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

28th October 2019

Our Reference: 18728:SB001

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
EMERALD PARK ESTATE – STAGE 6, TARNEIT

Please find attached our Report No's 18728/R001 to 18728/R005 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 commenced in November 2018 and was completed in June 2019.

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).

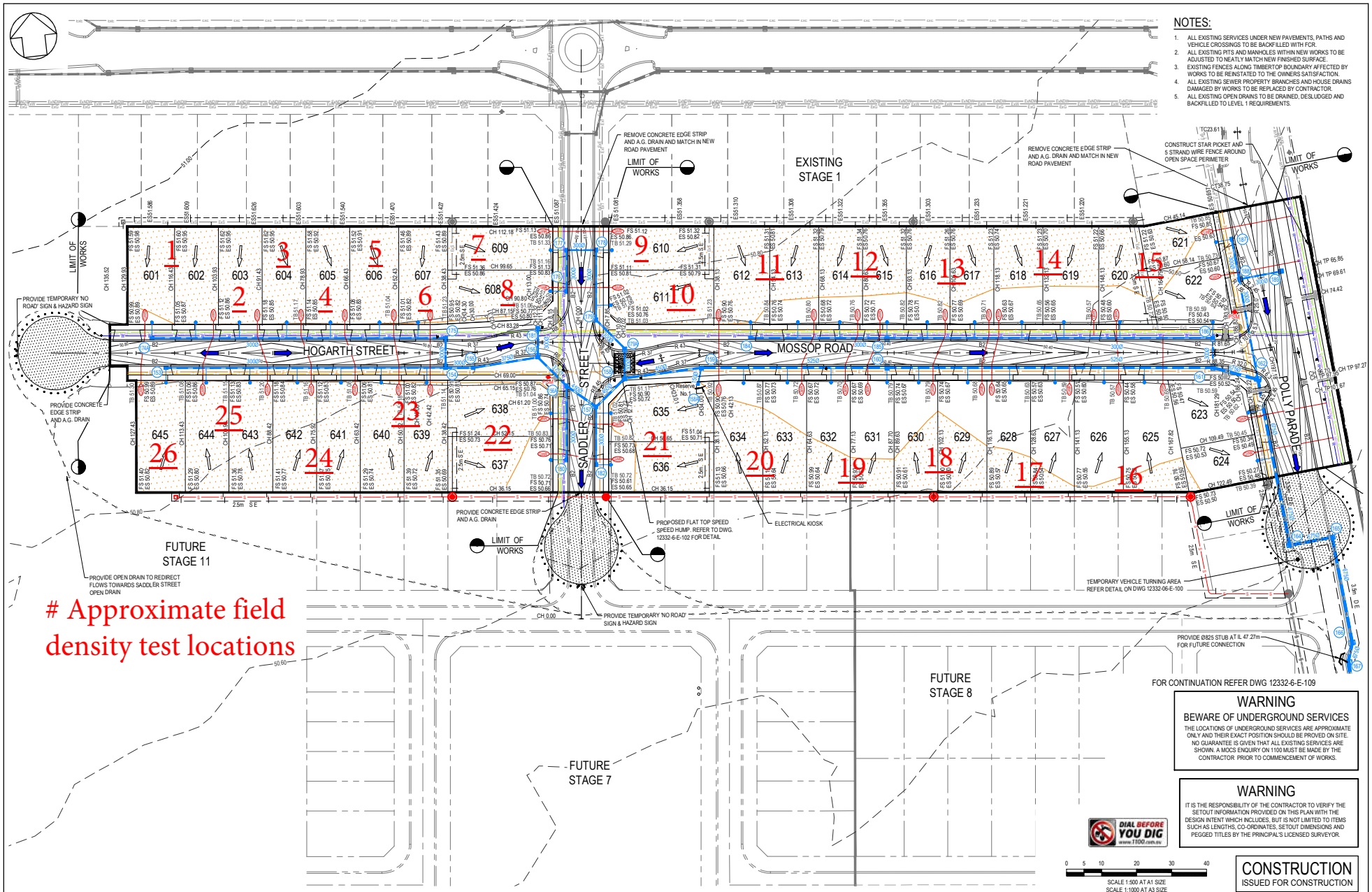
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Stephen Burns

FIGURE 1


NOTES:
1. ALL EXISTING SERVICES UNDER NEW PAVEMENTS, PATHS AND VEHICLE CROSSINGS TO BE BACKFILLED WITH FCR.
2. ALL EXISTING PITS AND MANHOLES WITHIN NEW WORKS TO BE ADJUSTED TO NEATLY MATCH NEW FINISHED SURFACE.
3. EXISTING FENCES ALONG TIMBERTOP BOUNDARY AFFECTED BY WORKS TO BE REINSTATED TO THE OWNERS SATISFACTION.
4. ALL EXISTING SEWER PROPERTY BRANCHES AND HOUSE DRAINS DAMAGED BY WORKS TO BE REPLACED BY CONTRACTOR.
5. ALL EXISTING OPEN DRAINS TO BE DRAINED, DESLUDGED AND BACKFILLED TO LEVEL 1 REQUIREMENTS.
EXISTING STAGE 1
HOGARTH STREET
MOSSOP ROAD
SADDLER STREET
POLLY PARADE
LIMIT OF WORKS
REMOVE CONCRETE EDGE STRIP AND A.G. DRAIN AND MATCH IN NEW ROAD PAVEMENT
CONSTRUCT STAR PICKET AND 5 STRAND WIRE FENCE AROUND OPEN SPACE PERIMETER
PROVIDE TEMPORARY 'NO ROAD' SIGN & HAZARD SIGN
PROVIDE CONCRETE EDGE STRIP AND A.G. DRAIN
PROVIDE OPEN DRAIN TO REDIRECT FLOWS TOWARDS SADDLER STREET OPEN DRAIN
PROPOSED FLAT TOP SPEED SPEED HUMP. REFER TO DWG. 12332-6-E-102 FOR DETAIL
ELECTRICAL KIOSK
TEMPORARY VEHICLE TURNING AREA REFER DETAIL ON DWG 12332-06-E-100
PROVIDE Ø825 STUB AT IL 47.27m FOR FUTURE CONNECTION
FUTURE STAGE 11
FUTURE STAGE 8
FUTURE STAGE 7
FOR CONTINUATION REFER DWG 12332-6-E-109
Approximate field density test locations
WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. A MOCS ENQUIRY ON 1100 MUST BE MADE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.
WARNING
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SETOUT INFORMATION PROVIDED ON THIS PLAN WITH THE DESIGN INTENT WHICH INCLUDES, BUT IS NOT LIMITED TO ITEMS SUCH AS LENGTHS, CO-ORDINATES, SETOUT DIMENSIONS AND PEGGED TITLES BY THE PRINCIPAL'S LICENSED SURVEYOR.
DIAL BEFORE YOU DIG www.1100.com.au
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE
CONSTRUCTION
ISSUED FOR CONSTRUCTION
EXISTING GAS MAIN
EXISTING WATER MAIN
EXISTING ELECTRICITY CABLE
EXISTING TELCO CABLE & PIT
EXISTING SEWER MAIN & M.H.
EXISTING DRAIN & PIT
OPEN DRAIN
PROPOSED GAS MAIN
PROPOSED WATER MAIN
PROPOSED ELECTRICITY CABLE
PROPOSED TELCO CABLE
PROPOSED SEWER MAIN & M.H.
PROPOSED DRAIN & PIT
PROPOSED PROPERTY INLETS
STREET NAME SIGN
P.S.M.
T.B.M.
PROPOSED GAS & WATER CONDUIT
EXISTING SURFACE LEVEL
FINISHED SURFACE BUILDING LINE & ROAD RESERVE
FINISHED SURFACE TOP OF BATTER
FILLING ON LOTS DEEPER THAN 200mm
LEGEND
0 18/05/2018 ISSUED FOR CONSTRUCTION KMJ
VER DATE REVISION APPD.
TAYLORS
Urban Development | Infrastructure
Coords: MGA Levels: AHD
DESIGNED: AKA AUTHORISED: JOY DRAFTED: 12332-6-E
CHECKED: KMJ AUTH. DATE: 06/10/2017 CAD REF: 12332-6-E-108-109
WYNDHAM CITY COUNCIL
EMERALD PARK
STAGE 6
DETAIL LAYOUT PLAN
SHEET 1 OF 2
SCALE 1:500 @ A1, 1:1000 @ A3
VERSION 0
SHEET 9 OF 29
DRAWING No.
12332-6-E-108

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	18728
		Report No	18728/R001
		Date Issued	29/05/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	EMERALD PARK - STAGE 6	*Date tested*	12/11/18
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	11:18

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*	1.77	1.78	1.73	1.73	1.80	1.78
Field moisture content	*%*	24.5	27.3	26.5	28.2	25.9	26.9

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*	1.81	1.82	1.77	1.76	1.78	1.82
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	27.0	29.5	29.0	30.5	28.0	29.0

Moisture Variation From Optimum Moisture Content		2.5% dry	2.0% dry	2.5% dry	2.5% dry	2.0% dry	2.0% dry
Density Ratio (R_{HD})	*%*	**98.0**	**98.0**	**98.0**	**98.5**	**101.0**	**97.5**

Material description

No 1 - 6 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18728
		Report No	18728/R002
		Date Issued	14/12/2018
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	EMERALD PARK - STAGE 6	Date tested	13/11/18
Location	TARNEIT	Checked by	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	13:17

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	1.75	1.78	1.77	1.76	1.76	1.78
Field moisture content	%	17.7	22.5	28.9	23.0	22.4	20.3

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	1.80	1.81	1.80	1.81	1.81	1.80
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	20.0	24.5	31.5	25.5	24.5	22.5

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

Density Ratio (R_{HD})	**%**	**97.0**	**98.5**	**98.5**	**97.0**	**97.5**	**98.5**

Material description

No 7 - 12 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	18728
		Report No	18728/R003
		Date Issued	13/12/2018
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	EMERALD PARK - STAGE 6	*Date tested*	16/11/18
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:21

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*	1.88	1.75	1.82	1.79	1.86	1.82
Field moisture content	*%*	20.8	22.6	25.2	25.0	29.3	18.7

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*	1.93	1.80	1.87	1.83	1.89	1.86
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	24.0	25.0	28.5	28.0	32.0	21.5

Moisture Variation From Optimum Moisture Content		2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.0% dry	2.5% dry
Density Ratio (R_{HD})	*%*	**97.5**	**97.5**	**97.5**	**98.0**	**98.5**	**98.0**

Material description

No 13 - 18 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	18728
		Report No	18728/R004
		Date Issued	09/09/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	EMERALD PARK - STAGE 6	*Date tested*	25/06/19
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:00

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	175
Field wet density	*t/m³*	1.97	1.97	1.91	1.94	1.92	1.99
Field moisture content	*%*	21.6	21.8	25.9	27.1	21.9	26.8

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	19.0
Percent of oversize material	*wet*	0	0	0	0	0	0
Peak Converted Wet Density	*t/m³*	2.00	2.01	1.96	2.00	1.98	2.05
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	24.0	24.5	26.0	27.0	24.0	27.0

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

Density Ratio (R_{HD})	***%***	**98.5**	**98.0**	**97.5**	**97.0**	**96.5**	**97.0**

Material description

No 19 - 24 Clay Fill

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18728
		Report No	18728/R005
		Date Issued	17/09/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	EMERALD PARK - STAGE 6	*Date tested*	27/06/19
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	13:57

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**25**	**26**	**-**	**-**	**-**	**-**
Location		REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL							
Measurement depth	*mm*	175	175	-	-	-	-
Field wet density	*t/m³*	2.00	1.98	-	-	-	-
Field moisture content	*%*	21.4	21.4	-	-	-	-

Test procedure AS 1289.5.7.1

Test No		25	26	-	-	-	-
Compactive effort		Standard					
Oversize rock retained on sieve	*mm*	19.0	19.0	-	-	-	-
Percent of oversize material	*wet*	0	0	-	-	-	-
Peak Converted Wet Density	*t/m³*	2.01	1.99	-	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	21.5	21.5	-	-	-	-

Moisture Variation From Optimum Moisture Content		0.0%	0.0%	-	-	-	-

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

Material description

No 25 - 26 Clay Fill

Approved Signatory : Justin Fry