CIVIL GEOTECHNICAL SERVICES
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25th September 2015

Our Reference: 15440:JHF909

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
ARMSTRONG, MT DUNEED – STAGE 13, MOUNT DUNEED

Please find attached our Report Nos 15440/R001 to 15440/R004 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 performed in late January 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 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

Justin Fry

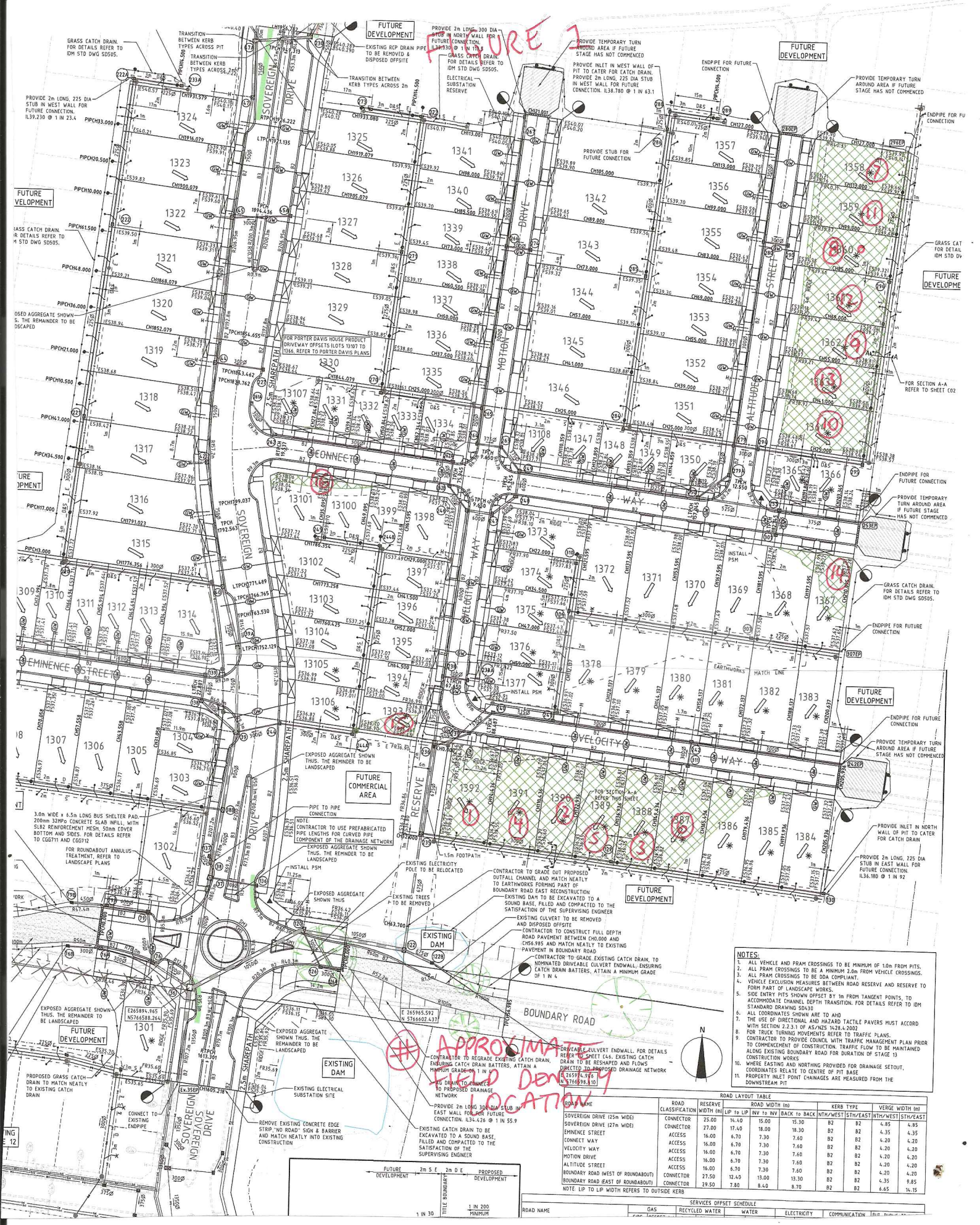

FIGURE 1

APPROXIMATE 2LOT DENSITY LOCATION

NOTES:

1. ALL VEHICLE AND PRAM CROSSINGS TO BE MINIMUM OF 1.0m FROM PITS.
2. ALL PRAM CROSSINGS TO BE A MINIMUM 2.0m FROM VEHICLE CROSSINGS.
3. ALL PRAM CROSSINGS TO BE DDA COMPLIANT.
4. VEHICLE EXCLUSION MEASURES BETWEEN ROAD RESERVE AND RESERVE TO FORM PART OF LANDSCAPE WORKS.
5. SIDE ENTRY PITS SHOWN OFFSET BY 1m FROM TANGENT POINTS, TO ACCOMMODATE CHANNEL DEPTH TRANSITION. FOR DETAILS REFER TO IDM STANDARD DRAWING SD430
6. ALL COORDINATES SHOWN ARE TO AHD
7. THE USE OF DIRECTIONAL AND HAZARD TACTILE PAVERS MUST ACCORD WITH SECTION 2.2.3.1 OF AS/NZS 1428.4:2002
8. FOR TRUCK TURNING MOVEMENTS REFER TO TRAFFIC PLANS.
9. CONTRACTOR TO PROVIDE COUNCIL WITH TRAFFIC MANAGEMENT PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. TRAFFIC FLOW TO BE MAINTAINED ALONG EXISTING BOUNDARY ROAD FOR DURATION OF STAGE 13 CONSTRUCTION WORKS
10. WHERE EASTING AND NORTHING PROVIDED FOR DRAINAGE SETOUT, COORDINATES RELATE TO CENTRE OF PIT BASE
11. PROPERTY INLET POINT CHAINAGES ARE MEASURED FROM THE DOWNSTREAM PIT

ROAD LAYOUT TABLE

ROAD NAME	ROAD CLASSIFICATION	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
			LIP to LIP	INV to INV	BACK to BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
SOVEREIGN DRIVE (25m WIDE)	CONNECTOR	25.00	14.40	15.00	15.30	B2	B2	4.85	4.85
SOVEREIGN DRIVE (27m WIDE)	CONNECTOR	27.00	17.40	18.00	18.30	B2	B2	4.35	4.35
EMINENCE STREET	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20
CONNECT WAY	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20
VELOCITY WAY	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20
MOTION DRIVE	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20
ALTITUDE STREET	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20
BOUNDARY ROAD (WEST OF ROUNDABOUT)	CONNECTOR	27.50	12.40	13.00	13.30	B2	B2	4.20	4.20
BOUNDARY ROAD (EAST OF ROUNDABOUT)	CONNECTOR	29.50	7.80	8.40	8.70	B2	B2	4.65	14.15

NOTE: LIP TO LIP WIDTH REFERS TO OUTSIDE KERB

SERVICES OFFSET SCHEDULE

ROAD NAME	GAS	RECYCLED WATER	WATER	ELECTRICITY	COMMUNICATION

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	15440
		Report No	15440/R001
		Date Issued	23/01/15
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	FCF
Project	ARMSTRONG, MT DUNEED - STAGE 13	*Date tested*	21/01/15
Location	MOUNT DUNEED	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 12:00

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/m³*	1.85	1.86	1.94	-	-	-
Field moisture content	*%*	30.4	30.6	22.7	-	-	-

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/m³*	1.82	1.81	1.90	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	32.5	33.5	25.5	-	-	-

Moisture Variation From Optimum Moisture Content		2.0% dry	2.5% dry	2.5% dry	-	-	-

Density Ratio (R_{HD})	***%***	**102.0**	**103.0**	**102.5**	**-**	**-**	**-**

Material description

No 1 - 3 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	15440
		Report No	15440/R002
		Date Issued	29/01/15
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	FCF
Project	ARMSTRONG, MT DUNEED - STAGE 13	*Date tested*	22/01/15
Location	MOUNT DUNEED	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	09:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**4**	**5**	**6**	**-**	**-**	**-**
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/m³*	1.89	1.86	1.81	-	-	-
Field moisture content	*%*	32.3	21.0	31.6	-	-	-

Test procedure AS 1289.5.7.1

Test No		4	5	6	-	-	-
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/m³*	1.85	1.82	1.84	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	32.5	22.0	31.5	-	-	-

Moisture Variation From Optimum Moisture Content		0.0%	1.0% dry	0.0%	-	-	-

Density Ratio (R_{HD})	***%***	**102.5**	**102.5**	**98.5**	**-**	**-**	**-**

Material description

No 4 - 6 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	15440
		Report No	15440/R003
		Date Issued	29/01/15
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	FCF
Project	ARMSTRONG, MT DUNEED - STAGE 13	*Date tested*	23/01/15
Location	MOUNT DUNEED	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**7**	**8**	**9**	**10**	**-**	**-**
		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	-	-
Field wet density	*t/m³*	1.78	1.80	1.82	1.79	-	-
Field moisture content	*%*	31.2	30.7	29.0	31.9	-	-

Test procedure AS 1289.5.7.1

Test No		7	8	9	10	-	-
Compactive effort		Standard					
Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0	-	-
Percent of oversize material	*wet*	0	0	0	0	-	-
Peak Converted Wet Density	*t/m³*	1.79	1.78	1.77	1.76	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	32.5	33.0	32.0	34.5	-	-

Moisture Variation From Optimum Moisture Content		1.5% dry	2.5% dry	2.5% dry	2.5% dry	-	-

Density Ratio (R_{HD})	***%***	**100.0**	**101.0**	**102.5**	**101.5**	**-**	**-**

Material description

No 7 - 10 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	15440
		Report No	15440/R004
		Date Issued	12/03/15
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	FCF
Project	ARMSTRONG, MT DUNEED - STAGE 13	*Date tested*	30/01/15
Location	MOUNT DUNEED	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**11**	**12**	**13**	**14**	**15**	**16**
		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/m³*	1.84	1.84	1.84	1.82	1.80	1.79
Field moisture content	*%*	30.3	30.0	17.3	18.2	18.9	19.5

Test procedure AS 1289.5.7.1

Test No		11	12	13	14	15	16
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/m³*	1.81	1.85	1.89	1.91	1.88	1.88
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	32.5	30.5	19.5	20.5	21.0	21.0

Moisture Variation From Optimum Moisture Content		2.0% dry	0.5% dry	2.0% dry	2.0% dry	2.0% dry	1.5% dry
Density Ratio (R_{HD})	*%*	**101.0**	**99.5**	**97.0**	**95.5**	**96.0**	**95.0**

Material description

No 11 - 16 Clay Fill

Approved Signatory : Justin Fry