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

29th May 2021

Our Reference: 21101:NB961

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
MARIGOLD – STAGE 9 (TARNEIT)

Please find attached our Report No's 21101/R001 to 21101/R005 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 commenced in February 2021 and was completed in May 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).

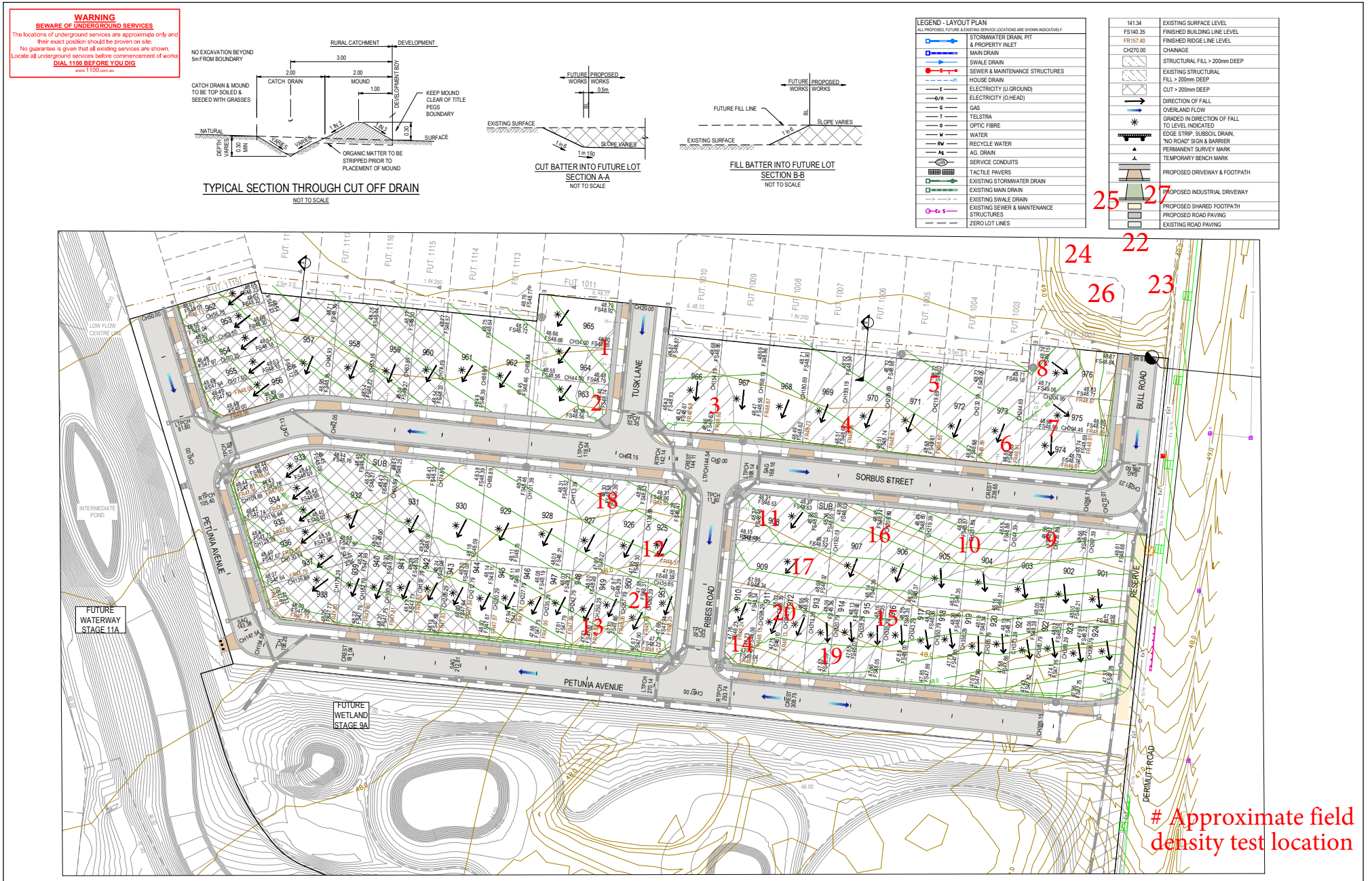
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

FIGURE 1


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
NO EXCAVATION BEYOND 5m FROM BOUNDARY
RURAL CATCHMENT
DEVELOPMENT
CATCH DRAIN & MOUND TO BE TOP SOILED & SEEDED WITH GRASSES
KEEP MOUND CLEAR OF TITLE PEGS BOUNDARY
ORGANIC MATTER TO BE STRIPPED PRIOR TO PLACEMENT OF MOUND
TYPICAL SECTION THROUGH CUT OFF DRAIN
NOT TO SCALE
CUT BATTER INTO FUTURE LOT
SECTION A-A
NOT TO SCALE
FILL BATTER INTO FUTURE LOT
SECTION B-B
NOT TO SCALE
LEGEND - LAYOUT PLAN
STORMWATER DRAIN, PIT & PROPERTY INLET
MAIN DRAIN
SWALE DRAIN
SEWER & MAINTENANCE STRUCTURES
HOUSE DRAIN
ELECTRICITY (U.GROUND)
ELECTRICITY (O.HEAD)
GAS
TELSTRA
OPTIC FIBRE
WATER
RECYCLE WATER
AG. DRAIN
SERVICE CONDUITS
TACTILE PAVERS
EXISTING STORMWATER DRAIN
EXISTING MAIN DRAIN
EXISTING SWALE DRAIN
EXISTING SEWER & MAINTENANCE STRUCTURES
ZERO LOT LINES
EXISTING SURFACE LEVEL
FINISHED BUILDING LINE LEVEL
FINISHED RIDGE LINE LEVEL
CHAINAGE
STRUCTURAL FILL > 200mm DEEP
EXISTING STRUCTURAL FILL > 200mm DEEP
CUT > 200mm DEEP
DIRECTION OF FALL
OVERLAND FLOW
GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
PERMANENT SURVEY MARK
TEMPORARY BENCH MARK
PROPOSED DRIVEWAY & FOOTPATH
PROPOSED INDUSTRIAL DRIVEWAY
PROPOSED SHARED FOOTPATH
PROPOSED ROAD PAVING
EXISTING ROAD PAVING
TUSK LANE
SORBUS STREET
BULL ROAD
PETUNIA AVENUE
RIBES ROAD
RESERVE
DERRIMUT ROAD
FUTURE WATERWAY STAGE 11A
FUTURE WETLAND STAGE 9A
INTERMEDIATE POND
LOW FLOW CENTRE LINE
Approximate field density test location
ISSUED FOR CONSTRUCTION
All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.
DRAFTER M.Holmquist
DESIGNER M.Holmquist
CHECKED S.Pellew
AUTHORISED B.Sanderson
REFERENCE No. 1 2360E-09
REFERENCE No. 2
Scale 1:500
SCALE AS SHOWN AT A1
N
SMEC
Member of the Surbana Jurong Group
ABN 47 065 475 149
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1500
GROWLAND
Marigold - Stage 9
Wyndham City Council
Road and Drainage
Earthworks Plan
MELWAYS REF 359 F9
PROJECT / DRAWING No. 2360E-09-03
SHEET No. 03 of 25
REVISION 0
DWG PATH: V:_Vault\Projects_Urban\2360E-Marigold\2360E-09\Dwgs\2360E-09-03.dwg
PRINTED BY: MH146B on 03/12/2020 at 01:53:48 PM

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21101
		Report No	21101/R001
		Date Issued	29/05/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 9	*Date tested*	09/02/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:39

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*	1.90	1.90	1.92	2.05	1.88	1.93
Field moisture content	*%*	26.1	28.2	26.1	25.8	27.9	27.2

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*	2.00	1.95	1.94	2.10	1.97	1.98
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	28.0	29.5	27.0	28.5	30.0	28.0

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

Density Ratio (R_{HD})	*%*	**95.0**	**97.5**	**99.0**	**98.0**	**95.5**	**97.5**

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	21101
		Report No	21101/R002
		Date Issued	11/05/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 9	*Date tested*	10/02/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:51

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*	1.77	1.77	1.69	1.76	1.76	1.76
Field moisture content	*%*	32.0	26.9	24.9	35.5	30.3	30.8

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*	1.79	1.76	1.74	1.75	1.77	1.76
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	33.0	29.0	27.5	33.0	33.0	32.0

Moisture Variation From Optimum Moisture Content		1.0% dry	2.0% dry	2.5% dry	2.5% wet	2.5% dry	1.0% dry
Density Ratio (R_{HD})	*%*	**99.0**	**100.5**	**97.0**	**101.0**	**99.5**	**100.5**

Material description

No 7 - 12 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	21101
		Report No	21101/R003
		Date Issued	11/05/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 9	*Date tested*	11/02/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:57

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*	1.71	1.77	1.68	1.78	1.70	1.80
Field moisture content	*%*	35.9	24.6	28.3	36.8	35.3	35.1

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	19.0
Percent of oversize material	*wet*	0	0	0	0	0	0
Peak Converted Wet Density	*t/m³*	1.76	1.75	1.74	1.75	1.74	1.88
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	34.0	27.0	31.0	35.0	33.5	33.0

Moisture Variation From Optimum Moisture Content		2.0% wet	2.5% dry	2.5% dry	2.0% wet	2.0% wet	2.0% wet
Density Ratio (R_{HD})	*%*	**97.5**	**101.5**	**96.5**	**101.5**	**98.0**	**95.5**

Material description

No 13 - 18 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	21101
		Report No	21101/R004
		Date Issued	12/04/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 9	*Date tested*	11/02/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 10:02

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**19**	**20**	**21**	**-**	**-**	**-**
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*	1.88	1.80	1.83	-	-	-
Field moisture content	*%*	30.9	35.3	38.4	-	-	-

Test procedure AS 1289.5.7.1

Test No		19	20	21	-	-	-
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/m³*	1.89	1.87	1.87	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	34.0	33.0	36.0	-	-	-

Moisture Variation From Optimum Moisture Content		2.5% dry	2.5% dry	2.5% wet	-	-	-

Density Ratio (R_{HD})	*%*	**99.5**	**96.5**	**98.0**	**-**	**-**	**-**

Material description

No 19 - 21 Clay Fill

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21101
		Report No	21101/R005
		Date Issued	29/05/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 9	*Date tested*	27/05/21
Location	TARNEIT	*Checked by*	JHF

Feature **DAM BACKFILL** *Layer thickness* 200 mm *Time:* 13:01

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**22**	**23**	**24**	**25**	**26**	**27**
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	*m*	0.4	0.4	0.2	0.2	fsl	fsl
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	1.80	1.78	1.84	1.83	1.75	1.75
Field moisture content	*%*	32.7	28.2	30.8	31.5	31.4	31.5

Test procedure AS 1289.5.7.1

Test No		22	23	24	25	26	27
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*	1.85	1.83	1.90	1.87	1.84	1.82
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	34.5	30.0	33.0	33.5	31.5	31.5

Moisture Variation From Optimum Moisture Content		1.5% dry	1.5% dry	2.0% dry	2.0% dry	0.0%	0.0%
Density Ratio (R_{HD})	*%*	**97.5**	**97.0**	**96.5**	**98.0**	**95.0**	**96.0**

Material description

No 22 - 27 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