



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509

Ph (07) 3491 6499 Fax (07) 3491 6299

Email: admin@ryangeotech.com.au

Loganholme

9/8 Riverland Drive Loganholme QLD 4129.

Ph (07) 3209 8152 Fax (07) 3209 8153

Email: s.hunter@ryangeotech.com.au

www.ryangeotech.com.au



Level One Report

Naric Civil

Riverbank Estate - Stage 19A,

Lot 1008 Market Drive,
Caboolture South

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au



Contents

1	Scope	3
2	Foundation Preparation	4
2.1	Stripping of Area	4
2.2	Removal of Unsuitable Materials	4
3	Controlled Filling	4
4	Compaction Control Operations.....	4
5	Conclusion	5
6	Limitations	6
	Appendix A	7
	Site Plan.....	7
	Appendix B	9
	Testing Summary	9
	Appendix C	15
	Individual Lot Certificates.....	16



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

April 2020

Naric Civil Pty Ltd
P.O. Box 150
Redbank Qld 4301

Re: Riverbank Estate Stage 19A – Lot 1008 Market Drive, Caboolture South. Geotechnical Testing & Certification.

1 Scope

Ryan & Associates Geotechnical was commissioned by Naric Civil Pty Ltd to provide geotechnical inspections, testing and certification of the filling earthworks at the above-mentioned project.

The project was assumed to be a Residential development as per “AS3798 – 2007 Guidelines on Earthworks for Commercial and Residential Developments to Level one requirement as outlined in Section 8”.

The development comprises of a proposed 20 lot subdivision being constructed on previously developed land, controlled filling works to Lots 912 – 915, 919 - 922 & 966 - 974 have been included within this report. Refer to Appendix A “Site Plans” drawing number 17-002277.3 - 200.

Ryan & Associates Geotechnical maintained a site presence during the works in accordance with AS3798 – 2007 Level 1. Appendix B – Testing Summary, of this report, contains the testing summary of all testing undertaken with achieved compaction densities.

Site inspections and compaction control testing was carried out as work progressed, with records compiled on all aspects of the earthworks.

This level one report does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au



2 Foundation Preparation

2.1 Stripping of Area

Existing topsoil materials were stripped prior to proof rolling and the commencement of filling operations.

Inspections prior to the placement of fill revealed in-situ materials consisting of Clay fill materials.

A proof roll was carried out on the fill areas prior to the commencement of placement of fill.

2.2 Removal of Unsuitable Materials

Apart from top soil materials no unsuitable was required to be removed within proposed fill areas prior to proof rolling and placement of fill.

3 Controlled Filling

Fill used consisted of cut & imported materials. Fills were placed using an Excavator in layers not exceeding 0.2m. The fill zones were compacted using a Pad Foot Vibrating Roller.

4 Compaction Control Operations

Compliance testing of fill operations was performed by Ryan & Associates Geotechnical between the Months of February 2020 to April 2020.

The test results show, where applicable, a Dry Density Ratio of 95% standard or greater was consistently achieved for testing performed on fill materials.

Testing results are shown in the Testing Summary; refer to Appendix B – Testing Summary of this report.

Individual Lot Certificates for the controlled filling works to Lots 912 – 915, 919 - 922 & 966 - 974 have been included within this report, refer to Appendix C

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au



5 Conclusion

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in accordance with good engineering practice and can be considered controlled fill. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”, Clause 8.2.

RYAN & ASSOCIATES

Geotechnical Pty Ltd.

Stephen Roberts
Laboratory Manager

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au



6 Limitations

This level one certification report verifies that all supervised fill placed meets the minimum requirements of 95% standard compaction where applicable. As far as could be determined the earthworks at the time of completion have been carried out to meet the requirements of the drawing and specification.

This level one report makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one report only covers earthworks filling as detailed in the earth works drawings.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches, retaining walls bridging layers, top soil or any pavements

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 **Fax** (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 **Fax** (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

Appendix A

Site Plan



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 **Fax** (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 **Fax** (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au





ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 **Fax** (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 **Fax** (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

Appendix B

Testing Summary



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 **Fax** (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 **Fax** (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

Appendix C

Individual Lot Certificates

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 912**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509

Ph (07) 3491 6499 Fax (07) 3491 6299

Email: admin@ryangeotech.com.au

Loganholme

9/8 Riverland Drive Loganholme QLD 4129.

Ph (07) 3209 8152 Fax (07) 3209 8153

Email: s.hunter@ryangeotech.com.au

www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 913**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 914**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 915**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 919**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 920**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 921**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts
for and on behalf of
RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020
JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 922**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 966**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509

Ph (07) 3491 6499 Fax (07) 3491 6299

Email: admin@ryangeotech.com.au

Loganholme

9/8 Riverland Drive Loganholme QLD 4129.

Ph (07) 3209 8152 Fax (07) 3209 8153

Email: s.hunter@ryangeotech.com.au

www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 967**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509

Ph (07) 3491 6499 Fax (07) 3491 6299

Email: admin@ryangeotech.com.au

Loganholme

9/8 Riverland Drive Loganholme QLD 4129.

Ph (07) 3209 8152 Fax (07) 3209 8153

Email: s.hunter@ryangeotech.com.au

www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 968**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 969**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts
for and on behalf of
RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 970**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 971**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts
for and on behalf of
RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020
JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 972**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 973**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts
for and on behalf of
RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020
JOB NUMBER: R20-002



ABN 16 607 643 229

RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

Head Office North Lakes
4/20 Burke Crescent North Lakes QLD 4509
Ph (07) 3491 6499 Fax (07) 3491 6299
Email: admin@ryangeotech.com.au

Loganholme
9/8 Riverland Drive Loganholme QLD 4129.
Ph (07) 3209 8152 Fax (07) 3209 8153
Email: s.hunter@ryangeotech.com.au
www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE

(As per AS3798-2007 - Level 1)

**Riverbank Estate Stage 19A – Lot 1008 Market Drive,
Caboolture South
Lot 974**

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Development”.

This level one certificate verifies that supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.3 - 200.

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

Stephen Roberts

for and on behalf of

RYAN & ASSOCIATES GEOTECHNICAL

Enc. Drawing showing lateral extent of controlled filling

April 2020

JOB NUMBER: R20-002