



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

17<sup>th</sup> August 2020

Our Reference: 20186:NB791

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING**  
**RATHDOWNE – STAGE 6 (WOLLERT)**

Please find attached our Report No's 20186/R001 and 20186/R002 which relate to the field density testing that was conducted within the filled allotments of the above subdivision. The level 1 inspections and associated field density testing was performed in April 2020.

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

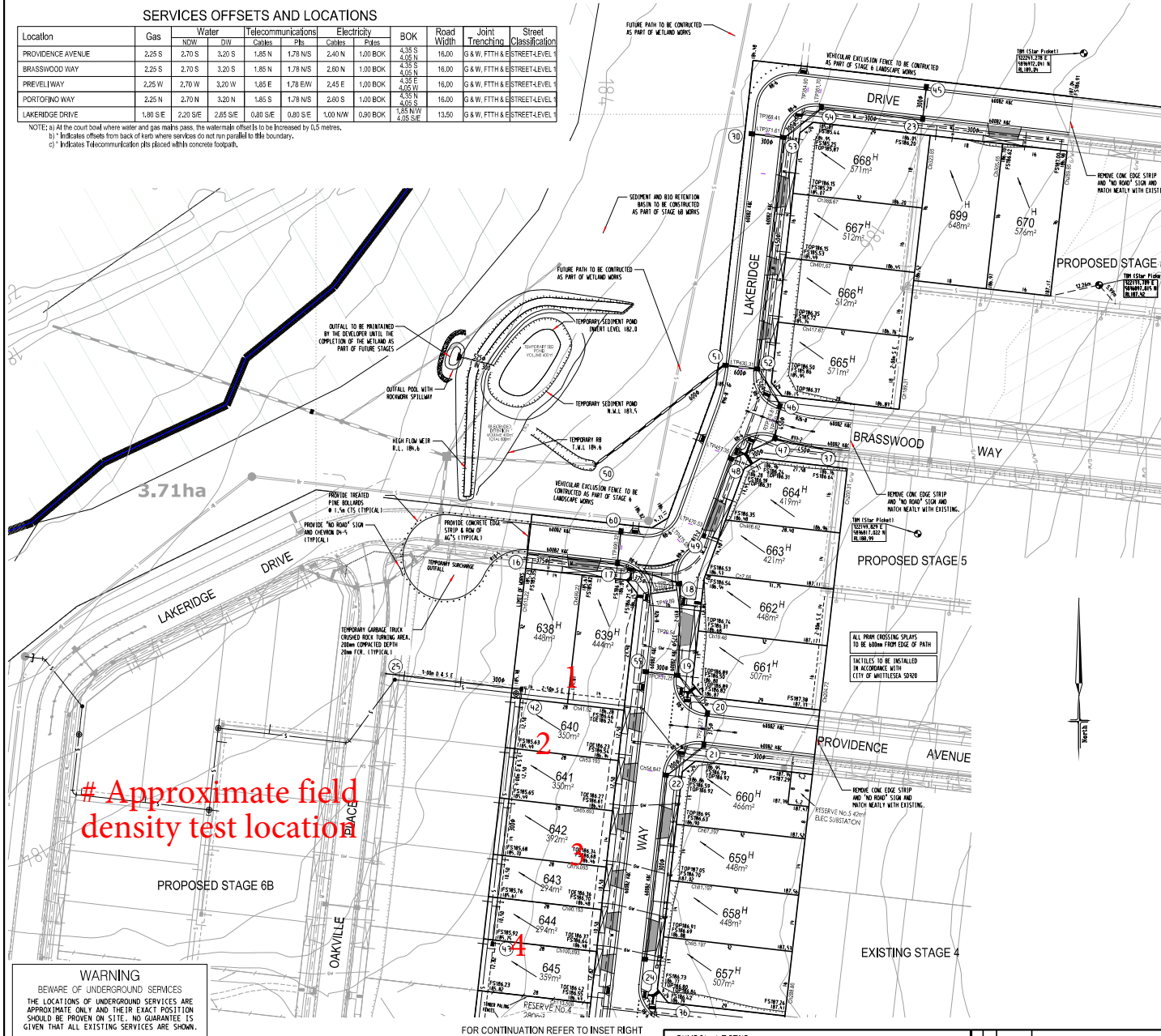
Nick Brock

FIGURE 1

## SERVICES OFFSETS AND LOCATIONS

Location	Gas	Water		Telecommunications		Electricity		BOK	Road Width	Joint Trenching	Street Classification
		N/DW	DW	Cables	Fib	Cables	Fibers				
PROVIDENCE AVENUE	2.25 S	2.70 S	3.20 S	1.65 N	1.78 N/S	2.40 N	1.00 BOK	4.35 S 4.05 W	16.00	6' 6" W, FTH & S	STREET-LEVEL
BRASSWOOD WAY	2.25 S	2.70 S	3.20 S	1.65 N	1.78 N/S	2.60 N	1.00 BOK	4.35 S 4.05 W	16.00	6' 6" W, FTH & S	STREET-LEVEL
PREVIEW LANE	2.25 W	2.70 W	3.20 W	1.65 E	1.78 E/W	2.45 E	1.00 BOK	4.35 E 4.05 W	16.00	6' 6" W, FTH & S	STREET-LEVEL
PORTRINO WAY	2.25 N	2.70 N	3.20 N	1.65 S	1.78 N/S	2.40 S	1.00 BOK	4.35 N 4.05 S	16.00	6' 6" W, FTH & S	STREET-LEVEL
LAKEHEDGE DRIVE	1.80 S/E	2.20 S/E	2.65 S/E	0.80 S/E	0.80 S/E	1.00 N/W	0.90 BOK	1.00 S 1.00 S	13.50	6' 6" W, FTH & S	STREET-LEVEL

NOTE: a) At the court bowl where water and gas mains pass, the watermain offset is to be increased by 0,5 metres.  
b) \* Indicates offsets from back of kerb where services do not run parallel to the boundary.  
c) \* Indicates Telecommunication pits placed within concrete footpath.



# Approximate field density test location

**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.

#### ATTENTION TO CONTRACTOR

1. **IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN, PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM COORDINATES SHOWN.**
2. **Contractor to ensure that the site is pegged and or set out checked by the licensed survey responsible for verifying the Plan of Subdivision prior to underground infrastructure being installed.**
3. **Where concrete works about a sewer access chamber surround or similar structure, an expansion joint of approved material shall be provided between the two faces.**

### PLAN

SCALE 1:500

SCALE 1 : 500

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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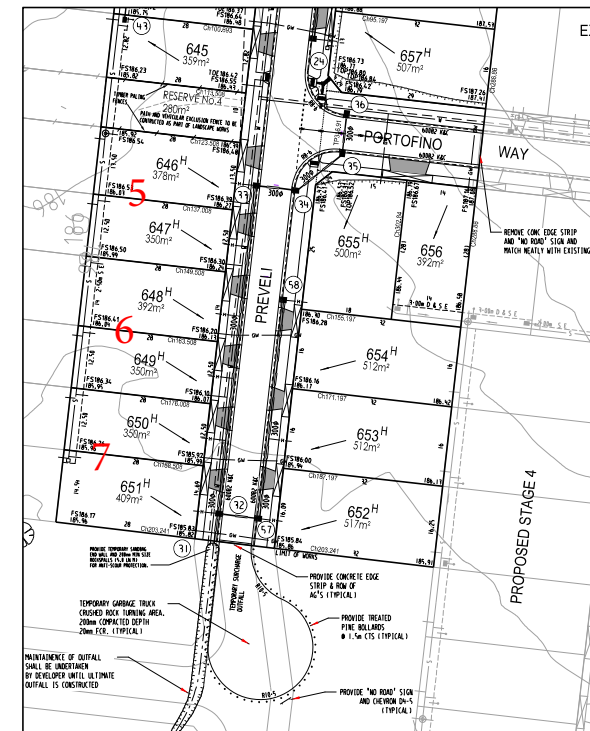
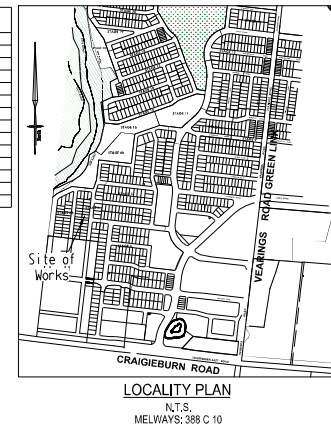
LENGTHS ARE IN METRES

**SYMBOL LEGEND**

Figure 1 is a schematic diagram of a wastewater treatment plant layout. It shows various components and their associated parameters or levels. The diagram is divided into sections labeled 'Prop' and 'Dist'.

- Drains:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Sewer >300:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Sewer >300:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Water:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- House Drain:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Property Inlet:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Street Sign:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Retaining Wall:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Conduits <50mm:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Conduits >100mm:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Ex Gas/Elec/Tel:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.
- Vehicular Exclusion Fence:** Ex/Natural/FS Level, FS Building Line, Top Of Batter, Top Ret. Wall Level, 100yr Flood Level, Fill Prop/Ex, Cur Prop/Ex.

SHEET INDEX		
SHT NO	YER	DISCRPTION
1	C	DETAIL PLAN SHEET 1
2	A	NOTES AND TYPICAL SECTIONS
3	A	INTERSECTION DETAILS 1
4	B	INTERSECTION DETAILS 2
5	A	LANEWAY DRIVE - LONGITUDINAL SECTIONS
6	A	LANEWAY DRIVE - CROSS SECTIONS
7	B	PREVELL WAY - LONGITUDINAL SECTION
8	A	PREVELL WAY - CROSS SECTIONS
9	B	BRAND WAY - LONGITUDINAL & CROSS SECTIONS
10	A	PROVIDENCE AVENUE - LONGITUDINAL & CROSS SECTIONS
11	A	PORTLAND WAY - LONGITUDINAL & CROSS SECTIONS
12	C	ORANGE LONGITUDINAL SECTIONS 1
13	C	ORANGE LONGITUDINAL SECTIONS 2, PIT SCHEDULE
14	A	SIGNAGE AND LANE MARKING PLAN



**INSET**  
SCALE 1:500



breese pitt dixon pty. ltd.  
land surveyors civil engineers

RATHDOWNE ESTATE STAGE 4	MUNICIPALITY WHITTLESEA
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STAGE 6	REFERENCE
DETAIL PLAN AND SHEET INDEX	9365 E/06

SCALE AS SHOWN	DATUM AHD	DATE AUG '19	SHEET 1 OF 14	C
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## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 20186  
Report No 20186/R001  
Date Issued 21/07/2020

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	RATHDOWNE - STAGE 6	Date tested	08/04/20
Location	WOLLERT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:04
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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 mm	175	175	175	175	175	175
Field wet density t/m <sup>3</sup>	1.86	1.85	1.85	1.86	1.86	1.83
Field moisture content %	21.7	23.1	31.3	25.6	31.5	24.1

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/m <sup>3</sup>	1.89	1.88	1.88	1.89	1.88	1.86
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	19.5	20.5	29.0	23.0	29.0	21.5

Moisture Variation From Optimum Moisture Content	2.0% wet	2.5% wet	2.5% wet	2.5% wet	2.5% wet	2.5% wet
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Density Ratio ( $R_{HD}$ )	%	98.5	98.5	98.5	98.5	99.0	98.5
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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

*Justin Fry*

Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 20186  
Report No 20186/R002  
Date Issued 21/07/2020

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	RATHDOWNE - STAGE 6	Date tested	07/04/20
Location	WOLLERT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:03
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	-	-	-	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	-	-	-	-
Field wet density	t/m <sup>3</sup>	1.84	-	-	-	-
Field moisture content	%	29.0	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	7	-	-	-	-	-
Compactive effort		Standard				
Oversize rock retained on sieve	mm	19.0	-	-	-	-
Percent of oversize material	wet	0	-	-	-	-
Peak Converted Wet Density	t/m <sup>3</sup>	1.87	-	-	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	27.0	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% wet	-	-	-	-	-
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Density Ratio ( $R_{HD}$ )	%	98.5	-	-	-	-
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Material description

No 7 - 7 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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