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

28th October 2019

Our Reference: 18751:SB002

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
EMERALD PARK ESTATE – STAGE 7, TARNEIT

Please find attached our Report No's 18751/R001 to 18751/R006 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 November 2018 and was completed in July 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).

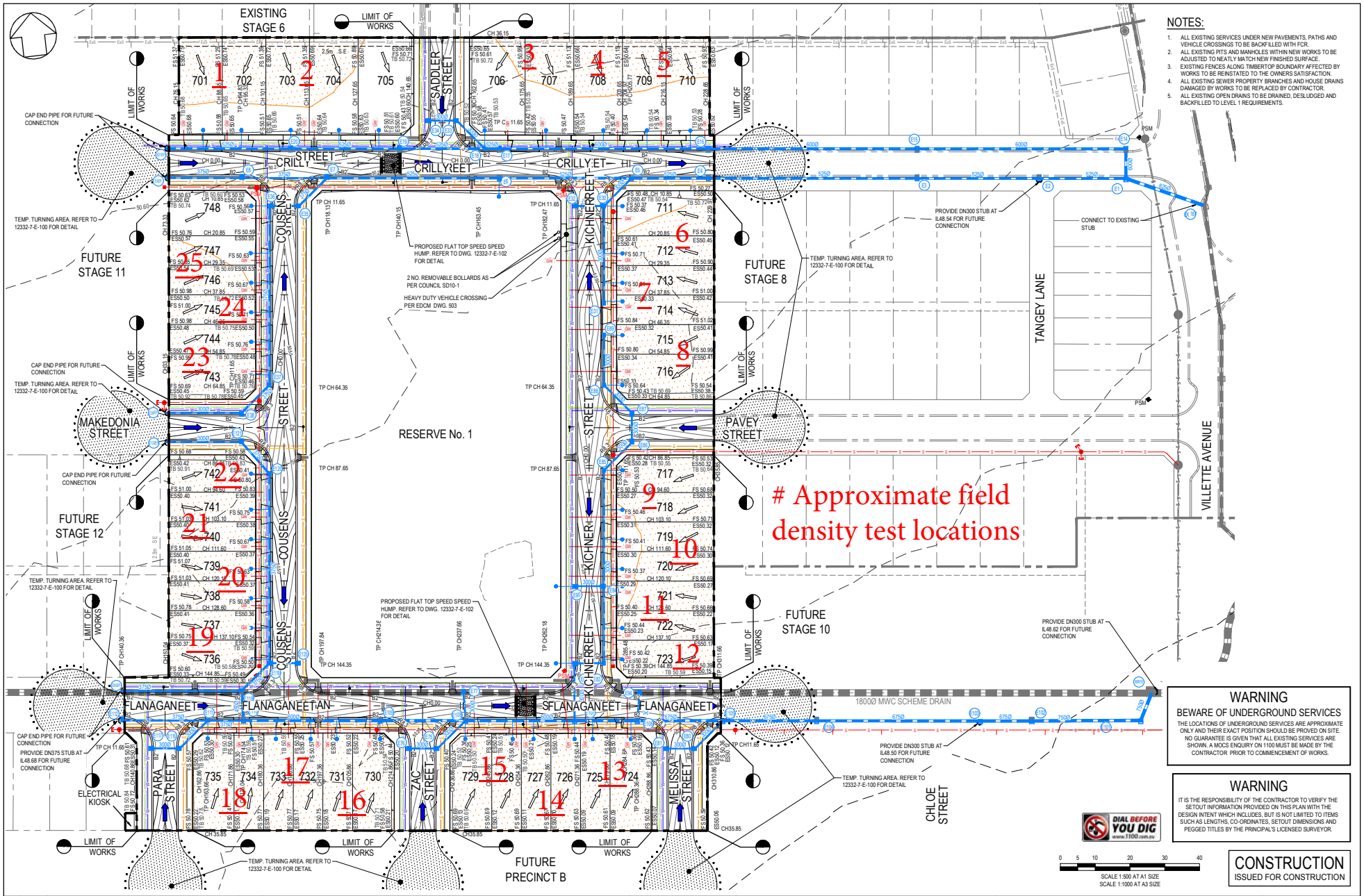
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Stephen Burns

FIGURE 1



NOTES:

1. ALL EXISTING SERVICES UNDER NEW PAVEMENTS, PATHS AND VEHICLE CROSSINGS TO BE BACKFILLED WITH FCR.
2. ALL EXISTING PITS AND MANHOLES WITHIN NEW WORKS TO BE ADJUSTED TO NEATLY MATCH NEW FINISHED SURFACE.
3. EXISTING FENCES ALONG TIMBERTOP BOUNDARY AFFECTED BY WORKS TO BE REINSTATED TO THE OWNERS SATISFACTION.
4. ALL EXISTING SEWER PROPERTY BRANCHES AND HOUSE DRAINS DAMAGED BY WORKS TO BE REPLACED BY CONTRACTOR.
5. ALL EXISTING OPEN DRAINS TO BE DRAINED, DESLUDGED AND BACKFILLED TO LEVEL 1 REQUIREMENTS.

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. A MOCS ENQUIRY ON 1100 MUST BE MADE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

WARNING
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SETOUT INFORMATION PROVIDED ON THIS PLAN WITH THE DESIGN INTENT WHICH INCLUDES, BUT IS NOT LIMITED TO ITEMS SUCH AS LENGTHS, CO-ORDINATES, SETOUT DIMENSIONS AND PEGGED TITLES BY THE PRINCIPAL'S LICENSED SURVEYOR.

DIAL BEFORE YOU DIG www.1100.com.au

SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

CONSTRUCTION
ISSUED FOR CONSTRUCTION

VER	DATE	REVISION	APPD.
0	02/05/2018	ISSUED FOR CONSTRUCTION	KMJ

LEGEND

EXISTING GAS MAIN	PROPOSED GAS MAIN
EXISTING WATER MAIN	PROPOSED WATER MAIN
EXISTING ELECTRICITY CABLE	PROPOSED ELECTRICITY CABLE
EXISTING TELCO CABLE & PIT	PROPOSED TELCO CABLE
EXISTING SEWER MAIN & M.H.	PROPOSED SEWER MAIN & M.H.
EXISTING DRAIN & PIT	PROPOSED DRAIN & PIT
OPEN DRAIN	PROPOSED PROPERTY INLETS
STREET NAME SIGN	
P.S.M.	T.B.M.
PROPOSED GAS & WATER CONDUIT	
EXISTING SURFACE LEVEL	ES 51.260
FINISHED SURFACE BUILDING LINE & ROAD RESERVE	FS 51.046
FINISHED SURFACE TOP OF BATTER	TB 51.296
FILLING ON LOTS DEEPER THAN 200mm	

Coords: MGA Levels: AHD

TAYLORS
Urban Development | Infrastructure
8 / 370 Flemtree Gully Road, Notting Hill, Victoria, 3168
Tel:+61 3 9501 2800 | Web: taylorsdt.com.au

DESIGNED:	AKA	AUTHORISED:	JOY
CHECKED:	KMJ	AUTH. DATE:	19/12/2017
DRAFTED:	KLE	CAD REF:	12332-7-E-109

WYNDHAM CITY COUNCIL
EMERALD PARK
STAGE 7
DETAIL LAYOUT PLAN
SHEET 1 OF 3

SCALE 1:500 @ A1, 1:1000 @ A3
VERSION 1
SHEET 10 OF 32
DRAWING No. 12332-7-E-109

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18751
		Report No	18751/R001
		Date Issued	12/12/2018
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	EMERALD PARK - STAGE 7	*Date tested*	15/11/18
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 10:06

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/m³*	1.84	1.89	1.90	-	-	-
Field moisture content	*%*	25.9	26.5	25.4	-	-	-

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*	1.89	1.93	1.93	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	26.0	27.5	26.0	-	-	-

Moisture Variation From Optimum Moisture Content		0.0%	0.5% dry	1.0% dry	-	-	-

Density Ratio (R_{HD})	*%*	**97.5**	**98.0**	**98.0**	**-**	**-**	**-**

Material description

No 1 - 3 Clay Fill

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18751
		Report No	18751/R002
		Date Issued	14/12/2018
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	EMERALD PARK - STAGE 7	*Date tested*	16/11/18
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	300 mm	*Time:*	13:26

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**4**	**5**	**6**	**7**	**8**	**9**
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/m³*	1.80	1.81	1.73	1.70	1.78	1.80
Field moisture content	*%*	32.5	26.8	25.2	30.6	22.3	18.7

Test procedure AS 1289.5.7.1

Test No		4	5	6	7	8	9
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*	1.80	1.80	1.80	1.70	1.80	1.81
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	35.5	29.0	27.5	33.0	24.5	21.5

Moisture Variation From Optimum Moisture Content		2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry
Density Ratio (R_{HD})	*%*	**99.5**	**100.5**	**96.0**	**100.0**	**99.0**	**99.5**

Material description

No 4 - 9 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18751
		Report No	18751/R003
		Date Issued	07/01/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	EMERALD PARK - STAGE 7	*Date tested*	19/11/18
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	12:57

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**10**	**11**	**12**	**-**	**-**	**-**
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*	1.71	1.71	1.71	-	-	-
Field moisture content	*%*	21.6	21.6	21.0	-	-	-

Test procedure AS 1289.5.7.1

Test No		10	11	12	-	-	-
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*	1.80	1.80	1.80	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	23.5	24.0	23.5	-	-	-

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

Density Ratio (R_{HD})	***%***	**95.0**	**95.0**	**95.5**	**-**	**-**	**-**

Material description

No 10 - 12 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18751
		Report No	18751/R004
		Date Issued	04/01/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	EMERALD PARK - STAGE 7	Date tested	20/11/18
Location	TARNEIT	Checked by	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	13:21

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**13**	**14**	**15**	**16**	**17**	**18**
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/m³*	1.73	1.76	1.74	1.76	1.77	1.75
Field moisture content	*%*	19.9	20.5	18.5	17.5	19.4	19.4

Test procedure AS 1289.5.7.1

Test No		13	14	15	16	17	18
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	1.80	1.81	1.80	1.81	1.80
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	22.5	22.5	20.0	20.0	21.5	21.0

Moisture Variation From Optimum Moisture Content		2.5% dry	2.0% dry	2.0% dry	2.5% dry	2.0% dry	2.0% dry
Density Ratio (R_{HD})	*%*	**96.0**	**97.5**	**96.5**	**97.5**	**98.0**	**97.0**

Material description

No 13 - 18 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	18751
		Report No	18751/R005
		Date Issued	05/09/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	EMERALD PARK - STAGE 7	*Date tested*	28/06/19
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	07:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**19**	**20**	**21**	**-**	**-**	**-**
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*	1.98	2.01	1.96	-	-	-
Field moisture content	*%*	24.6	21.9	24.0	-	-	-

Test procedure AS 1289.5.7.1

Test No		19	20	21	-	-	-
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*	2.00	2.02	2.02	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	26.0	23.5	25.5	-	-	-

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

Density Ratio (R_{HD})	*%*	**98.5**	**99.0**	**97.5**	**-**	**-**	**-**

Material description

No 19 - 21 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	18751
		Report No	18751/R006
		Date Issued	05/09/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	EMERALD PARK - STAGE 7	*Date tested*	01/07/19
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	14:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**22**	**23**	**24**	**25**	**-**	**-**
Location		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*	1.83	1.91	2.03	1.92	-	-
Field moisture content	*%*	22.2	21.7	26.0	26.0	-	-

Test procedure AS 1289.5.7.1

Test No		22	23	24	25	-	-
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*	1.91	1.95	2.03	1.97	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	25.0	24.5	29.0	29.0	-	-

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

Density Ratio (R_{HD})	**%**	**96.0**	**98.5**	**100.0**	**97.5**	**-**	**-**

Material description

No 22 - 25 Clay Fill

Approved Signatory : Justin Fry