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## LEVEL 2 CERTIFICATION

**14 Lots at Bottlebrush Court, and Golden Penda Drive,  
Pie Creek  
Lots 124-126 and 128-137 on SP329998**

### CONTENTS

CERTIFICATION LETTER.....	1
LIMITATIONS.....	2
TEST RESULTS.....	3-16
TEST LOCATIONS PLANS 1803-GS6 SHEETS R2 & R3 INCLUSIVE REVISION 2.....	17-18

24th April 2023

File No 1803

To: Roberts Bros. Pty Ltd  
(by email)

**LEVEL 2 CERTIFICATION**

**14 Lots at Bottlebrush Court, and Golden Penda Drive,  
Pie Creek  
Lots 124-126 and 128-137 on SP329998**

This letter provides Level 2 certification to AS3798-2007 'Guidelines on earthworks for commercial and residential developments' and includes the results of testing conducted during filling earthworks on proposed lots 124, 125, 126, 128, 129, 130, 131, 132, 133, 134, 135, 136 and 137 on SP329998.

Roberts Brothers Pty Ltd personnel and sub-contractors undertook the cut to fill and compaction using existing site material to create house sites.

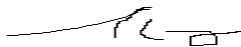
Inspections of surface stripping (to remove organic topsoil), removal of unsuitable materials and subgrade proof rolling prior to filling were completed.

Determination of field density of compacted fill in accordance with AS1289 was completed by Douglas Partners Pty Ltd as attached. The compaction tests show that results were above the required 95% Standard Compaction. Test locations are shown on the attached plans 1803-GS6 sheet numbers R2 & R3, both Revision 2.

This certification only provides an assurance of the density of the fill tested, and suitability of the stripped surface for placement of that fill. This certification does not address any other issues that may be relevant to foundation and building construction.

Please refer to report limitations attached, the Client in this instance is Roberts Brothers Pty Ltd.

Regards,



A Haynes BE Civil (Hons) RPEQ MIEAust CPEng

## LIMITATIONS

This report is provided for the sole use by the Client and its professional advisers. No responsibility whatsoever for the contents of this report will be accepted to any person other than the Client. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Haynes Consulting Engineers accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Haynes Consulting Engineers did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the report. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Haynes Consulting Engineers in regards to it.

Conditions may exist which were undetectable given that economic and time constraints limit the practical extent of investigation. Variations in conditions may occur between investigation locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the report.

Where variations exist on site, additional studies and actions may be required. Haynes Consulting Engineers's opinions are based upon information that existed at the time that the works were performed. The passage of time, man-made or natural events, may alter the site conditions. It is understood that the Services undertaken allowed Haynes Consulting Engineers to form an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

Any assessments made in this report are based on the conditions indicated from published sources and the findings of the investigation described. Actual subsurface conditions may differ from those indicated in the report (e.g. between boreholes or test pits). No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this report.

Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Haynes Consulting Engineers for incomplete or inaccurate data supplied by others.

# Material Test Report

**Report Number:** 212940.00-1  
**Issue Number:** 1  
**Date Issued:** 24/02/2022  
**Client:** Roberts Bros Pty Ltd  
123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 16899  
**Date Sampled:** 16/02/2022  
**Dates Tested:** 17/02/2022 - 18/02/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook  
Assistant Laboratory Manager  
Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-16899A		
Date Tested	16/02/2022		
Time Tested	14:15		
Test Request #/Location	Lot 125		
Easting	462091		
Northing	7096230		
Layer / Reduced Level	0.3 < F.L.		
Thickness of Layer (mm)	150		
Soil Description	Clay		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m <sup>3</sup>	1.97		
Field Dry Density (FDD) t/m <sup>3</sup>	**		
Peak Converted Wet Density t/m <sup>3</sup>	1.94		
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**		
Moisture Variation (Wv) %	1.0		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	<b>101.5</b>		
Compaction Method	<b>Standard</b>		
Report Remarks	**		

## Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Geotechnics | Environment | Groundwater

Douglas Partners Pty Ltd

Sunshine Coast Laboratory

1/28 Kessling Avenue Kunda Park QLD 4556

Phone: (07) 5351 0400

Email: martin.cook@douglaspartners.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

**Report Number:** 212940.00-2  
**Issue Number:** 1  
**Date Issued:** 24/02/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 16900  
**Date Sampled:** 16/02/2022  
**Dates Tested:** 17/02/2022 - 18/02/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Material Source:** Onsite

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-16900A	SS-16900B	
Date Tested	16/02/2022	16/02/2022	
Time Tested	14:30	14:40	
Test Request #/Location	Lot 136	Lot 136	
Easting	462350	462343	
Northing	7096115	7096110	
Layer / Reduced Level	0.3 < F.L.	0.6 < F.L.	
Thickness of Layer (mm)	150	150	
Soil Description	Clay	Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	1.94	1.95	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	2.01	2.02	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	1.5	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>96.0</b>	<b>96.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**  
 Positive values = test is dry of OMC  
 Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-3  
**Issue Number:** 1  
**Date Issued:** 02/03/2022  
**Client:** Roberts Bros Pty Ltd  
123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 16990  
**Date Sampled:** 21/02/2022  
**Dates Tested:** 22/02/2022 - 25/02/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Roadworks  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

## Compaction Control AS 1289 5.7.1 & 5.8.1

Sample Number	SS-16990A		
Date Tested	21/02/2022		
Time Tested	13:25		
Test Request #/Location	Lot 124		
Easting	0462104		
Northing	7096256		
Elevation (m)	0.3 < F.L		
Thickness of Layer (mm)	150		
Soil Description	Clay		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m <sup>3</sup>	1.99		
Field Dry Density (FDD) t/m <sup>3</sup>	**		
Peak Converted Wet Density t/m <sup>3</sup>	1.96		
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**		
Moisture Variation (Wv) %	2.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	<b>101.5</b>		
Compaction Method	<b>Standard</b>		
Report Remarks	**		

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-4  
**Issue Number:** 1  
**Date Issued:** 04/05/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 17573  
**Date Sampled:** 12/04/2022  
**Dates Tested:** 12/04/2022 - 28/04/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 130  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook  
 Assistant Laboratory Manager  
 Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-17573A	SS-17573B	
Date Tested	12/04/2022	12/04/2022	
Time Tested	13:18	13:25	
Test Request #/Location	Lot 130	Lot 130	
Easting	462028	462032	
Northing	7096141	7096146	
Elevation (m)	0.3 < F.L.	0.6 < F.L.	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	2.05	2.05	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	1.99	1.97	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	2.5	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>103.5</b>	<b>104.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Geotechnics | Environment | Groundwater

Douglas Partners Pty Ltd

Sunshine Coast Laboratory

1/28 Kessling Avenue Kunda Park QLD 4556

Phone: (07) 5351 0400

Email: martin.cook@douglaspartners.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

**Report Number:** 212940.00-5  
**Issue Number:** 1  
**Date Issued:** 04/05/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 17572  
**Date Sampled:** 12/04/2022  
**Dates Tested:** 12/04/2022 - 29/04/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 129  
**Material Source:** Onsite

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-17572A	SS-17572B	
Date Tested	12/04/2022	12/04/2022	
Time Tested	12:49	13:00	
Test Request #/Location	Lot 129	Lot 129	
Easting	461986	461968	
Northing	7096161	7096165	
Elevation (m)	0.3 < F.L.	0.6 < F.L.	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	2.01	2.00	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	2.01	2.01	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	-0.5	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>100.5</b>	<b>99.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC



# Material Test Report



Geotechnics | Environment | Groundwater

Douglas Partners Pty Ltd

Sunshine Coast Laboratory

1/28 Kessling Avenue Kunda Park QLD 4556

Phone: (07) 5351 0400

Email: martin.cook@douglaspartners.com.au

**Report Number:** 212940.00-6  
**Issue Number:** 1  
**Date Issued:** 11/05/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 17747  
**Date Sampled:** 26/04/2022  
**Dates Tested:** 26/04/2022 - 09/05/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 131  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-17747A	SS-17747B	
Date Tested	26/04/2022	26/04/2022	
Time Tested	14:20	14:30	
Test Request #/Location	Lot 131	Lot 131	
Easting	462084	462083	
Northing	7096129	7096121	
Elevation (m)	0.3 < F.L.	0.6 < F.L.	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	1.99	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	2.01	1.99	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	2.5	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>101.0</b>	<b>100.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-7  
**Issue Number:** 1  
**Date Issued:** 23/08/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 19307  
**Date Sampled:** 15/08/2022  
**Dates Tested:** 15/08/2022 - 20/08/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 132  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-19307A	SS-19307B	
Date Tested	15/08/2022	15/08/2022	
Time Tested	09:30	09:38	
Test Request #/Location	Lot 132	Lot 132	
Easting	462132	462126	
Northing	7096148	7091638	
Elevation (m)	0.3 < F.L	0.6 < F.L	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	1.97	1.98	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	2.00	1.97	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>99.0</b>	<b>100.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-8  
**Issue Number:** 1  
**Date Issued:** 23/08/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 19308  
**Date Sampled:** 15/08/2022  
**Dates Tested:** 15/08/2022 - 20/08/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 133  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-19308A	SS-19308B	
Date Tested	15/08/2022	15/08/2022	
Time Tested	09:43	09:51	
Test Request #/Location	Lot 133	Lot 133	
Easting	462192	462181	
Northing	7096145	7096133	
Elevation (m)	0.3 < F.L	0.6 < F.L	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	1.98	2.03	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	1.98	2.05	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	-0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>100.0</b>	<b>99.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Geotechnics | Environment | Groundwater

Douglas Partners Pty Ltd

Sunshine Coast Laboratory

1/28 Kessling Avenue Kunda Park QLD 4556

Phone: (07) 5351 0400

Email: martin.cook@douglaspartners.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

**Report Number:** 212940.00-9  
**Issue Number:** 1  
**Date Issued:** 23/08/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 19309  
**Date Sampled:** 15/08/2022  
**Dates Tested:** 15/08/2022 - 20/08/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 134  
**Material Source:** Onsite

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-19309A	SS-19309B	
Date Tested	15/08/2022	15/08/2022	
Time Tested	10:02	10:11	
Test Request #/Location	Lot 134	Lot 134	
Easting	462214	462220	
Northing	7096195	7096200	
Elevation (m)	0.3 < F.L	0.6 < F.L	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.02	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	2.04	2.01	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>103.5</b>	<b>100.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-10  
**Issue Number:** 1  
**Date Issued:** 23/08/2022  
**Client:** Roberts Bros Pty Ltd  
123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 19310  
**Date Sampled:** 15/08/2022  
**Dates Tested:** 15/08/2022 - 20/08/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 135  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook  
Assistant Laboratory Manager  
Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-19310A	SS-19310B	
Date Tested	15/08/2022	15/08/2022	
Time Tested	10:22	10:30	
Test Request #/Location	Lot 135	Lot 135	
Easting	462237	462245	
Northing	7096227	7096235	
Elevation (m)	0.6 < F.L	0.9 < F.L	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m <sup>3</sup>	2.04	2.00	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.04	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>101.0</b>	<b>98.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

## Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-11  
**Issue Number:** 1  
**Date Issued:** 24/08/2022  
**Client:** Roberts Bros Pty Ltd  
123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 19311  
**Date Sampled:** 15/08/2022  
**Dates Tested:** 15/08/2022 - 22/08/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 137  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook  
Assistant Laboratory Manager  
Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-19311A	SS-19311B	
Date Tested	15/08/2022	15/08/2022	
Time Tested	10:43	10:52	
Test Request #/Location	Lot 137	Lot 137	
Easting	461942	461951	
Northing	7096118	7096118	
Elevation (m)	1.7 < F.L	2.0 < F.L	
Thickness of Layer (mm)	150	150	
Soil Description	Gravelly Clay	Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	6	5	
Field Wet Density (FWD) t/m <sup>3</sup>	2.06	2.07	
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	
Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	2.01	2.04	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	1.0	2.0	
Hilf Density Ratio (%)	<b>103.0</b>	<b>101.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

## Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-13  
**Issue Number:** 1  
**Date Issued:** 14/09/2022  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 19397  
**Date Sampled:** 18/08/2022  
**Dates Tested:** 18/08/2022 - 26/08/2022  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

 Approved Signatory: Shae Harry  
 Laboratory Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1				
Sample Number	SS-19397A	SS-19397B	SS-19397C	SS-19397D
Date Tested	18/08/2022	18/08/2022	18/08/2022	18/08/2022
Time Tested	09:02	09:12	09:21	09:28
Test Request #/Location	Bulk Earthworks Lot 137	Bulk Earthworks Lot 137	Bulk Earthworks Lot 137	Bulk Earthworks Lot 137
Easting	461959	461955	4641953	461949
Northing	7096109	7096107	7096112	7096112
Elevation (m)	1.2 < F.L	0.8 < F.L	0.4 < F.L	F.L
Thickness of Layer (mm)	150	150	150	150
Soil Description	Gravelly Clay	Gravelly Clay	Gravelly Clay	Gravelly Clay
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	10	11
Field Wet Density (FWD) t/m <sup>3</sup>	2.06	2.11	2.15	2.17
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	**	**
Peak Converted Wet Density t/m <sup>3</sup>	1.93	2.02	**	**
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	2.04	2.12
Moisture Variation (Wv) %	1.0	-0.5	**	**
Adjusted Moisture Variation %	**	**	3.5	1.5
Hilf Density Ratio (%)	<b>106.5</b>	<b>104.5</b>	<b>105.5</b>	<b>102.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report

**Report Number:** 212940.00-23  
**Issue Number:** 1  
**Date Issued:** 05/05/2023  
**Client:** Roberts Bros Pty Ltd  
 123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 23644  
**Date Sampled:** 27/04/2023  
**Dates Tested:** 27/04/2023 - 04/05/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 128  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook

Assistant Laboratory Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-23644A		
Date Tested	27/04/2023		
Time Tested	11:15		
Test Request #/Location	Lot 128		
Elevation (m)	0.3 <F.L		
Thickness of Layer (mm)	150		
Soil Description	Silty Clay		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m <sup>3</sup>	2.00		
Field Dry Density (FDD) t/m <sup>3</sup>	**		
Peak Converted Wet Density t/m <sup>3</sup>	1.93		
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**		
Moisture Variation (Wv) %	2.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	<b>103.5</b>		
Compaction Method	<b>Standard</b>		
Report Remarks	**		

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC



# Material Test Report

**Report Number:** 212940.00-24  
**Issue Number:** 1  
**Date Issued:** 05/05/2023  
**Client:** Roberts Bros Pty Ltd  
123 Cooroy Belli Creek Road, Cooroy QLD 4563  
**Contact:** David Roberts  
**Project Number:** 212940.00  
**Project Name:** Proposed Subdivision  
**Project Location:** Greendale, Stage 6, Pie Creek QLD  
**Work Request:** 23645  
**Date Sampled:** 27/04/2023  
**Dates Tested:** 27/04/2023 - 04/05/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** Minimum 95% Standard Hilf Density Ratio  
**Location:** Bulk Earthworks  
**Lot Number:** 126  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Martin Cook  
Assistant Laboratory Manager  
Laboratory Accreditation Number: 828

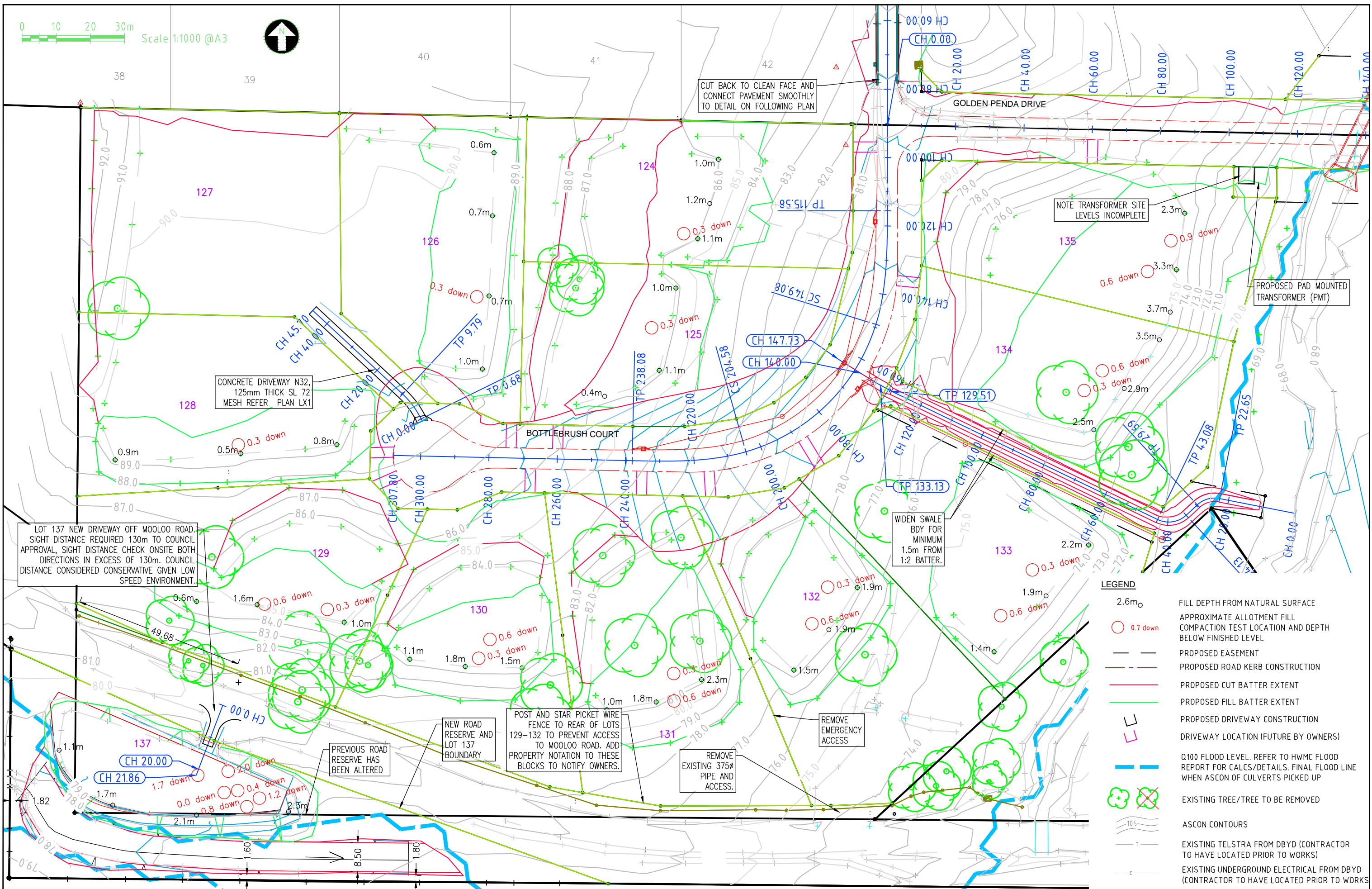
Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-23645A		
Date Tested	27/04/2023		
Time Tested	11:27		
Test Request #/Location	Lot 126		
Elevation (m)	0.3 <F.L		
Thickness of Layer (mm)	150		
Soil Description	Clayey Sandy Gravel		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	7		
Field Wet Density (FWD) t/m <sup>3</sup>	2.12		
Field Dry Density (FDD) t/m <sup>3</sup>	**		
Peak Converted Wet Density t/m <sup>3</sup>	**		
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	2.04		
Moisture Variation (Wv) %	**		
Adjusted Moisture Variation %	5.0		
Hilf Density Ratio (%)	<b>104.0</b>		
Compaction Method	<b>Standard</b>		
Report Remarks	**		

## Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

0 10 20 30m Scale 1:1000 @A3



LOT 137 NEW DRIVEWAY OFF MOOLOO ROAD. SIGHT DISTANCE REQUIRED 130m TO COUNCIL APPROVAL. SIGHT DISTANCE CHECK ONSITE BOTH DIRECTIONS IN EXCESS OF 130m. COUNCIL DISTANCE CONSIDERED CONSERVATIVE GIVEN LOW SPEED ENVIRONMENT.

CONCRETE DRIVEWAY N32, 125mm THICK SL 72 MESH REFER PLAN LX1

POST AND STAR PICKET WIRE FENCE TO REAR OF LOTS 129-132 TO PREVENT ACCESS TO MOOLOO ROAD. ADD PROPERTY NOTATION TO THESE BLOCKS TO NOTIFY OWNERS.

PREVIOUS ROAD RESERVE HAS BEEN ALTERED

NEW ROAD RESERVE AND LOT 137 BOUNDARY

REMOVE EXISTING 375mm PIPE AND ACCESS.

REMOVE EMERGENCY ACCESS

- LEGEND**
- 2.6m<sub>o</sub> FILL DEPTH FROM NATURAL SURFACE
  - 0.7 down APPROXIMATE ALLOTMENT FILL COMPACTION TEST LOCATION AND DEPTH BELOW FINISHED LEVEL
  - PROPOSED EASEMENT
  - - - PROPOSED ROAD KERB CONSTRUCTION
  - PROPOSED CUT BATTER EXTENT
  - PROPOSED FILL BATTER EXTENT
  - PROPOSED DRIVEWAY CONSTRUCTION
  - DRIVEWAY LOCATION (FUTURE BY OWNERS)
  - Q100 FLOOD LEVEL. REFER TO HWMC FLOOD REPORT FOR CALCS/DETAILS. FINAL FLOOD LINE WHEN ASCON OF CULVERTS PICKED UP
  - ⊗ EXISTING TREE/TREE TO BE REMOVED
  - ASCON CONTOURS
  - EXISTING TELSTRA FROM DBYD (CONTRACTOR TO HAVE LOCATED PRIOR TO WORKS)
  - EXISTING UNDERGROUND ELECTRICAL FROM DBYD (CONTRACTOR TO HAVE LOCATED PRIOR TO WORKS)

<b>A3</b>	2	24-4-23	ASCON + ADD TEST LOCATIONS	SLH ATH ATH APPR.
	1	24-1-23	HOUSE PAD ASCON	
	0	6-4-22	FOR CONSTRUCTION	
	Rv	DATE	REVISIONS	

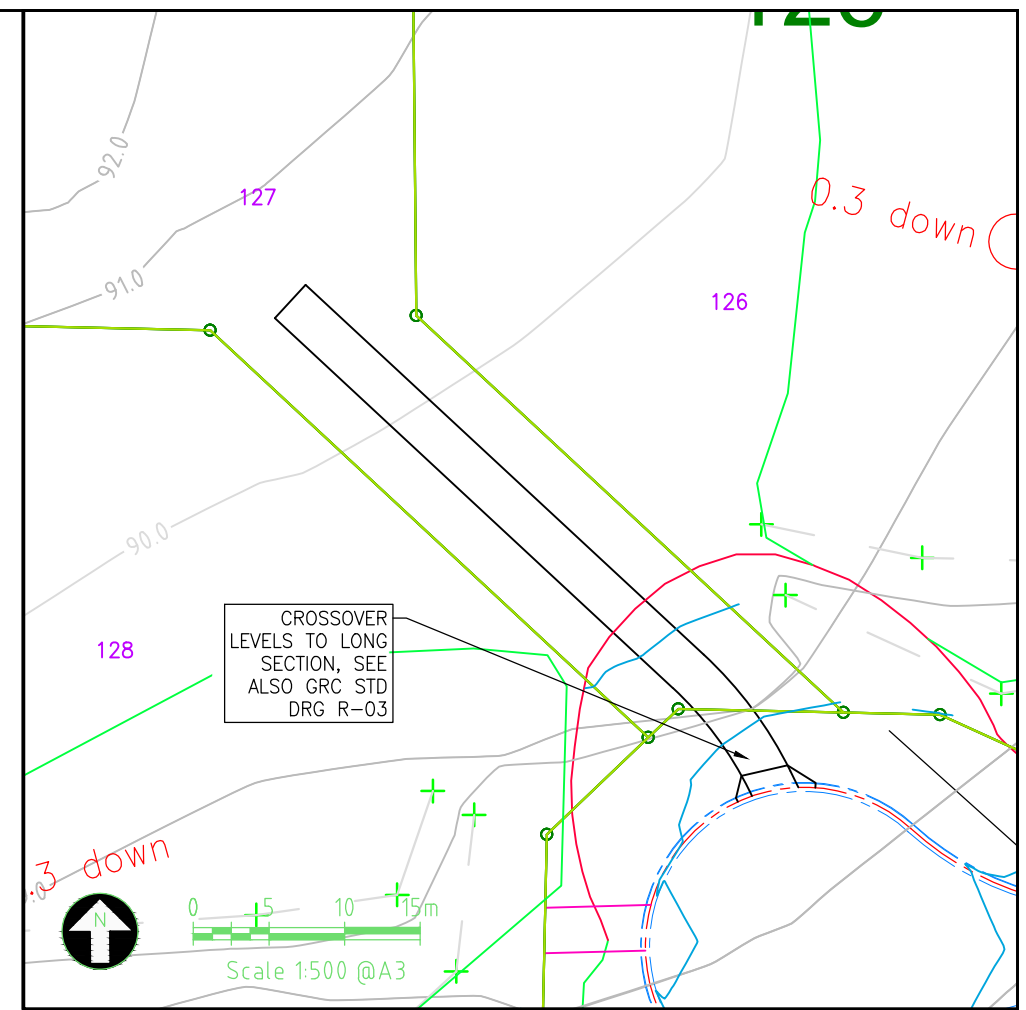
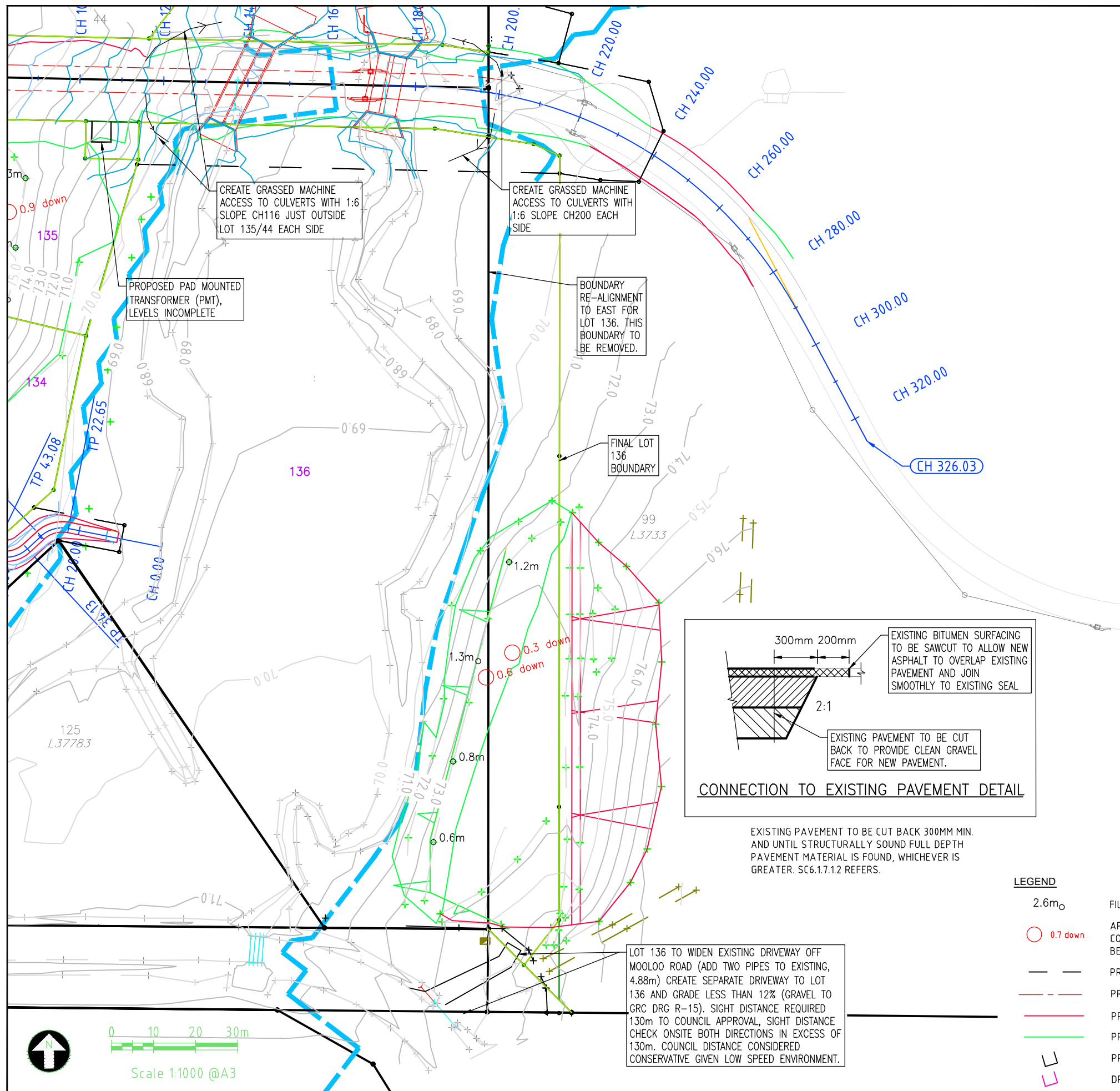
PSM/(AHD)RL	196359	82.237
SURVEYED	MURRAY & ASSOC	
RPEQ NO.	13201	
RPEQ NAME	ALLISTER HAYNES	
CERTIFIED		

**HAYNES CONSULTING ENGINEERS**

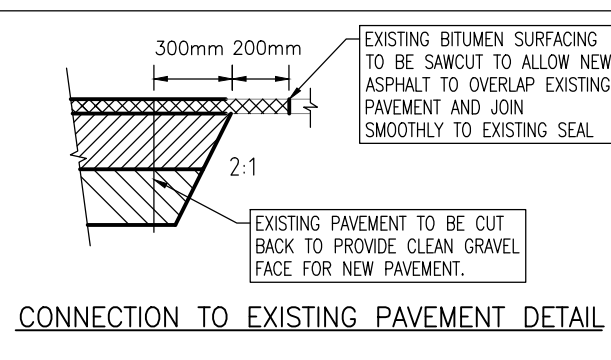
HAYNES CONSULTING ENGINEERS  
 ABN 53 613 630 078  
 PO BOX 549 NOOSA HEADS QLD 4667  
 (0432) 784 150

**GREENDALE STAGE 6**  
 LOT 124 L37783, 14 LOTS ROADWORKS AND DRAINAGE  
 WATERGUM DRIVE, PIE CREEK, FOR ROBERTS BROS. PTY LTD  
**ROADWORKS LAYOUT PLAN 1**

<b>1803-GS6</b>
Sheet No. - Revision No.
<b>R2</b> <b>2</b>



INSET OF LOT 127 DRIVEWAY



EXISTING PAVEMENT TO BE CUT BACK 300MM MIN. AND UNTIL STRUCTURALLY SOUND FULL DEPTH PAVEMENT MATERIAL IS FOUND, WHICHEVER IS GREATER. SC6.1.7.1.2 REFERS.

LEGEND

- 2.6m<sub>0</sub> FILL DEPTH FROM NATURAL SURFACE
- 0.7 down APPROXIMATE ALLOTMENT FILL COMPACTION TEST LOCATION AND DEPTH BELOW FINISHED LEVEL
- PROPOSED EASEMENT
- - - - PROPOSED ROAD KERB CONSTRUCTION
- PROPOSED CUT BATTER EXTENT
- PROPOSED FILL BATTER EXTENT
- PROPOSED DRIVEWAY CONSTRUCTION
- DRIVEWAY LOCATION (FUTURE BY OWNERS)
- Q100 FLOOD LEVEL. REFER TO HVMC FLOOD REPORT FOR CALCS/DETAILS. FINAL FLOOD LINE WHEN ASCON OF CULVERTS PICKED UP
- ✂ EXISTING TREE/TREE TO BE REMOVED
- ASCON CONTOURS
- EXISTING TELSTRA FROM DBYD (CONTRACTOR TO HAVE LOCATED PRIOR TO WORKS)
- EXISTING UNDERGROUND ELECTRICAL FROM DBYD (CONTRACTOR TO HAVE LOCATED PRIOR TO WORKS)
- FUTURE ROAD KERB CONSTRUCTION

LOT 136 TO WIDEN EXISTING DRIVEWAY OFF MOOLOO ROAD (ADD TWO PIPES TO EXISTING, 4.88m) CREATE SEPARATE DRIVEWAY TO LOT 136 AND GRADE LESS THAN 12% (GRAVEL TO GRC DRG R-15). SIGHT DISTANCE REQUIRED 130m TO COUNCIL APPROVAL, SIGHT DISTANCE CHECK ONSITE BOTH DIRECTIONS IN EXCESS OF 130m. COUNCIL DISTANCE CONSIDERED CONSERVATIVE GIVEN LOW SPEED ENVIRONMENT.



A3	2	24-4-23	ASCON + ADD TEST LOCATIONS	SLH	PSM/(AHD)RL	196359	82.237
	1	24-1-23	NOTE DRIVEWAY LOCATION LOT 136 FOR CONSTRUCTION			SURVEYED	MURRAY & ASSOC
	0	6-4-22		ATH	RPEQ NO.	13201	
				ATH	RPEQ NAME	ALLISTER HAYNES	
	Rv	DATE	REVISIONS	APPR.	CERTIFIED		

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HAYNES CONSULTING ENGINEERS  
 ABN 53 613 630 078  
 PO BOX 549 NOOSA HEADS QLD 4667  
 (0432) 784 150

**GREENDALE STAGE 6**  
 LOT 124 L37783, 14 LOTS ROADWORKS AND DRAINAGE  
 WATERGUM DRIVE, PIE CREEK, FOR ROBERTS BROS. PTY LTD  
**ROADWORKS LAYOUT PLAN 2**

1803-GS6	
Sheet No. - Revision No.	
R3	2