



CIVIL GEOTECHNICAL SERVICES
ABN 26 474 013 724
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16th March 2016

Our Reference: 15321:DK136

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
LIVINGSTON ESTATE (STAGE 13) – CRANBOURNE**

Please find attached our Report Nos 15321/R001 to 15321/R002 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 early July 2015 and was completed in late July 2015.

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 inspections and testing was performed by an experienced geotechnician 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 filled 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).

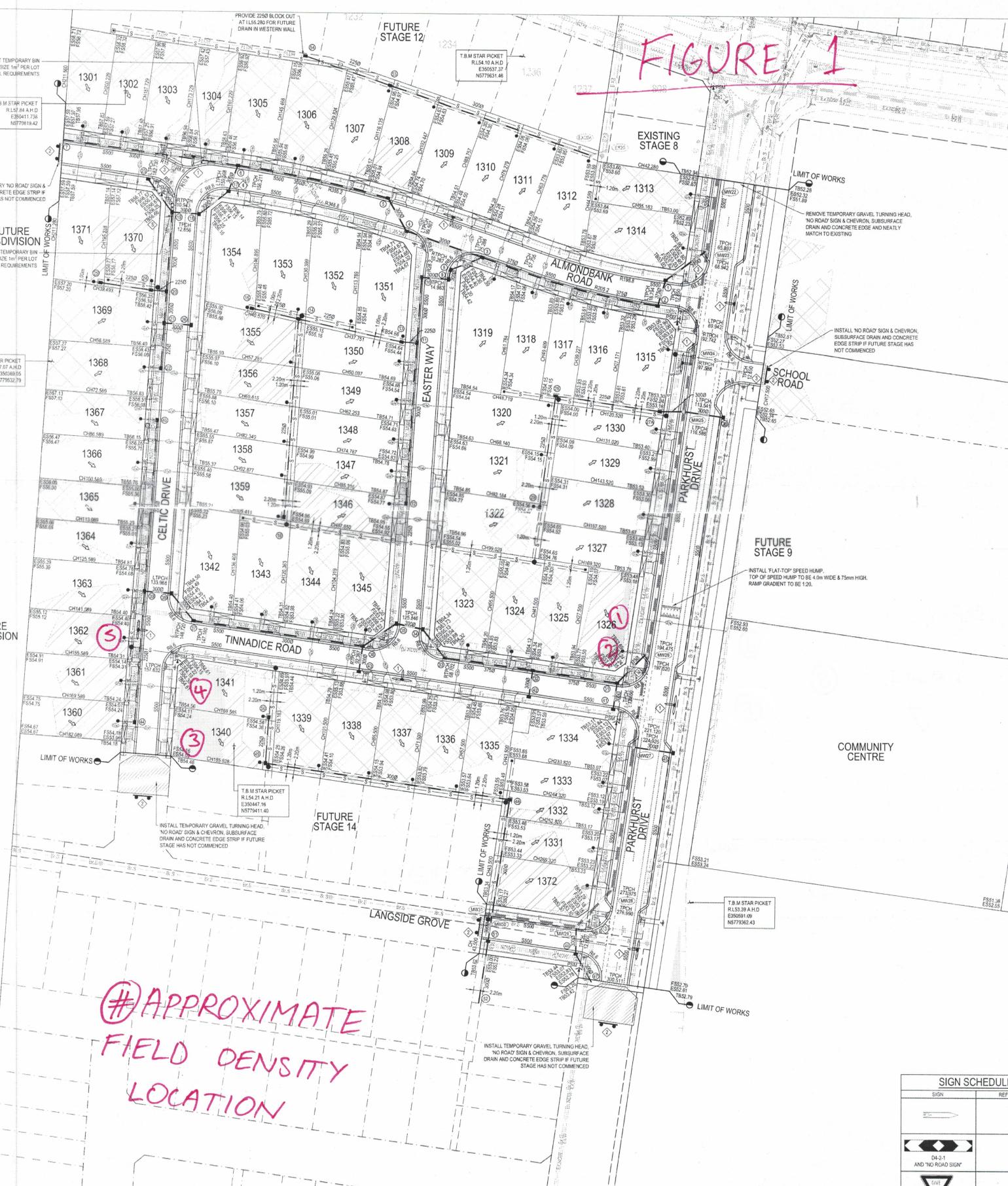
We are of the view that the bulk fill materials that have been placed across the filled allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Dino Kondzic

FIGURE 1



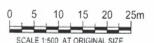
APPROXIMATE
FIELD DENSITY
LOCATION

SERVICE OFFSET TABLE

UTILITY NAME	GAS	WATER	NON-DRINKING WATER	TELECOM	ELECTRICITY
STANDARD	Ex. 2.20m W	Ex. 3.20m W	Ex. 2.70m W	6.85m E	7.70m E
ROAD (CH-00-130.395)	2.10m S	3.10m S	2.80m S	1.85m N	2.65m N
ROAD (CH-130.999-211.380)	2.10m N	3.10m N	2.80m N	1.85m S	2.65m S
	2.10m W	3.10m W	2.60m W	1.85m E	2.45m E
	2.10m W	3.10m W	2.60m W	1.85m E	2.85m E
	2.10m S	3.10m S	2.80m S	1.85m N	2.65m N
	N/A	N/A	N/A	N/A	1.85m N

WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES ARE INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORIZED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS.

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.



LIVINGSTON CHAMPAGNE VALLEY **PEET**

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CLIENT
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PROJECT
LIVINGSTON STAGE 13
CITY OF CAS

STATUS
FOR

SIGN	REF



COMPACTION ASSESSMENT

Job No 15321
 Report No 15321/R001
 Date Issued 15/10/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	LIVINGSTON - STAGE 13	Date tested	08/07/15
Location	CRANBOURNE	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	1	2	3	-	-	-
	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 ³	1.80	1.75	1.72	-	-	-
Field moisture content %	38.1	40.2	38.4	-	-	-

Test procedure AS 1289.5.7.1

Test No	1	2	3	-	-	-
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 ³	1.74	1.70	1.68	-	-	-
Adjusted Peak Converted Wet Density t/m ³	-	-	-	-	-	-
Optimum Moisture Content %	38.5	39.0	39.0	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% dry	1.0% wet	0.5% dry	-	-	-
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Density Ratio (R _{HD})	%	103.5	103.0	102.0	-	-	-
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Material description

No 1 - 3 Clay Fill



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 15321
 Report No 15321/R002
 Date Issued 17/08/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	LIVINGSTON - STAGE 13	Date tested	29/07/15
Location	CRANBOURNE	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:00
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	4	5	-	-	-	-
	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth	mm	175	175	-	-	-
Field wet density	t/m ³	1.72	1.83	-	-	-
Field moisture content	%	33.8	33.3	-	-	-

Test procedure AS 1289.5.7.1

Test No	4	5	-	-	-	-
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/m ³	1.81	1.79	-	-	-
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	33.0	33.0	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% wet	0.5% wet	-	-	-	-
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Density Ratio (R _{HD})	%	95.0	102.5	-	-	-
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Material description

No 4 - 5 Clay Fill



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry