Construction Sciences

Works Inspection & Testing – Bulk Earthworks

PEBBLE CREEK RESIDENTIAL DEVELOPMENT – STAGE 8

Prepared for BMD Urban Pty Ltd

7th of July 2023

Document Information	
Prepared for	BMD Urban Pty Ltd
Proposal Name	Pebble Creek Residential Development – Stage 8
Job Reference	P2136
Date	7th of July 2023
Version Number	01

Contact Information	
Construction Sciences	ABN 74 128 806 735
Phone	+61 7 2800 6502
Email	mathew.tyrrell@constructionsciences.net
Address	57 Mudgee Street, Kingston QLD 4114

Mathew Tyrrell
Laboratory Manager
Effective date: 7/07/2023

Dean Stimpson
Laboratory Supervisor
Date approved: 7/07/2023

DOCUMENT HISTORY

Version	Effective Date	Revision	Author	Reviewer	Recipient
01	7/07/2023	00	Mathew Tyrrell	Dean Stimpson	BMD Urban Pty Ltd

Contents

Appendices

1. Introduction & Scope of Works

Construction Sciences was commissioned by BMD Urban Pty Ltd to carry out the geotechnical inspection and testing required for a proposed residential subdivision at Pebble Creek Residential Development – Stage 8

Inspection and testing of the earthworks was carried out during / between April 2022 & April 2023.

Works on this development were monitored in accordance with the scope of our commission as follows:-

Level 1 : Earthworks stripping and filling was inspected and tested on a Level 1 basis, in accordance with AS 3798.

Scope of Level 1 responsibility: *"The primary objective of Level 1 Inspection and Testing is for the geotechnical inspection and testing authority (GITA) to be able to express an opinion on the compliance of the work. The GITA is responsible for ensuring that the inspection and testing is sufficient for this purpose.*

The GITA needs to have competent personnel on site at all times while earthwork operations are undertaken. Such operations include the following:

(a) Completion of removal of topsoil.
(b) Placing of imported or cut material.
(c) Compaction and adding/removal of moisture.
(d) Trenching and backfilling, where applicable.
(e) Test rolling.
(f) Testing.

The superintendent should agree on a suitable inspection and testing plan prior to the commencement of the works".

reference AS3798 – Section 8.2

2. Specification Requirements

Earthworks on this development were inspected and tested in accordance with the specification of the design engineer Colliers International Engineering & Design Pty Ltd and / or to the specifications of the local authority Logan City Council.

The following table is a summary of the basic compaction requirements for the project.

Testing procedures used to confirm that these requirements were met were all in accordance with Australian Standard test methods.

SPECIFICATIONS

Item	*Minimum Compaction Requirement*
Earthworks Fill	*95% Wet Density Ratio*

3. Site Works – Bulk Earthworks

3.1 General

Full time site inspection was maintained in accordance with Level 1 requirements whilst earthworks were carried out.

The natural ground in the areas of filling generally comprised gravely/sandy clays.

The material used in the bulk earthworks filling was sourced from on-site cut.

3.2 Compaction Control Testing

Compaction control testing via the nuclear densometer method was carried out at regular intervals throughout the placement of fill, in accordance with the minimum test frequency recommendations included in AS3798 "Guidelines on Earthworks for Commercial and Residential Developments".

A total of 27 field density tests were carried out throughout the earthworks. The average density ratio was recorded to be 98.0%

Approximate test locations are marked on attached sketch P2136 SK1 included in Appendix B.

Progressive photographs taken during the bulk earthworks operations are included in Appendix A.

4. Conclusion

We confirm that:

(a) Our representative was in full time site attendance whilst earthworks filling was in progress during / between April 2022 & April 2023.

(b) Pre – fill ground preparation was carried out in accordance with the specifications and site instruction given.

(c) The structural filling placed to design levels during the term of our engagement on a “Level 1” basis can be termed “controlled filling”.

(d) The results of the compaction control testing indicate that the fill placed during the term of our site attendance, was compacted to at least the minimum specified density ratio.

(e) All test results pertaining to the bulk earthworks are included within Appendix B of this report.

MATHEW TYRRELL

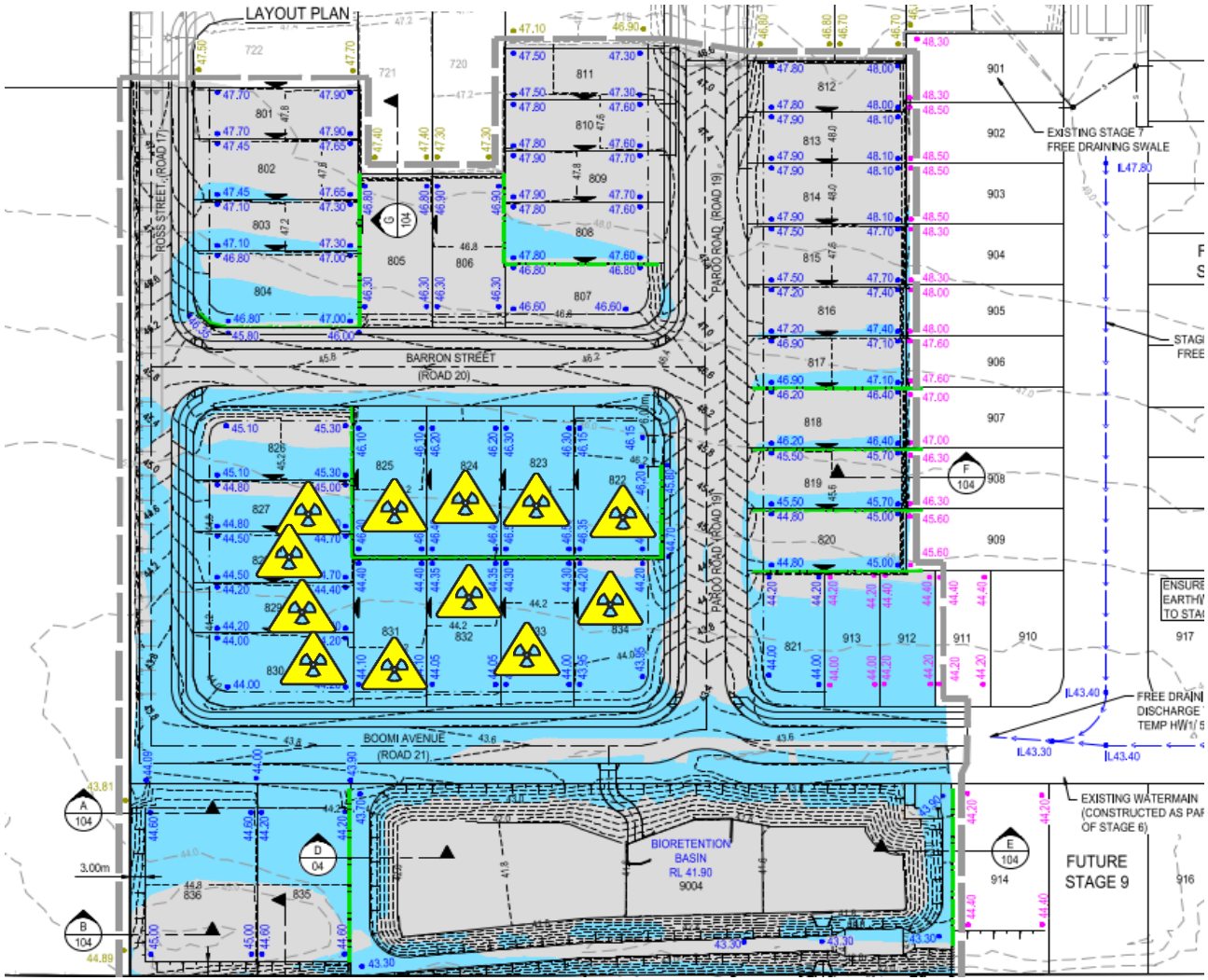
LABORATORY MANAGER
Construction Sciences

Appendix A
Site Works Photographs

Construction Sciences	SITE WORKS PHOTOGRAPHS	Job No.:	P2136
	Client:	BMD	
	Project:	Pebble Creek Stage 8	

Construction Sciences	SITE WORKS PHOTOGRAPHS	Job No.:	P2136
	Client:	BMD	
	Project:	Pebble Creek Stage 8	

Appendix B
Bulk Earthworks



Construction Sciences	BULK EARTHWORKS	Job No.:	P2136
	Client: BMD	Sketch No.:	SK1
	Project: Pebble Creek Stage 8	Date Issued:	21/06/2023

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
1 Fox Road,
Acacia Ridge QLD 4110

Laboratory: **Brisbane South Laboratory**
Phone: 07 3320 8525
Fax: 07 3320 8599
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/65372-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/35816
Supplied To:	n/a	Client Reference/s:	WR6959
Area Description:	Pebble Creek Stage 7-10	Report Date / Page:	22/04/2022 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/182668	1979/S/182669	1979/S/182670	1979/S/182671
ID / Client ID	-	-	-	-
Lot Number	-	-	-	-
Date / Time Tested	14/04/2022 11:05	14/04/2022 11:15	14/04/2022 11:25	14/04/2022 11:35
Material Source	On-Site	On-Site	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 822	Lot 823	Lot 824	Lot 825
	5m South	4m South	6m South	4m South
	3m west	2m west	3m west	4m west
Level	RL: 46.2m	RL: 46.3m	RL: 46.2m	RL: 46.1m
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	0	0	0	0
Compaction Sample Number	1979/S/182668	1979/S/182669	1979/S/182670	1979/S/182671
Sample Description	Clayey SAND - Brown	Clayey SAND - Brown	Clayey SAND - Brown	Clayey SAND - Brown
Moisture Test Results:				
Field Moisture Content (%)	12.9	12.3	12.4	9.7
Adjusted / Moist. Variation (%)	**1.5**	**2.0**	**1.5**	**1.5**
Optimum Moisture Content (%)	14.5	14.0	14.0	11.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	**89.0**	**87.0**	**88.5**	**87.5**
Density Test Results:				
Field Wet Density (t/m³)	2.17	2.16	2.17	2.09
Adj/Peak Conv Wet Density (t/m³)	2.23	2.22	2.18	2.15
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	**97.5**	**97.5**	**99.5**	**97.5**

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
1 Fox Road,
Acacia Ridge QLD 4110

Laboratory: **Brisbane South Laboratory**
Phone: 07 3320 8525
Fax: 07 3320 8599
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/65435-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/35851
Component:	Bulk Fill	Client Reference/s:	WR5592
Area Description:	Pebble Creek Stage 7-10	Report Date / Page:	29/04/2022 Page 1 of 2

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/182894	1979/S/182895	1979/S/182896	1979/S/182897
ID / Client ID	EW-26	EW-27	EW-28	EW-29
Lot Number	-	-	-	-
Date / Time Tested	20/04/2022 12:30	20/04/2022 12:35	20/04/2022 12:40	20/04/2022 12:50
Material Source	On-Site	On-Site	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 827	Lot 828	Lot 829	Lot 830
	3m S, 6m W	2m S, 4m W	4m S, 8m W	5m S, 8m W
	O/S From N/E	O/S From N/E	O/S From N/E	O/S From N/E
Level	44.72	44.43	44.09	44.02
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	0	2	0	0
Compaction Sample Number	1979/S/182894	1979/S/182895	1979/S/182896	1979/S/182897
Sample Description	Clayey SAND - Brown	Clayey SAND - Brown	Clayey SAND - Brown	Clayey SAND - Brown
Moisture Test Results:				
Field Moisture Content (%)	11.3	12.4	13.1	11.3
Adjusted / Moist. Variation (%)	**1.5**	**2.0**	**2.0**	**1.5**
Optimum Moisture Content (%)	12.5	14.0	15.0	13.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	**89.0**	**87.5**	**86.0**	**87.0**
Density Test Results:				
Field Wet Density (t/m³)	2.07	2.06	2.07	2.07
Adj/Peak Conv Wet Density (t/m³)	2.10	2.12	2.10	2.10
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	**98.5**	**97.5**	**98.5**	**99.0**

Remarks

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
1 Fox Road,
Acacia Ridge QLD 4110

Laboratory: **Brisbane South Laboratory**
Phone: 07 3320 8525
Fax: 07 3320 8599
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/65435-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/35851
Component:	Bulk Fill	Client Reference/s:	WR5592
Area Description:	Pebble Creek Stage 7-10	Report Date / Page:	29/04/2022 Page 2 of 2

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/182898	1979/S/182899	1979/S/182900	1979/S/182901
ID / Client ID	EW-30	EW-31	EW-32	EW-33
Lot Number	-	-	-	-
Date / Time Tested	20/04/2022 13:00	20/04/2022 13:05	20/04/2022 13:10	20/04/2022 13:20
Material Source	On-Site	On-Site	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 831	Lot 832	Lot 833	Lot 834
	8m S, 3m W	7m S, 4m W	6m S, 4m W	8m S, 5m W
	O/S From N/E	O/S From N/E	O/S From N/E	O/S From N/E
Level	44.16	44.22	44.14	44.06
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	1	1	0	0
Compaction Sample Number	1979/S/182898	1979/S/182899	1979/S/182900	1979/S/182901
Sample Description	Clayey SAND - Brown	Clayey SAND - Brown	Clayey SAND - Brown	Clayey SAND - Brown
Moisture Test Results:				
Field Moisture Content (%)	12.4	12.3	11.6	11.3
Adjusted / Moist. Variation (%)	**2.0**	**2.0**	**2.0**	**1.5**
Optimum Moisture Content (%)	14.5	14.0	13.5	13.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	**85.5**	**86.5**	**84.5**	**87.5**
Density Test Results:				
Field Wet Density (t/m³)	2.06	2.09	2.10	2.10
Adj/Peak Conv Wet Density (t/m³)	2.10	2.05	2.13	2.13
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	**98.0**	**102.0**	**98.5**	**98.5**

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
57 Mudgee Street,
Kingston QLD 4114

Laboratory: **Brisbane South Laboratory**
Phone: 1300 165 769
Fax:
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/79238-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/39160
Component:	Bulk Earthworks	Client Reference/s:	Bulk Earthworks
Area Description:	Stages 7-10	Report Date / Page:	4/11/2022 Page 1 of 4

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/197408	1979/S/197409	1979/S/197410	1979/S/197411
ID / Client ID	-	-	-	-
Lot Number	-	-	-	-
Date / Time Tested	2/08/2022	2/08/2022	2/08/2022	2/08/2022
Material Source	On-Site	On-Site	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 825	Lot 824	Lot 823	Lot 822
	N/E Corner	N/E Corner	N/E Corner	N/E Corner
	13m S, 6m W	10m S, 4m W	12m S, 5m W	8m S, 6m W
Level	F/L	F/L	F/L	F/L
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	1	0	2	1
Compaction Sample Number	1979/S/197408	1979/S/197409	1979/S/197410	1979/S/197411
Sample Description	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand
Moisture Test Results:				
Field Moisture Content (%)	14.1	11.5	12.9	10.5
Adjusted / Moist. Variation (%)	**1.5**	**1.5**	**1.5**	**0.0**
Optimum Moisture Content (%)	15.5	13.0	14.5	10.5
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Wetter than OMC)
Moisture Ratio (%)	**91.0**	**90.0**	**89.5**	**101.0**
Density Test Results:				
Field Wet Density (t/m³)	2.03	2.09	2.10	2.07
Adj/Peak Conv Wet Density (t/m³)	2.13	2.15	2.13	2.13
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	**95.5**	**97.0**	**98.5**	**97.0**

Remarks

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
57 Mudgee Street,
Kingston QLD 4114

Laboratory: **Brisbane South Laboratory**
Phone: 1300 165 769
Fax:
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/79238-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/39160
Component:	Bulk Earthworks	Client Reference/s:	Bulk Earthworks
Area Description:	Stages 7-10	Report Date / Page:	4/11/2022 Page 2 of 4

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/197412	1979/S/197413	1979/S/197414	1979/S/197415
ID / Client ID	-	-	-	-
Lot Number	-	-	-	-
Date / Time Tested	2/08/2022	2/08/2022	2/08/2022	2/08/2022
Material Source	On-Site	On-Site	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 1035	Lot 1036	Lot 1037	Lot 1038
	N/E Corner	N/W Corner	N/E Corner	N/E Corner
	13m S, 4m W	13m S, 5m E	9m S, 2m W	14m S, 5m W
Level	F/L	F/L	F/L	F/L
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	4	1	2	2
Compaction Sample Number	1979/S/197412	1979/S/197413	1979/S/197414	1979/S/197415
Sample Description	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand
Moisture Test Results:				
Field Moisture Content (%)	11.1	13.8	11.7	11.9
Adjusted / Moist. Variation (%)	**1.5**	**1.5**	**1.5**	**1.5**
Optimum Moisture Content (%)	12.5	15.5	13.5	13.5
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	**89.0**	**90.0**	**88.0**	**88.0**
Density Test Results:				
Field Wet Density (t/m³)	2.21	2.04	1.95	2.04
Adj/Peak Conv Wet Density (t/m³)	2.16	2.12	2.06	2.15
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	**102.0**	**96.0**	**95.0**	**95.0**

Remarks

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
57 Mudgee Street,
Kingston QLD 4114

Laboratory: **Brisbane South Laboratory**
Phone: 1300 165 769
Fax:
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/79238-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/39160
Component:	Bulk Earthworks	Client Reference/s:	Bulk Earthworks
Area Description:	Stages 7-10	Report Date / Page:	4/11/2022 Page 3 of 4

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/197416	1979/S/197417	1979/S/197418	1979/S/197419
ID / Client ID	-	-	-	-
Lot Number	-	-	-	-
Date / Time Tested	2/08/2022	2/08/2022	2/08/2022	2/08/2022
Material Source	On-Site	On-Site	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 1039	Lot 1040	Lot 1041	Lot 946
	N/W Corner	N/W Corner	N/W Corner	S/E Corner
	10m S, 3m E	8m S, 5m E	18m S, 5m E	17m N, 5m W
Level	F/L	F/L	F/L	F/L
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	3	1	2	4
Compaction Sample Number	1979/S/197416	1979/S/197417	1979/S/197418	1979/S/197419
Sample Description	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand
Moisture Test Results:				
Field Moisture Content (%)	12.3	12.4	11.4	11.2
Adjusted / Moist. Variation (%)	**1.5**	**1.5**	**1.5**	**1.5**
Optimum Moisture Content (%)	14.0	14.0	13.0	13.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	**88.5**	**89.0**	**89.0**	**87.0**
Density Test Results:				
Field Wet Density (t/m³)	1.97	2.11	2.04	2.02
Adj/Peak Conv Wet Density (t/m³)	2.06	2.13	2.03	2.02
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	**95.5**	**99.0**	**100.0**	**100.0**

Remarks

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
ABN: 74 128 806 735

Address:
57 Mudgee Street,
Kingston QLD 4114

Laboratory: **Brisbane South Laboratory**
Phone: 1300 165 769
Fax:
Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client:	BMD Urban Pty Ltd	Report Number:	1979/R/79238-1
Client Address:	PO Box 197, WYNNUM	Project Number:	1979/P/2136
Project:	Pebble Creek Stages 7-10	Lot Number:	
Location:	South Maclean	Internal Test Request:	1979/T/39160
Component:	Bulk Earthworks	Client Reference/s:	Bulk Earthworks
Area Description:	Stages 7-10	Report Date / Page:	4/11/2022 Page 4 of 4

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1

Sample Number	1979/S/197420	1979/S/197421	1979/S/197422	
ID / Client ID	-	-	-	
Lot Number	-	-	-	
Date / Time Tested	2/08/2022	2/08/2022	2/08/2022	
Material Source	On-Site	On-Site	On-Site	
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	275 / 300 / 300	275 / 300 / 300	275 / 300 / 300	
Standard or Modified	Standard	Standard	Standard	
Location	Lot 947	Lot 948	Lot 739	
	S/E Corner	S/E Corner	S/E Corner	
	19m N, 3m W	12m N, 5m W	17m N, 4m W	
Level	F/L	F/L	F/L	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	2	2	1	
Compaction Sample Number	1979/S/197420	1979/S/197421	1979/S/197422	
Sample Description	Clayey Sand	Clayey Sand	Clayey Sand	
Moisture Test Results:				
Field Moisture Content (%)	11.1	10.5	10.8	
Adjusted / Moist. Variation (%)	**1.5**	**1.5**	**1.5**	
Optimum Moisture Content (%)	12.5	12.0	12.5	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	**89.0**	**87.5**	**86.5**	
Density Test Results:				
Field Wet Density (t/m³)	2.09	2.04	2.09	
Adj/Peak Conv Wet Density (t/m³)	2.05	2.13	2.18	
Density Ratio Required (%)	95	95	95	
Hilf Density Ratio (%)	**102.0**	**96.0**	**96.0**	

Remarks

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 1979

Approved Signatory: Dean Stimpson
Form ID: W5ASMRRep Rev 2

Appendix C

Lot Certificates

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 802, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 803, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 804, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 807, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 808, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 814, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 815, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 816, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 817, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 818, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 819, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 820, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 821, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 822, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 823, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 824, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 825, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 826, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 827, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 828, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 829, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 830, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 831, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 832, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 833, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 834, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 835, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 836, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 912, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Construction Sciences Pty Ltd

ABN 74 128 806 735
Ph +61 7 2800 6502
57 Mudgee Street, Kingston QLD 4114

Project Ref: 1979/ P/2136

7/07/2023

BMD Urban Pty Ltd
PO Box 197
Wynnum, QLD 4178

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL
Lot 913, South Maclean – Pebble Creek Residential Development.

This is to confirm that placement and compaction of the allotment fill for the above project and Lot was supervised by Construction Sciences Pty Ltd under Level 1 arrangements as described in AS3798-2007 "Guidelines on earthworks for commercial and residential developments".

This indicates that the fill was compacted to at least the minimum density ratio in accordance with the specification requirements and it is considered that the fill may be deemed to be "controlled fill" in accordance with AS2870-2011 "Residential Slabs & Footings".

It may be that non-structural topsoil was placed on the block after completion of the structural fill. This would need to be removed as part of the site preparation for building and driveway construction.

I trust this meets your requirements. Please do not hesitate to contact me if you have any queries.

Yours faithfully

Mathew Tyrrell
Laboratory Manager
Construction Sciences

Located across Australia and New Zealand

QLD
Airlie
Beenleigh
Brisbane (Acacia Ridge)
Brisbane (Beenleigh)
Brisbane (Brendale)
Brisbane (Petrie)
Cairns
Emerald
Gladstone
Gold Coast
Mackay
Moranbah
Rockhampton
Petrie
Sunshine Coast
Toowoomba
Townsville

NSW
Ballina
Coffs Harbour
Grafton
Lynwood
Newcastle
Sydney (Glendenning)
Sydney (Seven Hills)
Sydney (St Peters)
Taree
Wollongong

VIC
Ararat
Bendigo
Echuca
Melbourne (Chadstone)
Melbourne (Keysborough)
Melbourne (Pakenham)
Melbourne (Oaklands Junction)
Melbourne (Sunshine West)
Traralgon

WA
Bunbury
Kalgoorlie
Newman
Perth
Port Hedland

SA
Adelaide
Port Augusta

NT
Darwin

ACT
Canberra

NZ
Wellington

Ph 1300 165 769 E info@constructionsciences.net W constructionsciences.net

Construction Sciences