

CIVIL GEOTECHNICAL SERVICES ABN 26 474 013 724

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

28th October 2021

Our Reference: 21534:NB1060

Winslow Constructors Pty Ltd 50 Barry Road CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING CREEKSTONE – STAGE 20 (TARNEIT)

Please find attached our Report No's 21534/R001 to 21534/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 commenced in August 2021 and was completed in October 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



_			
	SHT.	VFR	DRAWING INDEX
	No.	VER	DESCRIPTION
	1	В	LAYOUT PLAN AND DETAILS
	2	Α	NOTES AND TYPICAL CROSS SECTIONS
	3	В	INTERSECTION DETAILS
	4	Α	THICKET DRIVE - LONGITUDINAL SECTION AND CROSS SECTIONS
	5	В	POLLY PARADE - LONGITUDINAL SECTION
	6	В	POLLY PARADE - CROSS SECTIONS
	7	Α	POLLY PARADE - CROSS SECTIONS
	8	Α	LIVELY ST, AMBIENCE AVE - LONGITUDINAL SECTION AND CROSS SECTIONS
	9	Α	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE
	10	Α	DRAINAGE LONGITUDINAL SECTIONS
	11	В	SIGNAGE & LINEMARKING PLAN

	SERVICES OFFSETS AND LOCATIONS													
LOCATION	GAS	WA:	TER	COMMUNICATIONS		ELECT	RICITY	BOK	Road Width	Joint Trenching				
LOCATION	una	NDW	DW	Cables	Pits	Cables	Poles	BUK	NOSU WIGHT	John Heliciling				
POLLY PARADE	2.30 N	2.95 N	3.70 N	1.80 S	1.85 N	2.45 S	1.00 BOK	9.65S / 4.35N	25.50	W&G, E&FTTH				
THICKET DRIVE	2.25 E	2.70 E	3.20 E	1.85 W	1.85 E	2.55 W	1.00 BOK	4.3SE / 4.0SW	16.00	W&G, E&FTTH				
LIVELY STREET	2.25 E	2.70 E	3.20 E	1.85 W	1.85 E	2.55 W	1.00 BOK	4.35E / 4.09W	16.00	W&G, E&FTTH				
AMBIENCE AVENUE	2.25 E	2.70 E	3.20 E	1.85 W	1.85 E	2.55 W	1.00 BOK	4.35E / 4.09W	16.00	W&G, E&FTTH				

Approximate field density test location



PLAN 1500 LENGTHS ARE IN METRES 10 5 0 10 20 40 SCALE 1:500 (A1)

SYMBOL LEGEN	D Prop Prev Stage		
Drains Sewer < 300Ø Sewer ≥ 300Ø Water (DW) Water (NDW) House Drain Property Inlet	-S - S - S - S - S - S - S - S - S - S	Top/Toe of Batter Top Ret. Wall Level	•2851 •16528.51 •15528.51 •8428.51 •10678.51 •10628.51
Property inlet Street Sign PSM Rock Ret Wall Sleeper Ret Wall Conduits 50mm Conduits 100mm	- av - av -	100yr Flood Level Fill Proposed (<0.3m/≥0.3n Cut Proposed Asphalt Surface Prop	•FL28.57
Street Tree without/with Passive Irrigation (Refer Detail)	$\bigcirc \bigcirc \bigcirc$	Concrete Surface Prop (Paths/Driveways/Slabs) Tree To Be Removed	
Ex Drains Ex Water DW/NDW Ex Sewer/Gas Ex Elect/Telecomm	- Ex H Ex G Ex C Ex T - E	Tree To Be Retained with Tree Protection Zone (TPZ)	

ATTENTION TO CONTRACTOR

- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN,
 PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM COORDINATES SHOWN.
- CONTRACTOR TO ENSURE THAT THE SITE IS PEGGED AND OR SET OUT CHECKED BY THE LICENCED SURVEYOR RESPONSIBLE FOR CERTIFYING THE PLAN OF SUBDIVISION PRIOR TO UNDERGROUND INFRASTRUCTURE BEING INSTALLED.
- WHERE CONCRETE WORKS ABUT A SEWER ACCESS CHAMBER SURROUND OR SIMILAR STRUCTURE, AN EXPANSION JOINT OF APPROVED MATERIAL SHALL BE PROVIDED BETWEEN THE TWO FACES.



WARNING BEWARE OF UNDERGROUND SERVICES THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR CARCT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

	F			bo		oreese pi and surveyors	tt dixon p		1/19 cato street hawthorn east, 3123 telephone 8823 230 fax no. 8823 2310			
CHINAGATO				MELWAY REF.	360-F10	CREEKSTONE ESTATE				VE ESTATE MUNICIPALITY		
į				SURVEY	BPD				STAGE 20 WYNDHAN			619
ľ	В	31/05/21	VERGE MODIFICATION/DETAILS ADJACENT BUS STOP	DESIGN	DG	1	STAGE 20			REFERENCE		382
ı	А	08/04/21	ISSUED FOR CONSTRUCTION	DRAWN	DG	LAYOUT PLAN AND DETAILS				8584	└/20	N. N
L	VER	DATE	REMARKS	CHECKED		SCALE As Shown	DATUM AHD	DATE Ma	ır'21	SHEET	1 OF 11	В



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21534

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21534/R001

 Client
 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)
 Tested by
 JB

ProjectCREEKSTONE - STAGE 20Date tested11/08/21LocationTARNEITChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 08:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		1	2	3	4	5	6
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	1.91	1.96	1.96	1.98	1.96	1.93
Field moisture content	%	20.1	24.4	23.5	21.1	28.9	18.9

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	1.95	2.01	2.03	2.03	2.00	2.02			
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-			
Optimum Moisture Content	%	20.5	25.0	23.5	21.5	29.0	21.5			

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

Density Ratio (R _{HD})	6	98.0	97.5	96.5	97.5	98.0	95.5

Material description

No 1 - 6 Clay Fill

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

AVRLOT HILF V1.10 MAR 13

Approved Signatory : Justin Fry



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21534

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21534/R002

 Date Issued
 15/09/2021

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested byJBProjectCREEKSTONE - STAGE 20Date tested12/08/21LocationTARNEITChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 09:30

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	1.95	1.88	1.91	1.94	1.89	1.89
Field moisture content	%	25.7	19.5	26.0	28.5	19.5	20.4

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	2.00	1.93	1.96	1.96	1.94	1.96			
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-			
Optimum Moisture Content	%	26.0	22.0	26.5	29.0	21.0	23.0			

Moisture Variation From	0.5%	2.5%	0.0%	0.0%	1.5%	2.5%
Optimum Moisture Content	dry	dry			dry	dry

Density Ratio (R _{HD})	%	97.5	97.5	97.5	98.5	97.0	96.0

Material description

No 7 - 12 Clay Fill

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory: Justin Fry

AVRLOT HILF V1.10 MAR 13



Job No 21534 CIVIL GEOTECHNICAL SERVICES Report No 21534/R003 Date Issued 15/09/2021 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Tested by JB Client Project **CREEKSTONE - STAGE 20** Date tested 13/08/21 Location **TARNEIT** Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 10:30

Test No		13	14	15	-	-	-
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	1.95	1.94	1.97	-	-	-
Field moisture content	%	18.2	22.1	25.2	-	_	_
Tiola molecure demone	70	10.2	22.1	20.2		ļ	
Test procedure AS 1289.5.7.1 Test No	70	13	14	15	-	-	-
Test procedure AS 1289.5.7.1 Test No Compactive effort		13	14	15 Stan	dard	<u> </u>	<u> </u>
Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve	mm	13	14	15 Stand	dard -	-	-
Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material	mm wet	13 19.0 0	14 19.0 0	15 Stand 19.0	dard - -	<u> </u>	<u> </u>
Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density	mm wet t/m³	13 19.0 0 2.01	14 19.0 0 1.97	15 Stand 19.0 0 2.02	dard - -	- - -	<u> </u>
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	mm wet	13 19.0 0	14 19.0 0	15 Stand 19.0	dard - -	<u> </u>	<u> </u>
Test procedure AS 1289.5.7.1 Test No Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density	mm wet t/m³	13 19.0 0 2.01	14 19.0 0 1.97	15 Stand 19.0 0 2.02	dard	- - -	

Material description

No 13 - 15 Clay Fill

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

AVRLOT HILF V1.10 MAR 13

Approved Signatory : Justin Fry



Job No 21534 CIVIL GEOTECHNICAL SERVICES Report No 21534/R004 Date Issued 28/10/2021 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Tested by JB Client Project **CREEKSTONE - STAGE 20** Date tested 22/10/21 Location **TARNEIT** Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 10:00

Test No		16	17	18	-	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL							
	mm	175	175	175	-	-	-
Measurement depth	mm t/m³	175 1.96	175 1.97	175 1.92	-	-	-
Measurement depth Field wet density					- - -	- - -	-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1	t/m³	1.96 25.1	1.97 27.2	1.92 33.8			
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No	t/m³	1.96	1.97	1.92 33.8	-		-
Measurement depth Field wet density Field moisture content Test procedure AS 1289.5.7.1 Test No Compactive effort	t/m³ %	1.96 25.1	1.97 27.2	1.92 33.8 18 Stan	-		-
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	1.96 25.1 16 19.0	1.97 27.2	1.92 33.8	- 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	t/m³ %	1.96 25.1	1.97 27.2 17 19.0	1.92 33.8 18 Stand	- 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	1.96 25.1 16 19.0 0	1.97 27.2 17 19.0 0	1.92 33.8 18 Stand 19.0 0	- dard	- -	-
Measurement depth Field wet density Field moisture content	t/m³ % mm wet t/m³	1.96 25.1 16 19.0 0 2.00	1.97 27.2 17 19.0 0 2.02	1.92 33.8 18 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 Optimum Moisture Content	t/m³ % mm wet t/m³ t/m³	1.96 25.1 16 19.0 0 2.00 - 27.0	1.97 27.2 17 19.0 0 2.02 - 25.0	1.92 33.8 18 Stand 19.0 0 1.98 - 31.5	- 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	1.96 25.1 16 19.0 0 2.00	1.97 27.2 17 19.0 0 2.02	1.92 33.8 18 Stand 19.0 0 1.98	- dard - -	- - -	-

Material description

No 16 - 18 Clay Fill

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

AVRLOT HILF V1.10 MAR 13

Approved Signatory : Justin Fry