



CIVIL GEOTECHNICAL SERVICES
ABN 26 474 013 724
PO Box 678 Croydon Vic 3136
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6th August 2015

Our Reference: 15172:DK057

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
ASTON (STAGE 20) – CRAIGIEBURN**

Please find attached our Report Nos 15172/R001 to 15172/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 late March 2015 and was completed in early August 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).

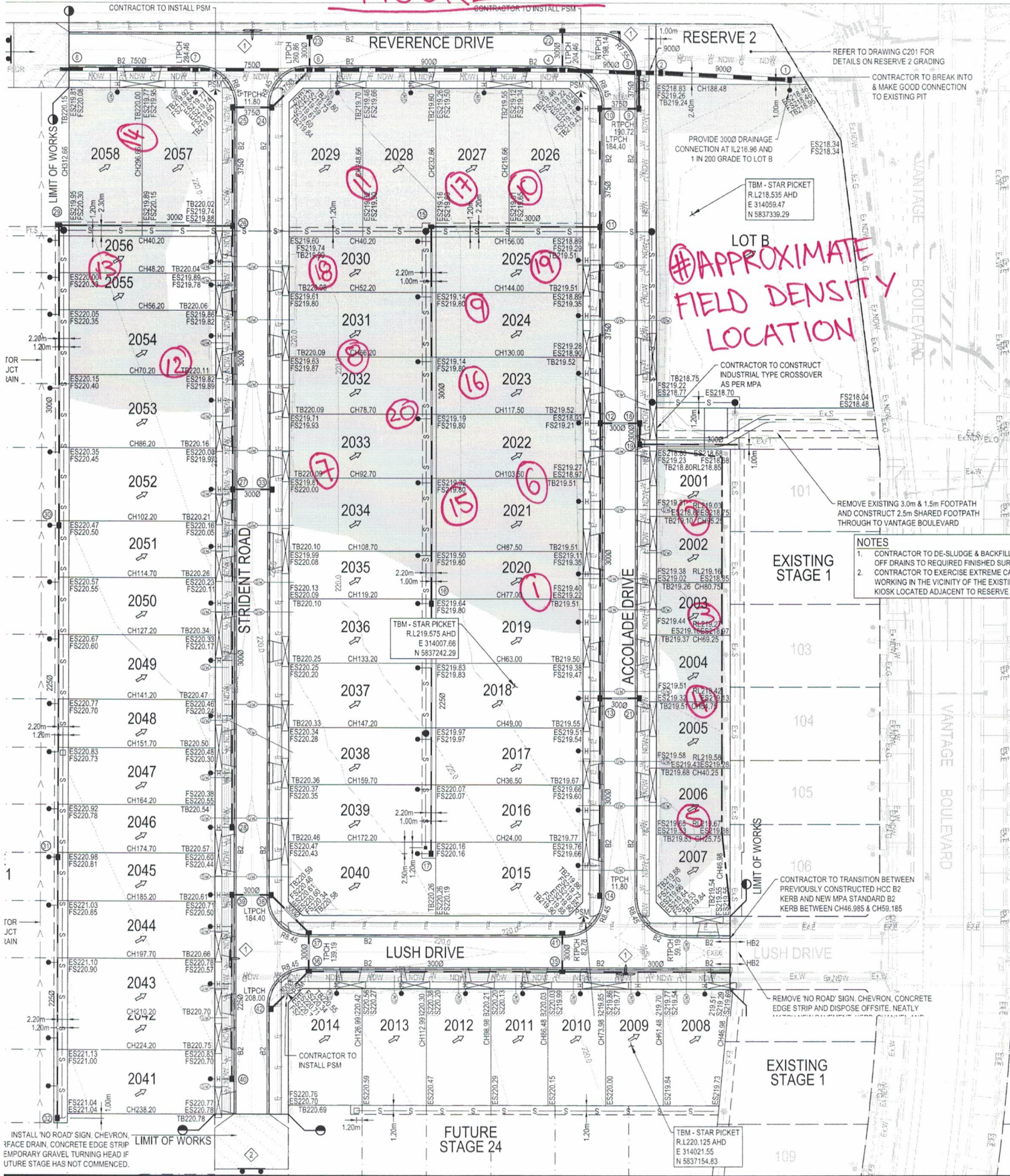
We are of the view that the bulk fill materials that have been placed across the filled allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Dino Kondzic

FIGURE 1



- NOTES**
- CONTRACTOR TO DE-SLUDGE & BACKFILL OFF DRAINS TO REQUIRED FINISHED SURF.
 - CONTRACTOR TO EXERCISE EXTREME CARE WORKING IN THE VICINITY OF THE EXISTING KIOSK LOCATED ADJACENT TO RESERVE 1.

INSTALL 'NO ROAD' SIGN, CHEVRON, FACE DRAIN, CONCRETE EDGE STRIP, TEMPORARY GRAVEL TURNING HEAD IF FUTURE STAGE HAS NOT COMMENCED.

BY	APP	DATE
MG	DB	28.11.14
MG	DB	06.02.15



COMPACTION ASSESSMENT

Job No 15172
 Report No 15172/R001
 Date Issued 21/04/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ASTON - STAGE 20	Date tested	30/03/15
Location	CRAIGIEBURN	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	1	2	-	-	-	-
	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth mm	175	175	-	-	-	-
Field wet density t/m³	1.98	1.83	-	-	-	-
Field moisture content %	18.2	21.8	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	1	2	-	-	-	-
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	1.99	1.90	-	-	-	-
Adjusted Peak Converted Wet Density t/m³	-	-	-	-	-	-
Optimum Moisture Content %	21.0	23.0	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	1.0% dry	-	-	-	-
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Density Ratio (R_{HD})	%	99.5	96.0	-	-	-
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Material description

No 1 - 2 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 15172
 Report No 15172/R002
 Date Issued 10/04/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ASTON - STAGE 20	Date tested	31/03/15
Location	CRAIGIEBURN	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	11:43
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	3	4	5	-	-	-
	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	2.10	1.96	1.95	-	-
Field moisture content	%	21.5	21.9	21.0	-	-

Test procedure AS 1289.5.7.1

Test No	3	4	5	-	-	-
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	2.07	2.00	1.94	-	-
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	23.5	22.5	23.5	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	0.5% dry	2.0% dry	-	-	-
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Density Ratio (R _{HD})	%	101.0	98.0	100.5	-	-
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Material description

No 3 - 5 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 15172
 Report No 15172/R003
 Date Issued 24/07/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ASTON - STAGE 20	Date tested	11/06/15
Location	CRAIGIEBURN	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	6	7	8	9	10	11	
	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	
Field wet density	t/m ³	2.00	2.03	2.04	1.99	1.97	2.02
Field moisture content	%	20.7	21.6	19.4	19.5	20.4	21.8

Test procedure AS 1289.5.7.1

Test No	6	7	8	9	10	11	
Compactive effort	Standard						
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0	
Percent of oversize material	wet	2	0	1	0	0	
Peak Converted Wet Density	t/m ³	2.06	2.05	2.06	2.09	2.05	2.11
Adjusted Peak Converted Wet Density	t/m ³	2.10	-	2.09	-	2.06	2.12
Optimum Moisture Content	%	21.0	20.5	19.5	19.0	20.0	19.5

Moisture Variation From Optimum Moisture Content	0.5% dry	1.0% wet	0.0%	0.5% wet	0.0%	2.0% wet
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Density Ratio (R _{HD})	%	95.0	99.0	97.5	95.5	95.5	95.0
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Material description

No 6 - 11 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 15172
 Report No 15172/R004
 Date Issued 21/07/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ASTON - STAGE 20	Date tested	12/06/15
Location	CRAIGIEBURN	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	10:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	12	13	14	-	-	-
	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	1.92	1.97	1.86	-	-
Field moisture content	%	24.9	23.4	29.9	-	-

Test procedure AS 1289.5.7.1

Test No	12	13	14	-	-	-
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	1.94	2.03	1.93	-	-
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	26.5	22.5	29.5	-	-

Moisture Variation From Optimum Moisture Content	1.5% dry	0.5% wet	0.5% wet	-	-	-
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Density Ratio (R_{HD})	%	99.0	97.5	96.5	-	-
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Material description

No 12 - 14 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 15172
 Report No 15172/R005
 Date Issued 06/08/15

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	ZM
Project	ASTON - STAGE 20	Date tested	04/08/15
Location	CRAIGIEBURN	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	10:36
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	15	16	17	18	19	20	
	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	
Field wet density	t/m ³	2.05	1.87	1.97	2.03	2.12	2.00
Field moisture content	%	23.1	26.6	22.4	22.1	20.8	22.8

Test procedure AS 1289.5.7.1

Test No	15	16	17	18	19	20	
Compactive effort	Standard						
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0	
Percent of oversize material	wet	0	0	0	0	3	0
Peak Converted Wet Density	t/m ³	2.08	1.86	1.97	2.01	2.11	1.99
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	2.12	-
Optimum Moisture Content	%	22.0	28.5	23.5	22.5	20.5	23.0

Moisture Variation From Optimum Moisture Content	1.0% wet	1.5% dry	1.0% dry	0.5% dry	0.0%	0.0%
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Density Ratio (R _{HD})	%	98.5	101.0	100.0	101.0	100.0	100.5
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Material description

No 15 - 20 Clay Fill



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