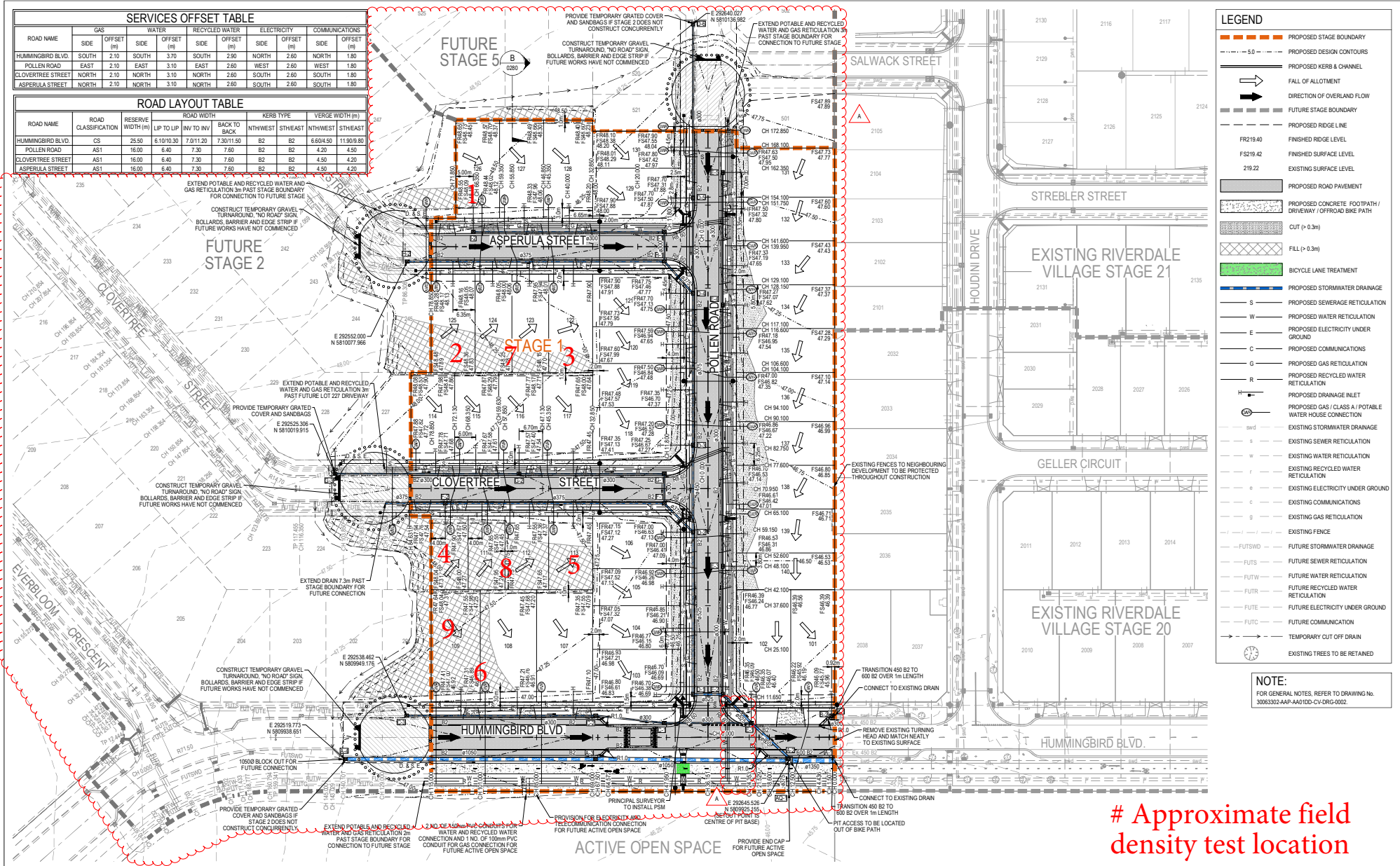
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in blue ink, appearing to be 'Nick Brock', written in a cursive style.

Nick Brock

# FIGURE 1



SERVICES OFFSET TABLE										
ROAD NAME	GAS		WATER		RECYCLED WATER		ELECTRICITY		COMMUNICATIONS	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
HUMMINGBIRD BLVD	SOUTH	2.10	SOUTH	3.70	SOUTH	2.90	NORTH	2.60	NORTH	1.80
POLLEN ROAD	EAST	2.10	EAST	3.10	EAST	2.60	WEST	2.60	WEST	1.80
CLOVERTREE STREET	NORTH	2.10	NORTH	3.10	NORTH	2.60	SOUTH	2.60	SOUTH	1.80
ASPERULA STREET	NORTH	2.10	NORTH	3.10	NORTH	2.60	SOUTH	2.60	SOUTH	1.80

ROAD LAYOUT TABLE									
ROAD NAME	ROAD CLASSIFICATION	RESERVE WIDTH (m)	LIP TO LIP	ROAD WIDTH		KERB TYPE		VERGE WIDTH (m)	
				INV TO INV	BACK TO BACK	NORTHWEST	SOUTHWEST	NORTHEAST	SOUTHEAST
HUMMINGBIRD BLVD	CS	25.50	6.10/0.30	7.01/1.20	7.30/1.50	B2	B2	6.60/4.50	11.90/9.80
POLLEN ROAD	AS1	16.00	6.40	7.30	7.60	B2	B2	4.20	4.50
CLOVERTREE STREET	AS1	16.00	6.40	7.30	7.60	B2	B2	4.50	4.20
ASPERULA STREET	AS1	16.00	6.40	7.30	7.60	B2	B2	4.50	4.20

LEGEND	
	PROPOSED STAGE BOUNDARY
	PROPOSED DESIGN CONTOURS
	PROPOSED KERB & CHANNEL
	FALL OF ALLOTMENT
	DIRECTION OF OVERLAND FLOW
	FUTURE STAGE BOUNDARY
	PROPOSED RIDGE LINE
	FR219.40 FINISHED RIDGE LEVEL
	FS219.42 FINISHED SURFACE LEVEL
	219.22 EXISTING SURFACE LEVEL
	PROPOSED ROAD PAVEMENT
	PROPOSED CONCRETE FOOTPATH / DRIVEWAY / OFFROAD BIKE PATH
	CUT (> 0.3m)
	FILL (> 0.3m)
	BICYCLE LANE TREATMENT
	PROPOSED STORMWATER DRAINAGE
	PROPOSED SEWERAGE RETICULATION
	PROPOSED WATER RETICULATION
	PROPOSED ELECTRICITY UNDER GROUND
	PROPOSED COMMUNICATIONS
	PROPOSED GAS RETICULATION
	PROPOSED RECYCLED WATER RETICULATION
	PROPOSED DRAINAGE INLET
	PROPOSED GAS / CLASS A / POTABLE WATER HOUSE CONNECTION
	EXISTING STORMWATER DRAINAGE
	EXISTING SEWER RETICULATION
	EXISTING WATER RETICULATION
	EXISTING RECYCLED WATER RETICULATION
	EXISTING ELECTRICITY UNDER GROUND
	EXISTING COMMUNICATIONS
	EXISTING GAS RETICULATION
	EXISTING FENCE
	FUTURE STORMWATER DRAINAGE
	FUTURE SEWER RETICULATION
	FUTURE WATER RETICULATION
	FUTURE RECYCLED WATER RETICULATION
	FUTURE ELECTRICITY UNDER GROUND
	FUTURE COMMUNICATION
	TEMPORARY CUT OFF DRAIN
	EXISTING TREES TO BE RETAINED

**NOTE:**  
FOR GENERAL NOTES, REFER TO DRAWING NO. 30063302-AAP-AA01DD-CV-DRG-0002.

# Approximate field density test location

Issue	Description	DR	CH	VE	Date
01	ISSUED FOR APPROVAL	MD	KM	SE	08.11.21
02	ISSUED FOR CONSTRUCTION	MD	KM	SE	08.11.21
03	AMENDED TO ADDRESS COUNCIL COMMENTS	MD	KM	SE	25.10.21
04	AMENDED TO ADDRESS COUNCIL COMMENTS	MD	KM	SE	06.10.21
05	ISSUED FOR TENDER	MD	KM	SE	18.08.21
06	ISSUED FOR APPROVAL	MD	KM	SE	17.08.21

Scales

1:500

Client

HB Land  
A member of Ho Bee Land

Status: ISSUED FOR CONSTRUCTION

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Drawn	MJULAY	Original Size	A1
Designed	R.MACAS	Height Datum	AHD
Project Manager	S.EISEL	Grid	MGA
Verified	K.MAK		

Project: UNITY PARK STAGE 1 WYNDHAM CITY COUNCIL

Title: ROADWORKS AND DRAINAGE LAYOUT PLAN

Arcadis Australia Pacific Pty Limited  
Level 32, 140 William Street  
MELBOURNE VIC 3000  
ABN 76 104 485 289  
Tel No: +61 3 8623 4000  
www.arcadis.com/au

Project No. 30063302 - AAP - AA01DD - CV - DRG - 0220 - A



# COMPACTION ASSESSMENT

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 22151  
Report No 22151/R001  
Date Issued 02/05/2022

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	UNITY PARK - STAGE 1	Date tested	21/04/22
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>	1.72	1.78	1.75	1.79	1.77	1.74
Field moisture content	%	21.0	23.1	30.8	32.8	29.4	26.8

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/m <sup>3</sup>	1.81	1.84	1.83	1.85	1.82	1.81
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	23.0	25.0	31.0	35.0	29.5	29.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	0.0%	2.0% dry	0.5% dry	2.0% 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 <sub>HD</sub> )	%	95.5	96.5	95.5	96.5	97.5	96.0
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Material description

No 1 - 6 Clay Fill
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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 22151  
 Report No 22151/R002  
 Date Issued 27/04/2022

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	UNITY PARK - STAGE 1	Date tested	26/04/22
Location	TARNEIT	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		7	8	9	-	-	-
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/m <sup>3</sup>	1.80	1.82	1.81	-	-	-
Field moisture content	%	27.0	24.4	25.2	-	-	-

Test procedure AS 1289.5.7.1

Test No		7	8	9	-	-	-
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/m <sup>3</sup>	1.84	1.84	1.84	-	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	24.5	25.0	23.5	-	-	-

Moisture Variation From Optimum Moisture Content		2.5% wet	0.5% dry	2.0% wet	-	-	-
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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 <sub>HD</sub> )	%	98.0	99.0	98.5	-	-	-
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Material description

No 7 - 9 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry