WORKS INSPECTION & TESTING Bulk Earthworks

PROPOSED RESIDENTIAL DEVELOPMENT

AURORA STAGE 1

Daley's Road, Ripley

JOB NO: P2055 comp01



Prepared for CCA Winslow 30th September 2021



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Contact : Wayne Gorman

wayne.gorman@constructionsciences.net

1 Fox Road

Acacia Ridge QLD 4110

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Table of Contents

INTRODUCTION	4
SCOPE OF WORKS	4
Level 1	
SPECIFICATION REQUIREMENTS	4
SITE WORKS - BULK EARTHWORKS	5
General	
Compaction Control Testing	
CONCLUSION	5

SITE PHOTOGRAPHS

Appendices

Appendix B Lot Certificates



INTRODUCTION

Construction Sciences was commissioned by **CCA Winslow** to carry out the geotechnical inspection and testing required for the proposed development at Ripley, which was carried out between 19th April 2021 and 16th July 2021.

SCOPE OF WORKS

The Earthworks on this development was monitored in accordance with the scope of our commission as follows:-

Level 1: Bulk earthworks stripping and filling was inspected and tested on a Level 1 basis, in accordance with AS 3798-2007.

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

SPECIFICATION REQUIREMENTS

Earthworks on this development was inspected and tested in accordance with the specification of the design engineer, **Peak Urban Pty Limited** and to the specifications of the local authority, **Ipswich City Council.**

The following table is a summary of the basic compaction and quality 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

Bulk Earthworks Fill 95% Wet Density Ratio - Standard

page. 5

Aurora Stage 1- Daley's Road, Ripley

SITE WORKS - BULK EARTHWORKS

General: Full time site inspection was maintained in accordance with Level 1 requirements whilst

earthworks were carried out on this development. Fill areas included residential allotments, roads and

embankments.

The areas to be filled were stripped and proof rolled in accordance with the specification requirements.

Areas displaying instability were generally excavated until competent conditions were encountered.

Benching was provided on slopes where filling was to be placed.

The natural ground in the areas of filling generally comprised of sandy CLAYS and clayey SANDS.

The material used in the bulk earthworks filling was sourced from site cutting to design levels.

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".

All test results are included in Appendix A. A summary of the test results is included as Table 1. A total of

96 field density tests were carried out throughout the earthworks. The average wet density ratio was

recorded to be 98.6%. The maximum wet density ratio was 101.5% and minimum was 95%.

CONCLUSION

We confirm that:

(a) Our representative was in full time site attendance whilst bulk earthworks filling was in progress

between 19th April 2021 and 16th July 2021 at Daley's Road.

(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 wet density ratio.

(e) All test results pertaining to the development are included within appendix A of this report.

WAYNE GORMAN

W. 5

LABORATORY MANAGER Construction Sciences

Prepared for CCA Winslow

Page 1 of 1

Client: CCA Winslow

Project:

1979/P/2055 - Aurora Stage 1

Date Range:

Material Source / Type:

Sample Client Reference	Sample Number	Sample Date	Location 1	Location 2	Location 3	Location 4	Wet Density Ratio	Moisture Ratio
EW-01	1979/S/157633	22/04/2021	Bio Detention Basin	Floor	North Corner	1st Lift	100	102.5
EW-02	1979/S/157634	22/04/2021	Bio Detention Basin	Floor	East Corner	1st Lift	99	101.5
EW-03	1979/S/157907	30/04/2021	Bio Detention Basin	SW Wall	6m Off End	F.S.L	101	87.5
EW-04	1979/S/157908	30/04/2021	Bio Detention Basin	NW Wall	10m Off End	F.S.L	97.5	103.5
EW-05	1979/S/157909	30/04/2021	Bio Detention Basin	NE Wall	6m Off End	F.S.L	98	100.5
EW-06	1979/S/157910	30/04/2021	Bio Detention Basin	SE Wall	4m Off End	F.S.L	96.5	100.5
EW-07	1979/S/157911	30/04/2021	Bio Detention Basin	SE Wall	12m Off End	F.S.L	96	103.5
EW72	1979/S/163411	12/07/2021	Allotment 128	Offset Nth/East Corner	4m Sth, 8m West	Finished Level	96.5	85.5
EW73	1979/S/163412	12/07/2021	Allotment 127	Offset Nth/East Corner	3m Sth, 9m West	Finished Level	97	89.5
EW74	1979/S/163413	12/07/2021	Allotment 126	Offset Nth/East Corner	5m Sth, 6m West	Finished Level	97	83
EW75	1979/S/163414	12/07/2021	Allotment 125	Offset Nth/East Corner	6m Sth, 8m West	Finished Level	97.5	82
EW68	1979/S/162918	1/07/2021	5712.566	13553.707	RL: 48.448		97.5	85
EW69	1979/S/162919	1/07/2021	5715.344	13539.366	RL: 48.439		98.5	84.5
EW70	1979/S/162920	1/07/2021	5728.514	13551.057	RL: 49.628		98	81.5
EW71	1979/S/162921	1/07/2021	5676.608	13585.940	RL: 48.935		98	99
EW76	1979/S/163419	12/07/2021	5629.546	13596.435	49.285	Bio Detention Basin	99	86
EW77	1979/S/163420	12/07/2021	5645.769	13587.271	49.296	Bio Detention Basin	99.5	77.5
EW08	1979/S/159988	20/05/2021	Daleys Road	520	1.0m R CL	RL: 67.2	100.5	84.5
EW09	1979/S/159989	20/05/2021	Daleys Road	560	0.6m L CL	RL: 64.1	100	89.5
EW10	1979/S/159990	20/05/2021	Daleys Road	600	1.3m L CL	RL: 61.3	100.5	86.5
EW11	1979/S/159991	20/05/2021	Daleys Road	630	2.1m R CL	RL: 59.2	103	84.5
EW12	1979/S/159992	20/05/2021	Daleys Road	660	0.6m R CL	RL: 58.4	101.5	101
EW13	1979/S/159993	20/05/2021	Daleys Road	680	1.4m L CL	RL: 57.0	102	107
EW14	1979/S/159994	19/05/2021	Daleys Road	30	2.6m L CL	RL: 48.5	100.5	96.5
EW15	1979/S/159995	19/05/2021	Daleys Road	40	CL	RL: 48.0	101.5	106
EW16	1979/S/159996	19/05/2021	Daleys Road	50	0.3m R CL	RL: 48.7	101.5	99
EW17	1979/S/159997	19/05/2021	Daleys Road	60	3.0m L CL	RL: 49.2	100.5	106.5
EW18	1979/S/159998	19/05/2021	Daleys Road	80	1.4m L CL	RL: 49.4	101	107.5
EW19	1979/S/159999	19/05/2021	Daleys Road	100	0.6m R CL	RL: 49.8	103	106.5
EW20	1979/S/160232	28/05/2021	Lot 138	5m Off North Boundary	6m Off East Boundary	F.S.L	101.5	91.5
EW21	1979/S/160233	28/05/2021	Lot 137	5m Off North Boundary	4m Off East Boundary	F.S.L	100.5	83
EW22	1979/S/160234	28/05/2021	Lot 136	5m Off North Boundary	4m Off East Boundary	F.S.L	101.5	86
EW23	1979/S/160235	28/05/2021	Lot 135	5m Off North Boundary	4m Off East Boundary	F.S.L	100	90
EW24	1979/S/160236	28/05/2021	Lot 114	2m Off North Boundary	2m Off East Boundary	F.S.L	101	85.5
EW25	1979/S/160237	28/05/2021	Lot 113	6m Off North Boundary	5m Off East Boundary	F.S.L	100.5	90.5
EW26	1979/S/160238	28/05/2021	Lot 139	5m Off North Boundary	6m Off East Boundary	F.S.L	100.5	86.5
EW27	1979/S/160239	28/05/2021	Lot 115	3m Off North Boundary	6m Off East Boundary	F.S.L	100.5	89
EW28	1979/S/160240	28/05/2021	Lot 134	6m Off North Boundary	3m Off East Boundary	F.S.L	100.5	101
EW29	1979/S/161316	10/06/2021	Lot 153	3m Off North Boundary	6m Off East Boundary	RL: 59.1	100	78.5
EW30	1979/S/161317	10/06/2021	Lot 154	3m Off North Boundary	4m Off East Boundary	RL: 59.0	99.5	87.5
EW31	1979/S/161318	10/06/2021	Lot 155	5m Off North Boundary	6m Off East Boundary	RL: 59.1	99	86.5
EW32	1979/S/161319	10/06/2021	Lot 142	2m Off North Boundary	7m Off East Boundary	RL: 60.9	98.5	80.5
EW33	1979/S/161320	10/06/2021	Lot 144	2m Off North Boundary	2m Off West Boundary	RL: 61.4	98.5	99
EW34	1979/S/161321	10/06/2021	Lot 143	2m Off North Boundary	7m Off West Boundary	RL: 61.2	97.5	92
EW35	1979/S/161321 1979/S/161322	10/06/2021	Lot 143	2m Off North Boundary	3m Off West Boundary	RL: 60.8	95.5	86
EW36	1979/S/161322 1979/S/161323	10/06/2021	Lot 110	3m Off North Boundary	4m Off West Boundary	RL: 61.0	95	83
EW37	1979/S/161324	10/06/2021	Lot 110	3m Off North Boundary	6m Off West Boundary	RL: 60.9	95	109.5
EW37	1979/S/161324 1979/S/161325	10/06/2021	Lot 109	2m Off North Boundary	4m Off East Boundary	RL: 60.9 RL: 61.2	95.5	81

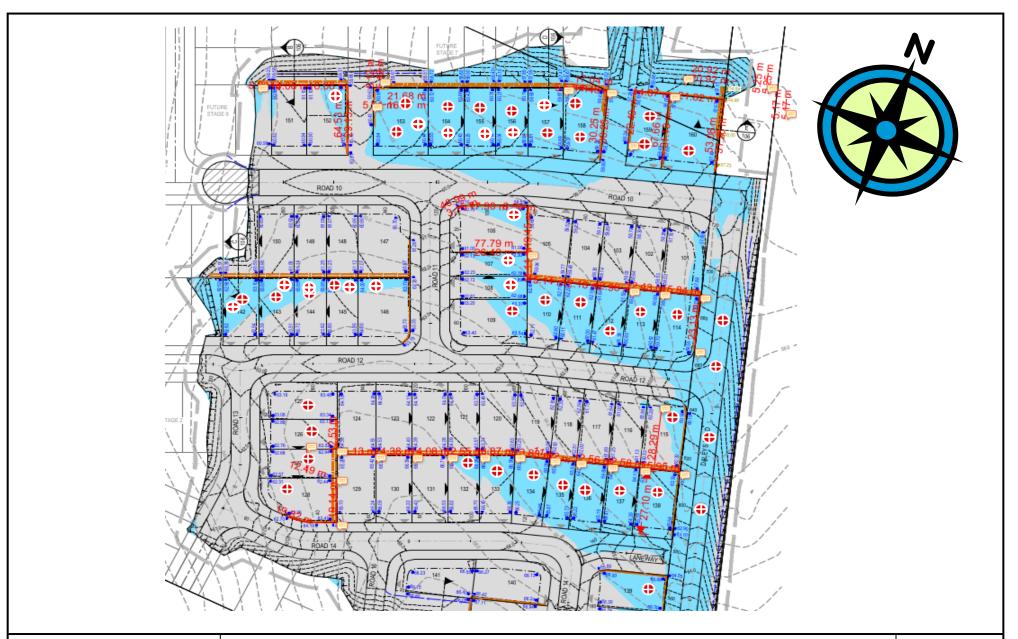
EW39	1979/S/161326	10/06/2021	Lot 133	4m Off North Boundary	3m Off West Boundary	RL: 64.8	96	99
EW40	1979/S/161327	10/06/2021	Lot 132	2m Off North Boundary	2m Off West Boundary	RL: 64.9	95.5	98
EW41	1979/S/161328	10/06/2021	476989	6940168	RL: 49.74	Daleys Road Swale Drain Area	95.5	103.5
EW42	1979/S/161329	10/06/2021	477006	6940139	RL: 50.04	Daleys Road Swale Drain Area	95.5	99
EW43	1979/S/161330	10/06/2021	477024	6940112	RL: 49.92	Daleys Road Swale Drain Area	95	81
EW44	1979/S/161331	10/06/2021	Lot 159	4m Off North Boundary	3m Off East Boundary	RL: 57.2	98.5	82.5
EW45	1979/S/161332	10/06/2021	Lot 160	6m Off North Boundary	4m Off East Boundary	RL: 56.0	96.5	82
EW46	1979/S/161333	10/06/2021	Lot 145	2m Off North Boundary	2m Off West Boundary	RL: 61.9	96	86.5
EW47	1979/S/161581	14/06/2021	477030	6939991	RL: 50.6	Daleys Road Swale Drain Area	97.5	105
EW48	1979/S/161582	14/06/2021	477034	6940034	RL: 50.7	Daleys Road Swale Drain Area	99.5	89
EW49	1979/S/161583	14/06/2021	477032	6940008	RL: 50.4	Daleys Road Swale Drain Area	98	102
EW50	1979/S/161584	14/06/2021	477022	6940051	RL: 50.5	Daleys Road Swale Drain Area	98	88.5
EW51	1979/S/162023	18/06/2021	Lot 156	3m Off North Boundary	3m Off West Boundary	RL: 58.8	95.5	101
EW52	1979/S/162024	18/06/2021	Lot 157	4m Off North Boundary	3m Off West Boundary	RL: 58.0	98.5	88.5
EW53	1979/S/162025	18/06/2021	Lot 158	3m Off North Boundary	3m Off West Boundary	F.S.L	98	86.5
EW54	1979/S/162026	18/06/2021	Lot 158	8m Off North Boundary	4m Off West Boundary	F.S.L	97	103.5
EW55	1979/S/162027	18/06/2021	Lot 159	2m Off South Boundary	3m Off East Boundary	F.S.L	96	104
EW56	1979/S/162028	18/06/2021	Lot 153	10m Off North Boundary	4m Off East Boundary	F.S.L	99	85
EW57	1979/S/162152	22/06/2021	477009	6940049	F.S.L	Daleys Road Swale Drain Area	100	101
EW58	1979/S/162153	22/06/2021	477016	6940047	F.S.L	Daleys Road Swale Drain Area	101.5	105.5
EW59	1979/S/162154	22/06/2021	477012	6940060	F.S.L	Daleys Road Swale Drain Area	101.5	87.5
EW60	1979/S/162155	22/06/2021	477005	6940094	F.S.L	Daleys Road Swale Drain Area	100	104
EW61	1979/S/162156	22/06/2021	477002	6940122	F.S.L	Daleys Road Swale Drain Area	101	88.5
EW62	1979/S/162157	22/06/2021	476984	6940154	F.S.L	Daleys Road Swale Drain Area	100	100
EW63	1979/S/162828	30/06/2021	476912	6940222	0.4m Below F.S.L	Bio Detention Basin	98	81.5
EW64	1979/S/162829	30/06/2021	476900	6940232	0.4m Below F.S.L	Bio Detention Basin	99	82.5
EW65	1979/S/162830	30/06/2021	476925	6940216	0.4m Below F.S.L	Bio Detention Basin	99	85
EW66	1979/S/162831	30/06/2021	476934	6940207	0.4m Below F.S.L	Bio Detention Basin	97.5	87.5
EW67	1979/S/162832	30/06/2021	476947	6940192	0.4m Below F.S.L	Bio Detention Basin	99	83
EW-78	1979/S/172429	9/07/2021	Lot 152	N/E Corner	5m S, 4m W	F/L	96.5	87
EW-79	1979/S/172430	9/07/2021	Lot 153	S/E Corner	6m N, 3m W	F/L	96.5	87
EW-80	1979/S/172431	9/07/2021	Lot 154	S/E Corner	3m N, 5m W	F/L	98.5	87
EW-81	1979/S/172432	9/07/2021	Lot 155	S/E Corner	4m N, 4m W	F/L	98.5	89
EW-82	1979/S/172433	9/07/2021	Lot 156	S/E Corner	7m N, 4m W	F/L	98	88.5
EW-83	1979/S/172434	9/07/2021	Lot 157	N/E Corner	4m S, 6m W	F/L	98	86
EW-84	1979/S/172435	9/07/2021	Lot 106	N/E Corner	3m S, 3m W	F/L	100	83
EW-85	1979/S/172436	9/07/2021	Lot 107	N/E Corner	5m S, 7m W	F/L	96	88
EW-86	1979/S/172437	9/07/2021	Lot 108	N/E Corner	3m S, 4m W	F/L	96.5	87.5
EW-87	1979/S/172438	9/07/2021	Lot 142	N/W Corner	11m S, 4m E	F/L	96.5	90
EW-88	1979/S/172439	9/07/2021	Lot 143	N/W Corner	4m S, 3m E	F/L	99	88.5
EW-89	1979/S/172440	9/07/2021	Lot 144	N/W Corner	4m S, 2m E	F/L	96	88
EW-90	1979/S/172441	9/07/2021	Lot 145	N/W Corner	3m S, 5m E	F/L	98	89
EW-91	1979/S/172442	9/07/2021	Lot 146	N/W Corner	3m S, 6m E	F/L	101	89
EW-92	1979/S/172443	9/07/2021	476969	6940187	F/L	Bio Basin	97.5	91.5
EW-93	1979/S/172444	9/07/2021	476971	6940169	F/L	Bio Basin	99	90
EW-94	1979/S/172445	9/07/2021	476996	6940166	F/L	Bio Basin	96	88
EW-95	1979/S/172446	9/07/2021	476993	6940148	F/L	Bio Basin	99	88.5
EW-96	1979/S/172447	9/07/2021	477011	6940125	F/L	Bio Basin	97	91.5

APPENDIX

BULK EARTHWORKS
FILL

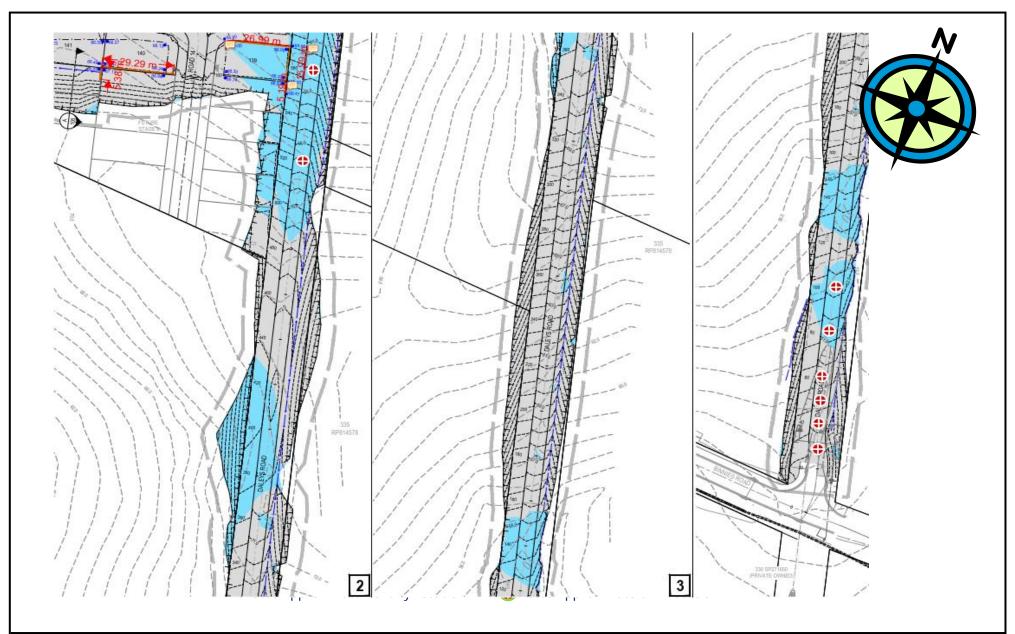






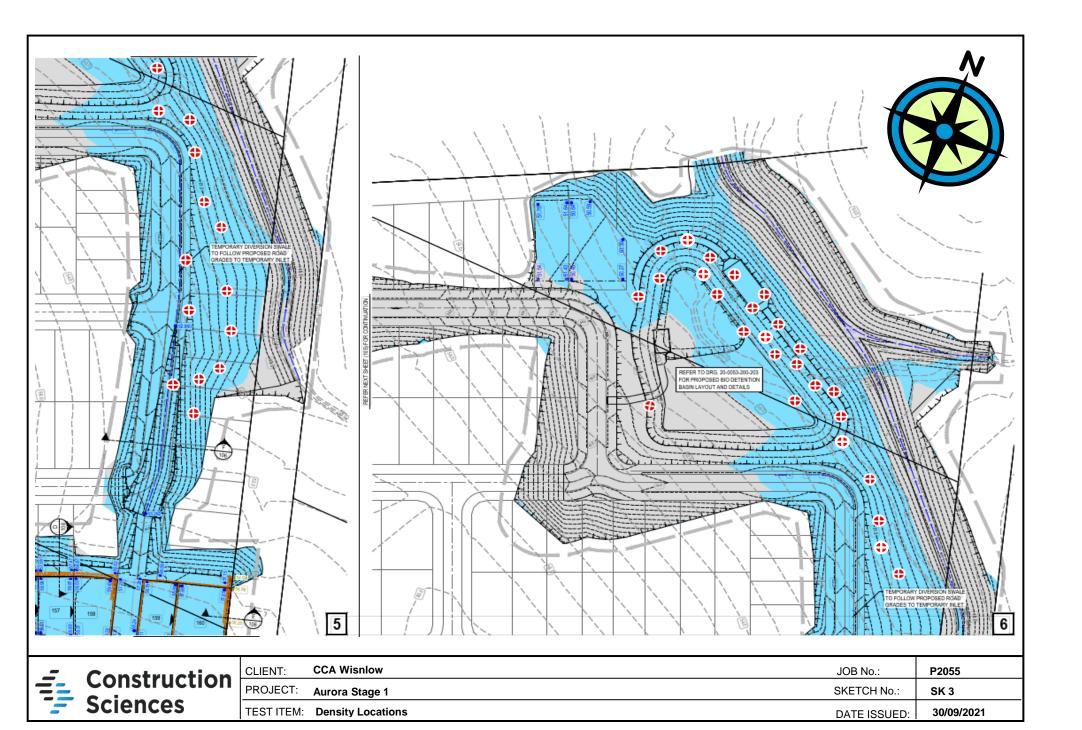


CLIENT:	CCA Wisnlow	JOB No.:	P2055
PROJECT:	Aurora Stage 1	SKETCH No.:	SK 1
TEST ITEM:	Density Locations	DATE ISSUED:	30/09/2021



	Construction
==	Sciences

	CLIENT:	CCA Wisnlow	JOB No.:	P2055
ı	PROJECT:	Aurora Stage 1	SKETCH No.:	SK 2
	TEST ITEM:	Density Locations	DATE ISSUED:	30/09/2021





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks

Report Number: 1979/R/57310-1

Project Number: 1979/P/2055

Lot Number: 22/04/2021

Internal Test Request: 1979/T/31075

Client Reference/s: Bulk Earthworks

Report Date / Page: 7/05/2021 Page 1 of 1

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

Sample Number	1979/S/157633	1979/S/157634
ID / Client ID	EW-01	EW-02
Lot Number	22/04/2021	22/04/2021
Date / Time Tested	22/04/2021 12:04	22/04/2021 12:21
Material Source	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard
Level FL -	Bio Detention Basin	Bio Detention Basin
	Floor	Floor
	North Corner	East Corner
	1st Lift	1st Lift
Test Fraction (mm)	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	0	0
Compaction Sample Number	1979/S/157633	1979/S/157634
Sample Description	Sand, Clay - Brown	Clay, Sand - Brown
Moisture Test Results:		
Field Moisture Content (%)	13.5	12.5
Adjusted / Moisture Variation (%)	-0.5	0.0
Optimum Moisture Content (%)	13.0	12.5
Moisture Variation from OMC	(Wetter than OMC)	(Wetter than OMC)
Moisture Ratio (%)	102.5	101.5
Density Test Results:		
Field Wet Density (t/m³)	1.98	1.98
Adj/Peak Conv Wet Density (t/m³)	1.99	2.00
Density Ratio Required (%)	95	95
Hilf Density Ratio (%)	100.0	99.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks

Report Number: 1979/R/57311-1

Project Number: 1979/P/2055

Lot Number: 30/04/2021

Internal Test Request: 1979/T/31075

Client Reference/s: Bulk Earthworks

Report Date / Page: 7/05/2021 Page 1 of 2

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

Sample Number	1979/S/157907	1979/S/157908	1979/S/157909	1979/S/157910
ID / Client ID	EW-03	EW-04	EW-05	EW-06
Lot Number	30/04/2021	30/04/2021	30/04/2021	30/04/2021
Date / Time Tested	30/04/2021 12:20	30/04/2021 12:25	30/04/2021 12:30	30/04/2021 12:41
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 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)		175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
	- 10			- 12 12 I
Level FL -	Bio Detention Basin	Bio Detention Basin	Bio Detention Basin	Bio Detention Basin
	SW Wall	NW Wall	NE Wall	SE Wall
	6m Off End	10m Off End	6m Off End	4m Off End
	F.S.L	F.S.L	F.S.L	F.S.L
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/157907	1979/S/157908	1979/S/157909	1979/S/157910
Sample Description	Sand, Clay - Brown			
Moisture Test Results:				
Field Moisture Content (%)	15.7	13.9	14.0	13.8
Adjusted / Moisture Variation (%)	2.0	-0.5	0.0	0.0
Optimum Moisture Content (%)	18.0	13.5	14.0	13.5
Moisture Variation from OMC	(Drier than OMC)	(Wetter than OMC)	(Wetter than OMC)	(Wetter than OMC)
Moisture Ratio (%)	87.5	103.5	100.5	100.5
Density Test Results:				
Field Wet Density (t/m³)	2.12	2.11	2.15	2.10
Adj/Peak Conv Wet Density (t/m³)	2.10	2.16	2.19	2.18
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	101.0	97.5	98.0	96.5

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks

Report Number: 1979/R/57311-1

Project Number: 1979/P/2055

Lot Number: 30/04/2021

Internal Test Request: 1979/T/31075

Client Reference/s: Bulk Earthworks

Report Date / Page: 7/05/2021 Page 2 of 2

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

Sample Number	1979/S/157911
ID / Client ID	EW-07
Lot Number	30/04/2021
Date / Time Tested	30/04/2021 12:49
Material Source	On-Site
Material Type	Bulk Fill
Sampling Method	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200
Standard or Modified	Standard
Level FL -	Bio Detention Basin
	SE Wall
	12m Off End
	F.S.L
Test Fraction (mm)	< 19.0 mm
Sample Oversize (%)	0
Compaction Sample Number	1979/S/157911
Sample Description	Sand, Clay - Brown
Moisture Test Results:	
Field Moisture Content (%)	12.4
Adjusted / Moisture Variation (%)	-0.5
Optimum Moisture Content (%)	12.0
Moisture Variation from OMC	(Wetter than OMC)
Moisture Ratio (%)	103.5
Density Test Results:	
Field Wet Density (t/m³)	1.92
Adj/Peak Conv Wet Density (t/m³)	2.00
Density Ratio Required (%)	95
Hilf Density Ratio (%)	96.0

Remarks

NATA

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Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58093-1

Project Number: 1979/P/2055

Lot Number: 20/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 1 of 2

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

Sample Number	1979/S/159988	1979/S/159989	1979/S/159990	1979/S/159991
ID / Client ID	EW08	EW09	EW10	EW11
Lot Number	20/05/2021	20/05/2021	20/05/2021	20/05/2021
Date / Time Tested	20/05/2021 09:00	20/05/2021 09:20	20/05/2021 09:40	20/05/2021 10:00
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 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / - / 200	175 / - / 200	175 / - / 200	175 / - / 200
Standard or Modified	Standard	Standard	Standard	Standard
Road:	Daleys Road	Daleys Road	Daleys Road	Daleys Road
Chainage m	520	560	600	630
Offset m	1.0m R CL	0.6m L CL	1.3m L CL	2.1m R CL
Level m	RL: 67.2	RL: 64.1	RL: 61.3	RL: 59.2
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/159988	1979/S/159989	1979/S/159990	1979/S/159991
Sample Description	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown
Moisture Test Results:				
Field Moisture Content (%)	9.8	9.4	9.6	10.3
Adjusted / Moisture Variation (%)	2.0	1.5	1.5	2.0
Optimum Moisture Content (%)	11.5	10.5	11.0	12.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	84.5	89.5	86.5	84.5
Density Test Results:				
Field Wet Density (t/m³)	1.82	1.80	1.89	1.95
Adj/Peak Conv Wet Density (t/m³)	1.81	1.80	1.88	1.90
Density Ratio Required (%)	100	100	100	100
Hilf Density Ratio (%)	100.5	100.0	100.5	103.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58093-1

Project Number: 1979/P/2055

Lot Number: 20/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 2 of 2

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

Sample Number	1979/S/159992	1979/S/159993
ID / Client ID	EW12	EW13
Lot Number	20/05/2021	20/05/2021
Date / Time Tested	20/05/2021 10:30	20/05/2021 12:10
Material Source	On-Site	On-Site
Material Type	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / - / 200	175 / - / 200
Standard or Modified	Standard	Standard
Road:	Daleys Road	Daleys Road
Chainage m	660	680
Offset m	0.6m R CL	1.4m L CL
Level m	RL: 58.4	RL: 57.0
Test Fraction (mm)	< 19.0 mm	< 19.0 mm
Sample Oversize (%)	0	0
Compaction Sample Number	1979/S/159992	1979/S/159993
Sample Description	Sandy Clay Brown	Sandy Clay Brown
Moisture Test Results:		
Field Moisture Content (%)	10.8	10.6
Adjusted / Moisture Variation (%)	0.0	-0.5
Optimum Moisture Content (%)	10.5	10.0
Moisture Variation from OMC	(Wetter than OMC)	(Wetter than OMC)
Moisture Ratio (%)	101.0	107.0
Density Test Results:		
Field Wet Density (t/m³)	1.95	1.95
Adj/Peak Conv Wet Density (t/m³)	1.92	1.91
Density Ratio Required (%)	100	100
Hilf Density Ratio (%)	101.5	102.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979





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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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58094-1

Project Number: 1979/P/2055

Lot Number: 19/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 1 of 2

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

Sample Number	1979/S/159994	1979/S/159995	1979/S/159996	1979/S/159997
ID / Client ID	EW14	EW15	EW16	EW17
Lot Number	19/05/2021	19/05/2021	19/05/2021	19/05/2021
Date / Time Tested	19/05/2021 08:09	19/05/2021 08:20	19/05/2021 08:31	19/05/2021 08:42
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Road:	Daleys Road	Daleys Road	Daleys Road	Daleys Road
Chainage m	30	40	50	60
Offset m	2.6m L CL	CL	0.3m R CL	3.0m L CL
Level m	RL: 48.5	RL: 48.0	RL: 48.7	RL: 49.2
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/159994	1979/S/159995	1979/S/159996	1979/S/159997
Sample Description	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown
Moisture Test Results:				
Field Moisture Content (%)	11.7	12.5	11.4	13.3
Adjusted / Moisture Variation (%)	0.5	-0.5	0.0	-1.0
Optimum Moisture Content (%)	12.0	12.0	11.5	12.5
Moisture Variation from OMC	(Drier than OMC)	(Wetter than OMC)	(Drier than OMC)	(Wetter than OMC)
Moisture Ratio (%)	96.5	106.0	99.0	106.5
Density Test Results:				
Field Wet Density (t/m³)	2.00	2.02	2.00	2.02
Adj/Peak Conv Wet Density (t/m³)	2.00	1.99	1.98	2.01
Density Ratio Required (%)	100	100	100	100
Hilf Density Ratio (%)	100.5	101.5	101.5	100.5

Remarks

NATA

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Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58094-1

Project Number: 1979/P/2055

Lot Number: 19/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 2 of 2

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

Sample Number		1979/S/159998	1979/S/159999
ID / Client ID		EW18	EW19
Lot Number		19/05/2021	19/05/2021
Date / Time Tested		19/05/2021 08:49	19/05/2021 09:00
Material Source		On-Site	On-Site
Material Type		Bulk Fill	Bulk Fill
Sampling Method		AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actua	al (mm)	175 / 200 / 200	175 / 200 / 200
Standard or Modified		Standard	Standard
Road:		Daleys Road	Daleys Road
Chainage	m	80	100
Offset	m	1.4m L CL	0.6m R CL
Level	m	RL: 49.4	RL: 49.8
Test Fraction (mm)		< 19.0 mm	< 19.0 mm
Sample Oversize (%)		0	0
Compaction Sample Numb	er	1979/S/159998	1979/S/159999
Sample Description		Sandy Clay Brown	Sandy Clay Brown
Moisture Test Results:			
Field Moisture Content (%))	11.2	13.0
Adjusted / Moisture Variation	on (%)	-1.0	-1.0
Optimum Moisture Content	t (%)	10.5	12.0
Moisture Variation from OM	ИС	(Wetter than OMC)	(Wetter than OMC)
Moisture Ratio (%)		107.5	106.5
Density Test Results:			
Field Wet Density (t/m³)		2.02	2.03
Adj/Peak Conv Wet Density	y (t/m³)	2.00	1.98
Density Ratio Required (%))	100	100
Hilf Density Ratio (%)		101.0	103.0

Remarks

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Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58095-1

Project Number: 1979/P/2055

Lot Number: 28/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 1 of 3

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

Sample Number	1979/S/160232	1979/S/160233	1979/S/160234	1979/S/160235
ID / Client ID	EW20	EW21	EW22	EW23
Lot Number	28/05/2021	28/05/2021	28/05/2021	28/05/2021
Date / Time Tested	28/05/2021 10:30	28/05/2021 10:04	28/05/2021 10:50	28/05/2021 11:40
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 138	Lot 137	Lot 136	Lot 135
	5m Off North Boundary			
	6m Off East Boundary	4m Off East Boundary	4m Off East Boundary	4m Off East Boundary
Level	F.S.L	F.S.L	F.S.L	F.S.L
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/160232	1979/S/160233	1979/S/160234	1979/S/160235
Sample Description	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown
Moisture Test Results:				
Field Moisture Content (%)	11.0	10.2	10.4	11.6
Adjusted / Moisture Variation (%)	1.0	2.0	1.5	1.5
Optimum Moisture Content (%)	12.0	12.5	12.0	13.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	91.5	83.0	86.0	90.0
Density Test Results:				
Field Wet Density (t/m³)	2.00	1.98	2.00	1.98
Adj/Peak Conv Wet Density (t/m³)	1.98	1.97	1.97	1.98
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	101.5	100.5	101.5	100.0

Remarks

NATA

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Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58095-1

Project Number: 1979/P/2055

Lot Number: 28/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 2 of 3

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

Sample Number	1979/S/160236	1979/S/160237	1979/S/160238	1979/S/160239
ID / Client ID	EW24	EW25	EW26	EW27
Lot Number	28/05/2021	28/05/2021	28/05/2021	28/05/2021
Date / Time Tested	28/05/2021 11:00	28/05/2021 12:00	28/05/2021 12:04	28/05/2021 12:14
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 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 114	Lot 113	Lot 139	Lot 115
	2m Off North Boundary	6m Off North Boundary	5m Off North Boundary	3m Off North Boundary
	2m Off East Boundary	5m Off East Boundary	6m Off East Boundary	6m Off East Boundary
Level	F.S.L	F.S.L	F.S.L	F.S.L
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/160236	1979/S/160237	1979/S/160238	1979/S/160239
Sample Description	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown	Sandy Clay Brown
Moisture Test Results:				
Field Moisture Content (%)	11.1	12.1	11.5	11.5
Adjusted / Moisture Variation (%)	2.0	1.5	2.0	1.5
Optimum Moisture Content (%)	13.0	13.5	13.5	13.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	85.5	90.5	86.5	89.0
Density Test Results:				
Field Wet Density (t/m³)	1.99	2.00	1.95	1.96
Adj/Peak Conv Wet Density (t/m³)	1.96	1.99	1.94	1.96
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	101.0	100.5	100.5	100.5

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/58095-1

Project Number: 1979/P/2055

Lot Number: 28/05/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks

Report Date / Page: 9/06/2021 Page 3 of 3

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

Sample Number	1979/S/160240
ID / Client ID	EW28
Lot Number	28/05/2021
Date / Time Tested	28/05/2021 12:26
Material Source	On-Site
Material Type	Bulk Fill
Sampling Method	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200
Standard or Modified	Standard
Location	Lot 134
	6m Off North Boundary
	3m Off East Boundary
Level	F.S.L
Test Fraction (mm)	< 19.0 mm
Sample Oversize (%)	0
Compaction Sample Number	1979/S/160240
Sample Description	Sandy Clay Brown
Moisture Test Results:	
Field Moisture Content (%)	12.2
Adjusted / Moisture Variation (%)	0.0
Optimum Moisture Content (%)	12.0
Moisture Variation from OMC	(Wetter than OMC)
Moisture Ratio (%)	101.0
Density Test Results:	
Field Wet Density (t/m³)	2.01
Adj/Peak Conv Wet Density (t/m³)	2.00
Density Ratio Required (%)	95
Hilf Density Ratio (%)	100.5

Remarks

NATA

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Accreditation Number: 1986 Corporate Site Number: 1979





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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59679-1

Project Number: 1979/P/2055

Lot Number: 10/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 12/07/2021 Page 1 of 5

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

Sample Number	1979/S/161316	1979/S/161317	1979/S/161318	1979/S/161319
ID / Client ID	EW29	EW30	EW31	EW32
Lot Number	10/06/2021	10/06/2021	10/06/2021	10/06/2021
Date / Time Tested	10/06/2021 08:18	10/06/2021 08:20	10/06/2021 08:31	10/06/2021 08:40
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 153	Lot 154	Lot 155	Lot 142
	3m Off North Boundary	3m Off North Boundary	5m Off North Boundary	2m Off North Boundary
	6m Off East Boundary	4m Off East Boundary	6m Off East Boundary	7m Off East Boundary
Level	RL: 59.1	RL: 59.0	RL: 59.1	RL: 60.9
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/161316	1979/S/161317	1979/S/161318	1979/S/161319
Sample Description	Silty Sandy Clay Brown			
Moisture Test Results:				
Field Moisture Content (%)	8.1	9.8	9.8	9.0
Adjusted / Moisture Variation (%)	2.5	1.5	1.5	2.5
Optimum Moisture Content (%)	10.5	11.0	11.5	11.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	78.5	87.5	86.5	80.5
Density Test Results:				
Field Wet Density (t/m³)	2.02	2.02	2.03	2.00
Adj/Peak Conv Wet Density (t/m³)	2.03	2.03	2.05	2.03
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	100.0	99.5	99.0	98.5

Remarks

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Accreditation Number: 1986 Corporate Site Number: 1979 w. &



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59679-1

Project Number: 1979/P/2055

Lot Number: 10/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 12/07/2021 Page 2 of 5

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

Commis Nemala n	1979/S/161320	1979/S/161321	4070/0/404202	4070/0/464393
Sample Number			1979/S/161322	1979/S/161323
ID / Client ID	EW33	EW34	EW35	EW36
Lot Number	10/06/2021	10/06/2021	10/06/2021	10/06/2021
Date / Time Tested	10/06/2021 08:44	10/06/2021 08:53	10/06/2021 09:04	10/06/2021 09:11
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 144	Lot 143	Lot 111	Lot 110
	2m Off North Boundary	2m Off North Boundary	2m Off North Boundary	3m Off North Boundary
	2m Off West Boundary	7m Off West Boundary	3m Off West Boundary	4m Off West Boundary
Level	RL: 61.4	RL: 61.2	RL: 60.8	RL: 61.0
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/161320	1979/S/161321	1979/S/161322	1979/S/161323
Sample Description	Silty Sandy Clay Brown			
Moisture Test Results:				
Field Moisture Content (%)	10.5	10.1	9.7	9.2
Adjusted / Moisture Variation (%)	0.0	1.0	1.5	2.0
Optimum Moisture Content (%)	10.5	11.0	11.5	11.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	99.0	92.0	86.0	83.0
Density Test Results:				
Field Wet Density (t/m³)	2.00	2.01	1.91	1.90
Adj/Peak Conv Wet Density (t/m³)	2.03	2.06	2.00	2.00
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	98.5	97.5	95.5	95.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6

Approved Signatory: Wayne Gorman

Form ID: W5ASRep Rev 2



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59679-1

Project Number: 1979/P/2055

Lot Number: 10/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 12/07/2021 Page 3 of 5

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

Sample Number	1979/S/161324	1979/S/161325	1979/S/161326	1979/S/161327
ID / Client ID	EW37	EW38	EW39	EW40
Lot Number	10/06/2021	10/06/2021	10/06/2021	10/06/2021
Date / Time Tested	10/06/2021 09:29	10/06/2021 09:34	10/06/2021 09:39	10/06/2021 09:44
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 112	Lot 109	Lot 133	Lot 132
	3m Off North Boundary	2m Off North Boundary	4m Off North Boundary	2m Off North Boundary
	6m Off West Boundary	4m Off East Boundary	3m Off West Boundary	2m Off West Boundary
Level	RL: 60.9	RL: 61.2	RL: 64.8	RL: 64.9
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/161324	1979/S/161325	1979/S/161326	1979/S/161327
Sample Description	Silty Sandy Clay Brown			
Moisture Test Results:				
Field Moisture Content (%)	9.3	7.6	8.3	9.2
Adjusted / Moisture Variation (%)	-1.0	2.0	0.0	0.0
Optimum Moisture Content (%)	8.5	9.5	8.5	9.5
Moisture Variation from OMC	(Wetter than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	109.5	81.0	99.0	98.0
Density Test Results:				
Field Wet Density (t/m³)	1.90	1.91	1.91	1.91
Adj/Peak Conv Wet Density (t/m³)	2.00	2.00	2.00	2.00
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	95.0	95.5	96.0	95.5

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59679-1

Project Number: 1979/P/2055

Lot Number: 10/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 12/07/2021 Page 4 of 5

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

Sample Number	1979/S/161328	1979/S/161329	1979/S/161330	1979/S/161331
ID / Client ID	EW41	EW42	EW43	EW44
Lot Number	10/06/2021	10/06/2021	10/06/2021	10/06/2021
Date / Time Tested	10/06/2021 09:53	10/06/2021 09:55	10/06/2021 10:02	10/06/2021 10:14
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Location	476989	477006	477024	Lot 159
	6940168	6940139	6940112	4m Off North Boundary
	RL: 49.74	RL: 50.04	RL: 49.92	3m Off East Boundary
Level	Daleys Road Swale Drain Area	Daleys Road Swale Drain Area	Daleys Road Swale Drain Area	RL: 57.2
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/161328	1979/S/161329	1979/S/161330	1979/S/161331
Sample Description	Silty Sandy Clay Brown	Silty Sandy Clay Brown	Silty Sandy Clay Brown	Silty Sandy Clay Brown
Moisture Test Results:				
Field Moisture Content (%)	9.4	8.7	9.3	9.4
Adjusted / Moisture Variation (%)	-0.5	0.0	2.5	2.0
Optimum Moisture Content (%)	9.0	9.0	11.5	11.5
Moisture Variation from OMC	(Wetter than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	103.5	99.0	81.0	82.5
Density Test Results:				
Field Wet Density (t/m³)	1.83	1.89	1.89	1.97
Adj/Peak Conv Wet Density (t/m³)	1.92	1.99	1.99	2.00
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	95.5	95.5	95.0	98.5

Remarks

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Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59679-1

Project Number: 1979/P/2055

Lot Number: 10/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 12/07/2021 Page 5 of 5

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

Sample Number	1979/S/161332	1979/S/161333	T
ID / Client ID	EW45	EW46	
Lot Number	10/06/2021	10/06/2021	
Date / Time Tested	10/06/2021 10:19	10/06/2021 10:24	
Material Source	On-Site	On-Site	
Material Type	Bulk Fill	Bulk Fill	
Sampling Method	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	1
Location	Lot 160	Lot 145	
	6m Off North Boundary	2m Off North Boundary	
	4m Off East Boundary	2m Off West Boundary	
Level	RL: 56.0	RL: 61.9	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	0	0	
Compaction Sample Number	1979/S/161332	1979/S/161333	
Sample Description	Silty Sandy Clay Brown	Silty Sandy Clay Brown	
Moisture Test Results:			
Field Moisture Content (%)	9.0	8.2	
Adjusted / Moisture Variation (%)	2.0	1.5	
Optimum Moisture Content (%)	11.0	9.5	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	82.0	86.5	
Density Test Results:			
Field Wet Density (t/m³)	1.97	1.97	
Adj/Peak Conv Wet Density (t/m³)	2.04	2.05	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	96.5	96.0	

Remarks

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Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



ABN: 74 128 806 735

Addroom

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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/60111-1

Project Number: 1979/P/2055

Lot Number: 14/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks,WR 6526

Report Date / Page: 27/07/2021 Page 1 of 1

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

L				
Sample Number	1979/S/161581	1979/S/161582	1979/S/161583	1979/S/161584
ID / Client ID	EW47	EW48	EW49	EW50
Lot Number	14/06/2021	14/06/2021	14/06/2021	14/06/2021
Date / Time Tested	14/06/2021 11:04	14/06/2021 11:14	14/06/2021 11:29	14/06/2021 11:36
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / -	175 / 200 / -	175 / 200 / -	175 / 200 / -
Standard or Modified	Standard	Standard	Standard	Standard
Easting: m	477030	477034	477032	477022
Northing m	6939991	6940034	6940008	6940051
RL: m	RL: 50.6	RL: 50.7	RL: 50.4	RL: 50.5
Allotment:	Daleys Road Swale Drain Area			
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/161581	1979/S/161582	1979/S/161583	1979/S/161584
Sample Description	Clay, Sand - Brown	Clay, Sand - Brown	Clay, Sand - Brown	Sand, Clay - Light Brown
Moisture Test Results:				
Field Moisture Content (%)	13.2	14.1	11.3	12.4
Adjusted / Moisture Variation (%)	-0.5	1.5	0.0	1.5
Optimum Moisture Content (%)	12.5	16.0	11.0	14.0
Moisture Variation from OMC	(Wetter than OMC)	(Drier than OMC)	(Wetter than OMC)	(Drier than OMC)
Moisture Ratio (%)	105.0	89.0	102.0	88.5
Density Test Results:				
Field Wet Density (t/m³)	2.00	1.99	2.00	1.99
Adj/Peak Conv Wet Density (t/m³)	2.05	2.00	2.04	2.03
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	97.5	99.5	98.0	98.0

Remarks

NATA

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Accreditation Number: 1986 Corporate Site Number: 1979 w.6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/60112-1

Project Number: 1979/P/2055

Lot Number: 18/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 27/07/2021 Page 1 of 2

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

Sample Number	1979/S/162023	1979/S/162024	1979/S/162025	1979/S/162026
ID / Client ID	EW51	EW52	EW53	EW54
Lot Number	18/06/2021	18/06/2021	18/06/2021	18/06/2021
Date / Time Tested	18/06/2021 12:50	18/06/2021 12:55	18/06/2021 13:04	18/06/2021 13:11
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 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / -	175 / 200 / -	175 / 200 / -	175 / 200 / -
Standard or Modified	Standard	Standard	Standard	Standard
Location	Lot 156	Lot 157	Lot 158	Lot 158
	3m Off North Boundary	4m Off North Boundary	3m Off North Boundary	8m Off North Boundary
	3m Off West Boundary	3m Off West Boundary	3m Off West Boundary	4m Off West Boundary
Level	RL: 58.8	RL: 58.0	F.S.L	F.S.L
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/162023	1979/S/162024	1979/S/162025	1979/S/162026
Sample Description	Sand, Clay - Brown			
Moisture Test Results:				
Field Moisture Content (%)	12.3	13.2	11.7	12.4
Adjusted / Moisture Variation (%)	0.0	1.5	2.0	-0.5
Optimum Moisture Content (%)	12.0	15.0	13.5	12.0
Moisture Variation from OMC	(Wetter than OMC)	(Drier than OMC)	(Drier than OMC)	(Wetter than OMC)
Moisture Ratio (%)	101.0	88.5	86.5	103.5
Density Test Results:				
Field Wet Density (t/m³)	2.00	1.99	2.00	2.00
Adj/Peak Conv Wet Density (t/m³)	2.10	2.02	2.04	2.06
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	95.5	98.5	98.0	97.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/60112-1

Project Number: 1979/P/2055

Lot Number: 18/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks,WR 6526

Report Date / Page: 27/07/2021 Page 2 of 2

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

Sample Number	1979/S/162027	1979/S/162028	
ID / Client ID	EW55	EW56	
Lot Number	18/06/2021	18/06/2021	
Date / Time Tested	18/06/2021 13:19	18/06/2021 13:24	
Material Source	On-Site	On-Site	
Material Type	Bulk Fill	Bulk Fill	
Sampling Method	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / -	175 / 200 / -	
Standard or Modified	Standard	Standard	
Location	Lot 159	Lot 153	
	2m Off South Boundary	10m Off North Boundary	
	3m Off East Boundary	4m Off East Boundary	
Level	F.S.L	F.S.L	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	0	0	
Compaction Sample Number	1979/S/162027	1979/S/162028	
Sample Description	Sand, Clay - Brown	Sand, Clay - Brown	
Moisture Test Results:			
Field Moisture Content (%)	10.5	10.6	
Adjusted / Moisture Variation (%)	-0.5	2.0	
Optimum Moisture Content (%)	10.0	12.5	
Moisture Variation from OMC	(Wetter than OMC)	(Drier than OMC)	
Moisture Ratio (%)	104.0	85.0	
Density Test Results:			
Field Wet Density (t/m³)	2.00	2.02	
Adj/Peak Conv Wet Density (t/m³)	2.08	2.03	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	96.0	99.0	

Remarks

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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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/60113-1

Project Number: 1979/P/2055

Lot Number: 22/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 27/07/2021 Page 1 of 2

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

Sample Number	1979/S/162152	1979/S/162153	1979/S/162154	1979/S/162155
ID / Client ID	EW57	EW58	EW59	EW60
Lot Number	22/06/2021	22/06/2021	22/06/2021	22/06/2021
Date / Time Tested	22/06/2021 13:04	22/06/2021 13:04	22/06/2021 13:04	22/06/2021 13:04
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)	175 / 200 / -	175 / 200 / -	175 / 200 / -	175 / 200 / -
Standard or Modified	Standard	Standard	Standard	Standard
Easting: m	477009	477016	477012	477005
Northing m	6940049	6940047	6940060	6940094
RL: m	F.S.L	F.S.L	F.S.L	F.S.L
Allotment:	Daleys Road Swale Drain Area			
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/162152	1979/S/162153	1979/S/162154	1979/S/162155
Sample Description	Sand, Clay - Brown			
Moisture Test Results:				
Field Moisture Content (%)	12.0	11.9	12.1	10.2
Adjusted / Moisture Variation (%)	0.0	-0.5	1.5	-0.5
Optimum Moisture Content (%)	12.0	11.5	14.0	10.0
Moisture Variation from OMC	(Wetter than OMC)	(Wetter than OMC)	(Drier than OMC)	(Wetter than OMC)
Moisture Ratio (%)	101.0	105.5	87.5	104.0
Density Test Results:				
Field Wet Density (t/m³)	2.15	2.17	2.16	2.15
Adj/Peak Conv Wet Density (t/m³)	2.15	2.14	2.13	2.15
Density Ratio Required (%)	100	100	100	100
Hilf Density Ratio (%)	100.0	101.5	101.5	100.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/60113-1

Project Number: 1979/P/2055

Lot Number: 22/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks,WR 6526

Report Date / Page: 27/07/2021 Page 2 of 2

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

Sample Number		1979/S/162156	1979/S/162157
ID / Client ID		EW61	EW62
Lot Number		22/06/2021	22/06/2021
Date / Time Tested		22/06/2021 13:04	22/06/2021 13:04
Material Source		On-Site	On-Site
Material Type		Bulk Fill	Bulk Fill
Sampling Method		AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual	(mm)	175 / 200 / -	175 / 200 / -
Standard or Modified		Standard	Standard
Easting:	m	477002	476984
Northing	m	6940122	6940154
RL:	m	F.S.L	F.S.L
Allotment:		Daleys Road Swale Drain Area	Daleys Road Swale Drain Area
Test Fraction (mm)		< 19.0 mm	< 19.0 mm
Sample Oversize (%)		0	0
Compaction Sample Numbe	r	1979/S/162156	1979/S/162157
Sample Description		Sand, Clay - Brown	Sand, Clay - Brown
Moisture Test Results:			
Field Moisture Content (%)		13.8	13.4
Adjusted / Moisture Variation	n (%)	2.0	0.0
Optimum Moisture Content ((%)	15.5	13.5
Moisture Variation from OM	С	(Drier than OMC)	(at OMC)
Moisture Ratio (%)		88.5	100.0
Density Test Results:			
Field Wet Density (t/m³)		2.18	2.19
Adj/Peak Conv Wet Density	(t/m³)	2.15	2.18
Density Ratio Required (%)		100	100
Hilf Density Ratio (%)		101.0	100.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59903-1

Project Number: 1979/P/2055

Lot Number: 30/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 20/07/2021 Page 1 of 2

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

O - marel - Normala - m	4070/0/40000	4070/0/40000	4070/0/40000	4070/0/400024
Sample Number	1979/S/162828	1979/S/162829	1979/S/162830	1979/S/162831
ID / Client ID	EW63	EW64	EW65	EW66
Lot Number	30/06/2021	30/06/2021	30/06/2021	30/06/2021
Date / Time Tested	30/06/2021 10:40	30/06/2021 10:50	30/06/2021 11:00	30/06/2021 11:10
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200
Standard or Modified	Standard	Standard	Standard	Standard
Easting: m	476912	476900	476925	476934
Northing m	6940222	6940232	6940216	6940207
RL: m	0.4m Below F.S.L	0.4m Below F.S.L	0.4m Below F.S.L	0.4m Below F.S.L
Allotment:	Bio Detention Basin	Bio Detention Basin	Bio Detention Basin	Bio Detention Basin
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/162828	1979/S/162829	1979/S/162830	1979/S/162831
Sample Description	Sandy Silty Clay Brown			
Moisture Test Results:				
Field Moisture Content (%)	10.5	11.3	10.4	11.8
Adjusted / Moisture Variation (%)	2.5	2.5	2.0	1.5
Optimum Moisture Content (%)	13.0	13.5	12.0	13.5
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	81.5	82.5	85.0	87.5
Density Test Results:				
Field Wet Density (t/m³)	2.04	2.06	2.02	2.02
Adj/Peak Conv Wet Density (t/m³)	2.08	2.08	2.04	2.07
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	98.0	99.0	99.0	97.5

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Earthworks Stage 1 & Daleys Road

Report Number: 1979/R/59903-1

Project Number: 1979/P/2055

Lot Number: 30/06/2021

Internal Test Request: 1979/T/31529

Client Reference/s: Bulk Earthworks, WR 6526

Report Date / Page: 20/07/2021 Page 2 of 2

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

Sample Number	1979/S/162832
ID / Client ID	EW67
Lot Number	30/06/2021
Date / Time Tested	30/06/2021 11:20
Material Source	On-Site
Material Type	Bulk Fill
Sampling Method	AS1289.1.2.1 CI 6.4b
Depths: Test / Nom / Actual (mm)	175 / 200 / 200
Standard or Modified	Standard
Easting: m	476947
Northing m	6940192
RL: m	0.4m Below F.S.L
Allotment:	Bio Detention Basin
Test Fraction (mm)	< 19.0 mm
Sample Oversize (%)	0
Compaction Sample Number	1979/S/162832
Sample Description	Sandy Silty Clay Brown
Moisture Test Results:	
Field Moisture Content (%)	11.4
Adjusted / Moisture Variation (%)	2.5
Optimum Moisture Content (%)	13.5
Moisture Variation from OMC	(Drier than OMC)
Moisture Ratio (%)	83.0
Density Test Results:	
Field Wet Density (t/m³)	2.05
Adj/Peak Conv Wet Density (t/m³)	2.06
Density Ratio Required (%)	95
Hilf Density Ratio (%)	99.0

Remarks



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Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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Phone: 07 3320 8525 **Fax:** 07 3320 8599

Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Bulk Fill

Area Description: Bio Basin

Report Number: 1979/R/60184-1

Project Number: 1979/P/2055

Lot Number: Bio Detention Basin

Internal Test Request: 1979/T/32107

Client Reference/s: WR 6677

Report Date / Page: 29/07/2021 Page 1 of 1

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

Sample Number	1979/S/162918	1979/S/162919	1979/S/162920	1979/S/162921
ID / Client ID	EW68	EW69	EW70	EW71
Lot Number	Bio Detention Basin	Bio Detention Basin	Bio Detention Basin	Bio Detention Basin
Date / Time Tested	1/07/2021 12:05	1/07/2021 12:05	1/07/2021 12:05	1/07/2021 12:05
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 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	300 / 300 / 300	300 / 300 / 300	300 / 300 / 300	300 / 300 / 300
Standard or Modified				
Easting m	5712.566	5715.344	5728.514	5676.608
Northing m	13553.707	13539.366	13551.057	13585.940
RL m	RL: 48.448	RL: 48.439	RL: 49.628	RL: 48.935
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/162918	1979/S/162919	1979/S/162920	1979/S/162921
Sample Description	Sandy Clay	brown clay sand	Brown sand clay	Brown clay sand
Moisture Test Results:				
Field Moisture Content (%)	11.4	12.1	9.8	12.2
Adjusted / Moisture Variation (%)	2.0	2.5	2.0	0.0
Optimum Moisture Content (%)	13.5	14.5	12.0	12.5
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	85.0	84.5	81.5	99.0
Density Test Results:				
Field Wet Density (t/m³)	2.01	1.99	2.01	2.12
Adj/Peak Conv Wet Density (t/m³)	2.07	2.02	2.05	2.15
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	97.5	98.5	98.0	98.0

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. &



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Phone: 07 3320 8525 **Fax:** 07 3320 8599

Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Fill Cont.

Report Number: 1979/R/59908-1

Project Number: 1979/P/2055

Lot Number:

Internal Test Request: 1979/T/32216

Client Reference/s:

Report Date / Page: 20/07/2021 Page 1 of 1

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

Sample Number	1979/S/163411	1979/S/163412	1979/S/163413	1979/S/163414
ID / Client ID	EW72	EW73	EW74	EW75
Lot Number	-			-
Date / Time Tested	12/07/2021 10:50	12/07/2021 11:00	12/07/2021 11:10	12/07/2021 11:20
Material Source	Existing Material	Existing Material	Existing Material	Existing Material
Material Type	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Sampling Method	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 CI 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b
Depths: Test / Nom / Actual (mm)	300 / 300 / 300	300 / 300 / 300	300 / 300 / 300	300 / 300 / 300
Standard or Modified	Standard	Standard	Standard	Standard
Location	Allotment 128	Allotment 127	Allotment 126	Allotment 125
	Offset Nth/East Corner	Offset Nth/East Corner	Offset Nth/East Corner	Offset Nth/East Corner
	4m Sth, 8m West	3m Sth, 9m West	5m Sth, 6m West	6m Sth, 8m West
Level	Finished Level	Finished Level	Finished Level	Finished Level
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/163411	1979/S/163412	1979/S/163413	1979/S/163414
Sample Description	brown sandy clay	brown sandy clay	brown sandy clay	brown sandy clay
Moisture Test Results:				
Field Moisture Content (%)	11.6	12.5	11.3	9.7
Adjusted / Moisture Variation (%)	2.0	1.5	2.5	2.0
Optimum Moisture Content (%)	13.5	14.0	13.5	12.0
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)
Moisture Ratio (%)	85.5	89.5	83.0	82.0
Density Test Results:				
Field Wet Density (t/m³)	2.06	2.08	2.10	2.09
Adj/Peak Conv Wet Density (t/m³)	2.14	2.15	2.16	2.15
Density Ratio Required (%)	95	95	95	95
Hilf Density Ratio (%)	96.5	97.0	97.0	97.5

Remarks

NATA

Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6



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Phone: 07 3320 8525 Fax: 07 3320 8599

Email: Brisbane@constructionsciences.net

WET DENSITY RATIO REPORT

Client: CCA Winslow

Client Address: 1587 Ipswich Road, Rocklea

Project: Aurora Stage 1

Location: Daleys Road, Ripley

Component: Compaction Testing

Area Description: Bulk Fill Cont.

Report Number: 1979/R/59905-1

Project Number: 1979/P/2055

Lot Number:

Internal Test Request: 1979/T/32218

Client Reference/s:

Report Date / Page: 20/07/2021 Page 1 of 1

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

1979/S/163419 Sample Number 1979/S/163420 ID / Client ID EW76 EW77 Lot Number Date / Time Tested 12/07/2021 12:55 12/07/2021 12:55 Material Source **Existing Material Existing Material** Material Type Bulk Fill Bulk Fill Sampling Method AS1289.1.2.1 CI 6.4b AS1289.1.2.1 CI 6.4b Depths: Test / Nom / Actual (mm) 300 / 300 / 300 300 / 300 / 300 Standard or Modified Standard Standard Easting: m 5629.546 5645.769 Northing 13596.435 13587.271 m RL: 49.285 49.296 m Allotment: Bio Detention Basin Bio Detention Basin Test Fraction (mm) < 19.0 mm < 19.0 mm 0 0 Sample Oversize (%) Compaction Sample Number 1979/S/163419 1979/S/163420 Sample Description brown sandy clay brown sandy clay Moisture Test Results: Field Moisture Content (%) 9.9 7.3 Adjusted / Moisture Variation (%) 1.5 2.0 Optimum Moisture Content (%) 11.5 9.5 Moisture Variation from OMC (Drier than OMC) (Drier than OMC) Moisture Ratio (%) 77.5 86.0 Density Test Results: Field Wet Density (t/m³) 2.15 2.15 Adj/Peak Conv Wet Density (t/m3) 2.18 2.16 Density Ratio Required (%) 95 95

99.5

Remarks

NATA

Hilf Density Ratio (%)

Accredited for compliance with ISO/IEC 17025 - Testing

99.0

Accreditation Number: 1986 Corporate Site Number: 1979 w. 6







	CLIENT:	CCA Winslow	JOB No.:	P 2055
n	PROJECT:	Aurora Stage 1	SKETCH No.:	SK 5
	TEST ITEM:	SITE PHOTOS	DATE ISSUED:	28/09/2020

APPENDIX

B

LOT CERTIFICATES







28/09/2021

Project Ref: 1979/P/2055

Construction Sciences Pty Ltd ABN 74 128 806 735

1 Fox Road

Acacia Ridge QLD 4110

Australia

PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 101, AURORA STAGE 1, RIPLEY

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 gueries.

Yours faithfully



Project Ref: 1979/P/2055

Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021

1 Fox Road

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road **ROCKLEA QLD 4106** PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 102, AURORA STAGE 1, RIPLEY**

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".

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

Yours faithfully

Wayne Gorman Lab Manager

For Brisbane South Construction Sciences



Project Ref: 1979/P/2055 Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021 1 Fox Road Acacia Ridg

Acacia Ridge QLD 4110

Australia

CCA Winslow PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 103, AURORA STAGE 1, RIPLEY

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".

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Yours faithfully

Wayne Gorman Lab Manager For Brisbane South



Project Ref: 1979/P/2055 Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021

1 Fox Road Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 104, AURORA STAGE 1, RIPLEY

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".

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

Yours faithfully

Wayne Gorman Lab Manager For Brisbane South



Project Ref: 1979/P/2055 Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021 1 Fox Road Acacia Ridg

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 105, AURORA STAGE 1, RIPLEY

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".

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Yours faithfully

Wayne Gorman Lab Manager For Brisbane South



Project Ref: 1979/P/2055

Construction Sciences Pty Ltd ABN 74 128 806 735

28/09/2021

1 Fox Road

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 106, AURORA STAGE 1, RIPLEY

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".

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

Yours faithfully

Wayne Gorman Lab Manager For Brisbane South



Project Ref: 1979/P/2055

Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021

1 Fox Road

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road **ROCKLEA QLD 4106** PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 107, AURORA STAGE 1, RIPLEY**

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".

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

Yours faithfully

Wayne Gorman Lab Manager

For Brisbane South **Construction Sciences**

QLD • Brisbane South (Acacia Ridge) • Brisbane North (Geebung) • Beenleigh • Petrie • Cairns • Townsville • Whitsunday • Mackay • Moranbah • Emerald Rockhampton • Gladstone • Sunshine Coast • Gold Coast NSW • Sydney (Glendenning and Alexandria) • Newcastle • Coffs Harbour • Taree • Ballina • Illawarra (Albion Park) Victoria • Bendigo • Melbourne (Brooklyn, Sunshine, Oaklands Junction, Highett) • Echuca WA • Perth (Gosnells) • Bunbury • Newman • Port Hedland NT • Darwin (Berrimah) ACT • Fyshwick SA • Adelaide (Hindmarsh)



Project Ref: 1979/P/2055

Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021

1 Fox Road

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 108, AURORA STAGE 1, RIPLEY

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".

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

Yours faithfully

Wayne Gorman Lab Manager

For Brisbane South Construction Sciences



Project Ref: 1979/P/2055 Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021

1 Fox Road Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 109, AURORA STAGE 1, RIPLEY

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".

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

Yours faithfully

Wayne Gorman Lab Manager For Brisbane South



Project Ref: 1979/P/2055

Construction Sciences Pty Ltd ABN 74 128 806 735

28/09/2021

1 Fox Road

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 110, AURORA STAGE 1, RIPLEY

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".

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

Yours faithfully



28/09/2021

Project Ref: 1979/P/2055

Construction Sciences Pty Ltd ABN 74 128 806 735

1 Fox Road

Acacia Ridge QLD 4110

Australia

PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

CCA Winslow 1587 Ipswich Road

ROCKLEA QLD 4106

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 111, AURORA STAGE 1, RIPLEY

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".

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Yours faithfully

Wayne Gorman Lab Manager For Brisbane South Construction Sciences

QLD • Brisbane South (Acacia Ridge) • Brisbane North (Geebung) • Beenleigh • Petrie • Cairns • Townsville • Whitsunday • Mackay • Moranbah • Emerald Rockhampton • Gladstone • Sunshine Coast • Gold Coast NSW • Sydney (Glendenning and Alexandria) • Newcastle • Coffs Harbour • Taree • Ballina • Illawarra (Albion Park) Victoria • Bendigo • Melbourne (Brooklyn, Sunshine, Oaklands Junction, Highett) • Echuca WA • Perth (Gosnells) • Bunbury • Newman • Port Hedland NT • Darwin (Berrimah) ACT • Fyshwick SA • Adelaide (Hindmarsh)



Project Ref: 1979/P/2055 Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021 1 Fox Road Acacia Ridg

Acacia Ridge QLD 4110

Australia

CCA Winslow PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 112, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 113, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 114, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 115, AURORA STAGE 1, RIPLEY

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".

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Australia

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 116, AURORA STAGE 1, RIPLEY

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".

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Australia

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 117, AURORA STAGE 1, RIPLEY

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".

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28/09/2021

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 118, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 119, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 120, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 121, AURORA STAGE 1, RIPLEY

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".

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Australia

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 122, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 123, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 124, AURORA STAGE 1, RIPLEY

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For Brisbane South Construction Sciences



28/09/2021

CCA Winslow

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 125, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 126, AURORA STAGE 1, RIPLEY**

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 127, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 128, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 129, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 130, AURORA STAGE 1, RIPLEY**

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 131, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 132, AURORA STAGE 1, RIPLEY**

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 133, AURORA STAGE 1, RIPLEY

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".

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Yours faithfully

Wayne Gorman Lab Manager For Brisbane South



Project Ref: 1979/P/2055 Construction Sciences Pty Ltd

ABN 74 128 806 735

28/09/2021

1 Fox Road

Acacia Ridge QLD 4110

Australia

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106 PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 134, AURORA STAGE 1, RIPLEY

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".

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INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 135, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 136, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 137, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 138, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 139, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 140, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 141, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

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INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 142, AURORA STAGE 1, RIPLEY**

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL **LOT 143, AURORA STAGE 1, RIPLEY**

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Dear Sir/Madam,

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INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 144, AURORA STAGE 1, RIPLEY

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".

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 145, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

1587 Ipswich Road

ROCKLEA QLD 4106

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 146, AURORA STAGE 1, RIPLEY

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CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106

Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 147, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

1587 Ipswich Road

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INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 148, AURORA STAGE 1, RIPLEY

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INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 150, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 151, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 152, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 153, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 154, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 155, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 156, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 157, AURORA STAGE 1, RIPLEY

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Dear Sir/Madam,

INSPECTION OF PLACEMENT AND COMPACTION OF ALLOTMENT FILL LOT 158, AURORA STAGE 1, RIPLEY

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 gueries.

Yours faithfully

Wayne Gorman Lab Manager

For Brisbane South



Project Ref: 1979/P/2055

Construction Sciences Pty Ltd ABN 74 128 806 735

1 Fox Road

Acacia Ridge QLD 4110

Australia

PO Box 253

Acacia Ridge QLD 4110

Australia

Phone: 61 7 3320 8500

www.constructionsciences.net

28/09/2021

CCA Winslow 1587 Ipswich Road ROCKLEA QLD 4106

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Wayne Gorman Lab Manager For Brisbane South

Contact

1 Fox Road Acacia Ridge, QLD 4110

Telephone: (07) 3320 8500 Facsimile: (07) 3320 8599

brisbane@constructionsciences.net www.constructionsciences.net