



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

22nd October 2019

Our Reference: 19393:NB585

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
NEWHAVEN – STAGES 8 (TARNEIT)**

Please find attached our Report No's 19393/R001 to 19393/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 testing commenced in June 2019 and was completed in August 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

A handwritten signature in blue ink, appearing to read 'Nick Brock', is written over a faint circular stamp.

Nick Brock

FIGURE 1

WARNING
BEWARE OF TRANSMISSION LINES
TRANSMISSION POWER LINES IN CLOSE PROXIMITY OF WORKS. INDUCED ELECTRICAL CURRENTS MAY OCCUR. APPROPRIATE SAFETY MEASURES TO BE CARRIED OUT.

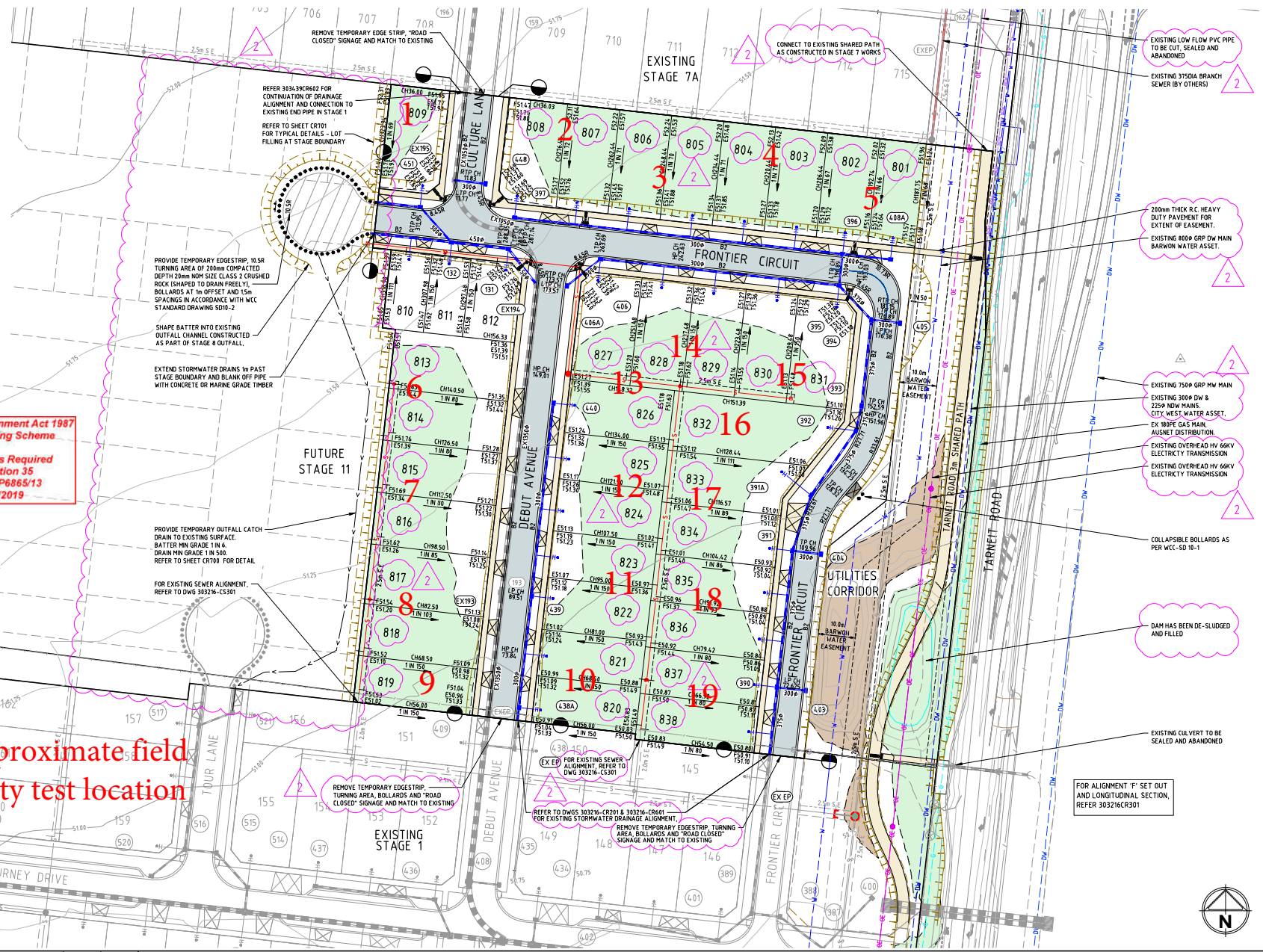
WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON-SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

WORKS ON OR NEAR BARWON WATER ASSETS - CONTRACTOR TO REFER TO BARWON WATER'S CUSTOMER GUIDE FOR 'WORKS ON OR NEAR BARWON WATER ASSETS' AND MAKE APPLICATIONS AS PER BARWON WATER'S REQUIREMENTS.

ALL SPLAYED PIPES ARE TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. WCC WILL NOT ACCEPT BANDAGE-JOINTED SPLAYED PIPES.

Planning and Environment Act 1987
Wyndham Planning Scheme
Approved Plan As Required
under Condition 35
Permit No. WYP6865/13
Date 20/03/2019

Approximate field density test location



File name: 2014-05-06-REV 7-REZONING.dwg; Drawn: m.h.; Date: 01-03-19; Project: 303440CR200; Title: WYNDHAM ESTATE STAGE 8 ROAD & DRAINAGE DETAIL PLAN; Sheet: 2 of 16 Sheets

Rev	Amendments	Approved	Date
2	AMENDMENT TO STAGE BOUNDARY 8 & 11	M.H.	01-03-19
1	RESEQUENCING OF STAGES 8 & 9, REMOVAL OF BOUNDARY FENCE	M.H.	13-11-18
0	ISSUED FOR CONSTRUCTION	J.S.	27-06-18
D	CHANGES TO LOT MIX	J.S.	08-06-18
E	ISSUED FOR APPROVAL	J.S.	17-05-18
C	HEAVY DUTY CONC. AND F'PATH ADDED, DRIVEWAY RELOCATED	J.S.	26-02-18
B	PRAM CROSSING AMENDED, FENCE AND DRAINAGE PITS ADDED	J.S.	05-02-18
A	ISSUED FOR APPROVAL	J.S.	23-12-17



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Designed
H. SPURLING
Authorised
M. HOLMES

Checked
B. MURDIGE
Date
01-03-19

**NEWHAVEN ESTATE
STAGE 8
ROAD & DRAINAGE
DETAIL PLAN**
WYNDHAM CITY COUNCIL
PEET 1895 PTY LTD

Dwg No
CONSTRUCTION 303440CR200

Rev
2



COMPACTION ASSESSMENT

Job No 19393
 Report No 19393/R001
 Date Issued 09/09/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	NEW HAVEN - STAGE 8	Date tested	18/06/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:25
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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 <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m³</i>	1.77	1.84	1.84	1.79	1.80	1.84
Field moisture content <i>%</i>	26.6	27.0	23.1	23.4	25.5	26.6

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	6
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material <i>wet</i>	0	0	0	0	0	0
Peak Converted Wet Density <i>t/m³</i>	1.86	1.91	1.91	1.88	1.86	1.87
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	26.5	29.0	25.5	26.0	28.5	26.5

Moisture Variation From Optimum Moisture Content	0.0%	2.0% dry	2.5% dry	2.5% dry	2.5% dry	0.0%
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Density Ratio (R_{HD})	%	95.0	96.5	96.5	95.0	97.0	98.0
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Material description

No 1 - 6 Clay Fill

AVRLOT HILF V1.10 MAR 13



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 19393
 Report No 19393/R002
 Date Issued 15/07/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	NEW HAVEN - STAGE 8	Date tested	19/06/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:24
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	8	9	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	1.86	1.85	1.97	-	-	-
Field moisture content <i>%</i>	25.3	25.5	22.6	-	-	-

Test procedure AS 1289.5.7.1

Test No	7	8	9	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	12	9	13	-	-	-
Peak Converted Wet Density <i>t/m³</i>	1.88	1.87	1.92	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	1.94	1.93	1.99	-	-	-
Optimum Moisture Content <i>%</i>	26.5	28.0	23.5	-	-	-

Moisture Variation From Optimum Moisture Content	1.5% dry	2.0% dry	1.0% dry	-	-	-
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Density Ratio (R_{HD})	%	96.0	95.5	99.0	-	-	-
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Material description

No 7 - 9 Clay Fill

AVRLOT HILF V1.10 MAR 13



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COMPACTION ASSESSMENT

Job No 19393
 Report No 19393/R003
 Date Issued 23/08/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	WS
Project	NEW HAVEN - STAGE 8	Date tested	21/06/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 07:00
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	10	11	12	13	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1		
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	175	-	-
Field wet density <i>t/m³</i>	1.85	1.88	1.85	1.90	-	-
Field moisture content <i>%</i>	30.2	32.6	27.3	23.2	-	-

Test procedure AS 1289.5.7.1

Test No	10	11	12	13	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	-	-
Percent of oversize material <i>wet</i>	0	0	0	0	-	-
Peak Converted Wet Density <i>t/m³</i>	1.92	1.92	1.91	1.92	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	30.5	32.5	27.5	23.5	-	-

Moisture Variation From Optimum Moisture Content	0.0%	0.0%	0.0%	0.0%	-	-
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Density Ratio (R_{HD})	%	96.5	98.0	97.0	99.5	-	-
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Material description

No 10 - 13 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 19393
 Report No 19393/R004
 Date Issued 10/09/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BGG
Project	NEW HAVEN - STAGE 8	Date tested	23/08/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 15:13
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	14	15	16	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	1.99	2.00	1.99	-	-	-
Field moisture content <i>%</i>	24.3	24.9	22.5	-	-	-

Test procedure AS 1289.5.7.1

Test No	14	15	16	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	0	0	0	-	-	-
Peak Converted Wet Density <i>t/m³</i>	2.02	2.02	2.02	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	27.5	28.0	25.5	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.5% dry	-	-	-
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Density Ratio (R_{HD})	%	98.5	98.5	98.5	-	-	-
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Material description

No 14 - 16 Clay Fill

AVRLOT HILF V1.10 MAR 13



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COMPACTION ASSESSMENT

Job No 19393
 Report No 19393/R005
 Date Issued 10/09/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 8	Date tested	27/08/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 08:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	17	18	19	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	1.97	1.95	1.91	-	-	-
Field moisture content <i>%</i>	29.3	29.0	29.5	-	-	-

Test procedure AS 1289.5.7.1

Test No	17	18	19	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	0	0	0	-	-	-
Peak Converted Wet Density <i>t/m³</i>	2.02	2.02	2.01	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	33.0	32.5	33.0	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.5% dry	-	-	-
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Density Ratio (R_{HD})	%	97.5	96.5	95.0	-	-	-
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Material description

No 17 - 19 Clay Fill

AVRLOT HILF V1.10 MAR 13



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