



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

18<sup>th</sup> June 2014

Our Reference: 14149:JHF799

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
ESTUARY ESTATE (STAGE 14) – LEOPOLD**

Please find attached our Report No 14149/R001 that relates 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 early May 2014.

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 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).

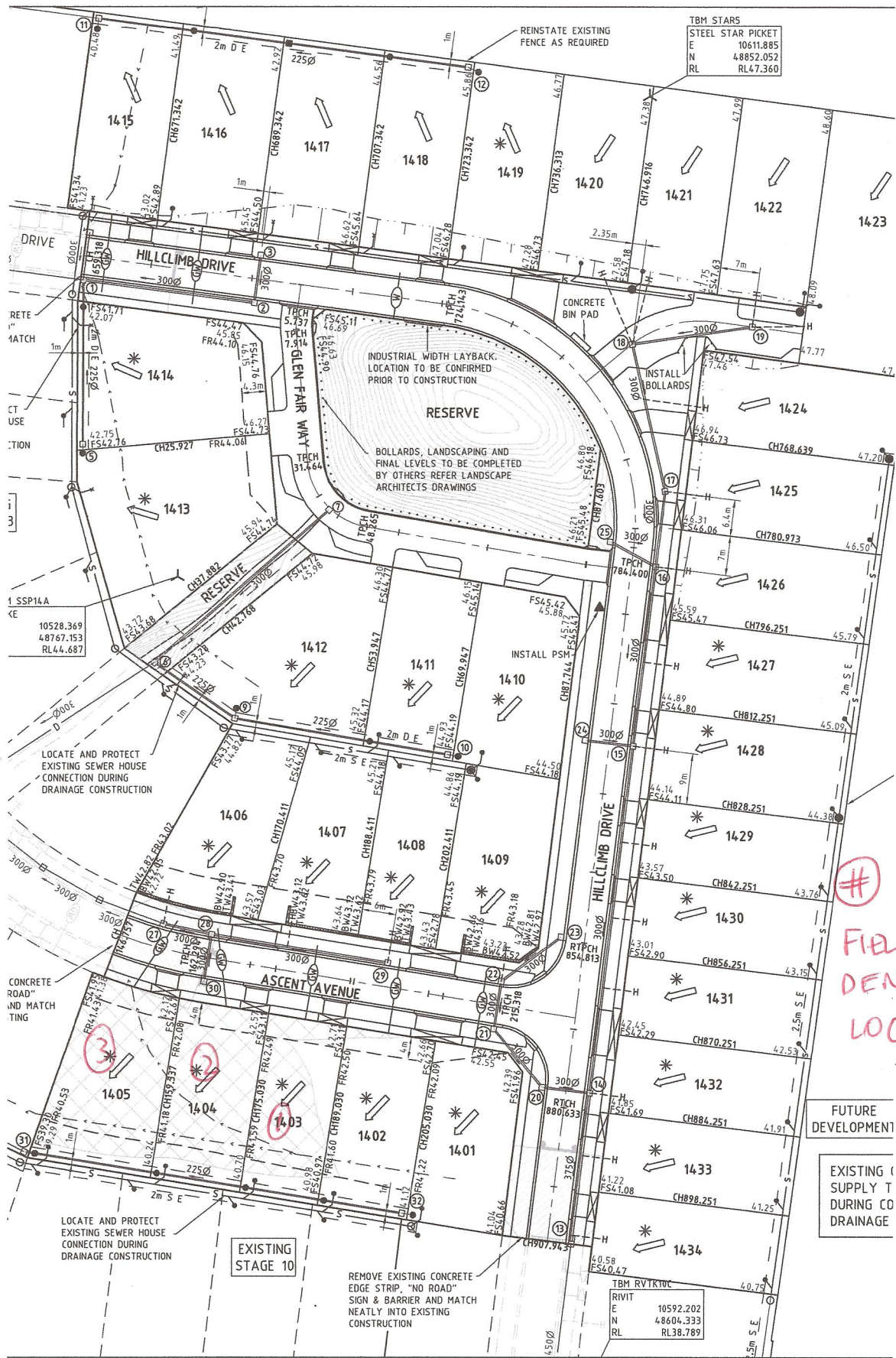
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services


A handwritten signature in black ink, appearing to read 'Justin Fry', written in a cursive style.

Justin Fry

# FIGURE 1



DATE	DESIGN	APP'D
18.03.14	CB/CB	JG
7.03.14	CB/CB	JG
12.02.14	CB/CB	JG

  
**estuary**  
ESUPPLY

Principal  
 Leopold Property Developments Pty Ltd  
 Level 1, 6 Riverside Quay  
 Southbank, Victoria 3006

Designed  
 C. Barker

Drawn  
 C. Barker

Checked  
 C. Birkett

Authorised  
 J. Golden

Date  
 December 2013

Scale @ A1  
 1:500

0 5



## COMPACTION ASSESSMENT

Job No 14149  
 Report No 14149/R001  
 Date Issued 18/06/14

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Tested by DK  
 Date tested 08/05/14  
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
 Project ESTUARY - STAGE 14  
 Location LEOPOLD

**Feature** EARTHWORKS      *Layer thickness* 200 mm      *Time:* 12:50

*Test procedure AS 1289.2.1.1 & 5.8.1*

Test No		1	2	3	-	-	-
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	1.85	1.96	-	-	-
Field moisture content	%	19.8	23.0	18.7	-	-	-

*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 <sup>3</sup>	1.88	1.86	1.95	-	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	23.5	26.5	21.5	-	-	-

Moisture Variation From Optimum Moisture Content		3.5% dry	3.5% dry	2.5% dry	-	-	-
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>96.0</b>	<b>99.5</b>	<b>100.5</b>	<b>-</b>	<b>-</b>	<b>-</b>
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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