

Gold Coast Office  
Job: GL17/194  
Ref: 18048  
Author: Ian Masman

24<sup>th</sup> April, 2018

CCA Winslow  
157 Ipswich Road  
Rocklea Qld, 4106

**ATTENTION: MR JAMES MARTIN**  
Email: [jamesm@ccawinslow.com.au](mailto:jamesm@ccawinslow.com.au)

Dear Sir

**RE: LEVEL ONE COMPLIANCE REPORT FOR  
EARTHWORKS FILLING OPERATIONS  
MONTEGO HILLS – STAGE 5  
UPPER ORMEAU ROAD, KINGSHOLME**

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## **1.0 INTRODUCTION**

### **1.1 General**

This report presents results of Level One earthworks inspections, field testing and associated Compaction Compliance testing carried out on earthworks fill placed and compacted to form residential building platforms and embankments below subgrade at the Montego Hills, Stage 5 development, Upper Ormeau Road, Kingsholme (The Site).

The work was commissioned by Mr. James Martin representing CCA Winslow (The Client) using Purchase Order 35913.

The earthworks were carried out by The Client.

Earthworks filling operations were carried out intermittently between 12<sup>th</sup> October 2017 and 18<sup>th</sup> April 2018.

The fill earthworks carried out at The Site generally ranges between 0.5m and greater than 5m in thickness. AS3798 (Guidelines on Earthworks for Commercial and Residential Developments) is applicable for fill up to 5m thick, please refer to Section 3.0 "Filling Operations" for important information regarding fill areas that exceed 5m in depth.

### **1.2 Previous Earthworks**

There were previous earthworks carried out at The Site for which Level One supervision and testing was undertaken by Morrison Geotechnic. Please refer to our Level 1 Report GL16/175, dated 23<sup>rd</sup> April, 2018, attached in Appendix D.

### **1.3 The Project**

The proposed development at The Site includes residential allotments, new pavements and associated underground service networks.

Earthworks filling was required to form building platforms supporting proposed residences, and embankments below subgrade supporting future pavements. Earthworks construction at The Site included stripping vegetation, organics and topsoil; proof roll testing of the natural ground surface, and then filling The Site to the project design levels.

The Site is bounded by undeveloped land to the North & East, and other stages within this development to the South and West.

Picture 1: Aerial View of the Site (Image Source: Nearthmap.com, showing 16<sup>th</sup> September, 2017)





## 2.0 THE BRIEF

The Brief from the Client was limited to:

- Level One Inspections of the placement and compaction of fill materials between the existing ground levels and the design earthworks levels in accordance with AS3798 2007 – “Guidelines on Earthworks for Commercial and Residential Developments”;
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- City of Gold Coast Council Requirements.
- Notes on Mortons Urban Solutions Group project drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material assessments, foundation assessments and slope / global stability appraisals were not included in the Brief and are therefore excluded from this Report.

Mortons Urban Solutions Earthworks Plans 19610-05-030C & 19610-05-031B, indicates the extents of fill to be constructed at The Site. The plans are considered to be a reasonable indication of the actual fill constructed during our involvement.

For confirmation of the actual thickness of fill on an individual lot, a Lot Disclosure Plan can be requested from the Developer.

### 2.1 Additional Requirements

Morrison Geotechnic was not engaged to carry out additional works other than what was outlined in the Brief.

## 3.0 METHODOLOGY

Earthworks Inspections and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials forming residential allotments and embankments below subgrade.

Field and laboratory testing included walk over assessments of the existing ground conditions, proof roll testing of the stripped surface including the natural surface, observations of filling and compaction activities, field density testing using a soil moisture density gauge and Hilf Density compactions.

### 3.1 Stripped Surface Assessment

The Site had been cleared of all debris, trees and topsoil. Visible organic matter, uncompacted or loose soil, unsuitable materials and any over wet areas were removed to expose the natural or existing fill foundation.

The materials exposed after stripping and clearing the site which formed the fill foundation can be broadly summarized as:

- Natural – Sandy Clay (CI - CH), Very Stiff, medium to high plasticity, fine to medium grained sand, yellow / brown and moist.
- Natural – Rock (XW) Extremely weathered Argillite and very low strength, grey / yellow/ brown.
- Existing Controlled Fill – Gravely Sandy Clay (CI) medium plastic fine coarse sand, fine to medium gravel, brown and moist.



The stripped surface was proof rolled by The Client in the presence of our Geotechnicians using a large pad foot roller carrying out multiple passes. Areas where movements were observed beneath the wheels of the plant were removed to a suitable base or tyned, air dried to approximate optimum moisture content and re-compacted. After the above treatments were carried out, the proof rolling process was repeated.

When no visible movement or vertical deflection was observed during proof roll testing, the stripped surface was assessed to be suitable as a foundation for the placement of fill.

Any ponds or dams were dewatered and all wet silts clays and other deleterious materials were removed to a suitable base and ground water drainage was implemented.

**Picture 2: View of the Stripped Surface Prior to the Placement of Fill**



### **3.2 Filling Operations**

Fill materials were sourced from cut areas onsite from existing and future stages.

Materials used as fill at The Site can be summarized as: -

- Sandy Clayey Gravel (GC), fine to coarse gravel, low plasticity with fine to coarse grained sand, yellow / brown and moist.

Placement and compaction of the fill materials was carried out using the following plant:

- Excavators
- Water Truck
- Scrapers
- Dozers
- 825 Compactors
- Pad Foot Roller
- Articulated Trucks

The fill was placed in layers appropriate for the above plant, moisture conditioned at the fill source and during placement and thoroughly mixed to achieve moisture contents suitable for compaction.

To the extent that was reasonably practicable, fill materials visibly containing excessive amounts of silts or deleterious materials such as sticks, oversize particles or construction debris were sorted to remove the contaminants prior to placement, or rejected for use. Some cobble sized particles may remain in the body of the fill, however are unlikely to be in sufficient quantities to adversely affect the performance of the new fill. Sloping areas requiring filling were benched and continually keyed into the slope prior to and during fill placement. Compaction of the fill was carried out using multiple passes of the above compaction plant.

Field density tests and laboratory compactions were carried out on the fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing under this Job Number for the recent works achieved the required compaction specification of 95% standard Hilf compaction.

The location of the field density tests are shown on the Site Plan contained in Appendix A.

The results of the field density and laboratory compaction tests are contained in Appendix B.

These test locations and levels were not obtained by survey and are therefore should only be considered as approximate.



Picture 3: Site Earthworks Filling Operations



### 3.3 Fill Thickness Greater than 5m.

Fill thicknesses of greater than 5m have been constructed at The Site. The foundation designer for residential structures must take into consideration ground surface settlements when designing slabs and footings. Long term settlements are likely to be gradual however, may accelerate if the fill becomes saturated.

Long term ground surface creep settlements for well compacted fill may range between 0.5% and 1.0% of the thickness of the fill. Differential settlement can occur in the fill and will be proportionate to the variation in fill thickness.

In ground services, should utilise flexible couplings in the areas of fill that exceed a thickness of 5m. Flexible retaining walls should be adopted if required at locations where the fill exceeds 5m thick,

The thickness of fill should be considered when assessing the slope stability at this project.

Please refer to the Lot Disclosures Plans which can be requested from the developer for the actual constructed fill thickness and extremities on Individual Lots, particularly for Lots where more than 5m depth of fill has been placed, or Lots with varying depths of fill.

The location of the field density tests are shown on the Site Plan contained in Appendix A.

The results of the field density and laboratory compaction tests are contained in Appendix B.



These test locations and levels were not obtained by survey and are therefore should only be considered as approximate.

#### **4.0 STATEMENT OF COMPLIANCE**

Our representatives observed the relevant earthworks operations during our engagement including the stripped surface, fill placement and compaction operations and carried out field density tests and laboratory compaction tests in accordance with The Brief.

The fill at The Site has been observed to be placed and compacted in accordance with AS3798 and can be termed "Controlled" as defined in AS2870 (Residential Slabs and Footings).

#### **5.0 EXCLUSIONS**

The compliance statement excludes any top soil, which may be placed for use as Lot dressing or any other subsequent earthworks after 18<sup>th</sup> April 2018. All trench backfill, landscaping fill and other fill placed without our knowledge is also excluded.

Assessments of batter stability, global stability, and material quality such as soaked CBR and site classifications are excluded from this commission. The stability of any fill batters in the long term must take account of the variable materials used for the construction of the fill platforms and all surface loads including traffic loads near the crest of all batters.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS.3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials comprise clay soils, which may result in unfavorable site classifications for individual lots and low subgrade design strengths for pavements.

Footings and ground slabs for any structures constructed over natural soils or controlled fill should be designed to accommodate the characteristic ground surface movements and settlement potential. Assessments of these design parameters are beyond the scope of this Report.

Controlled fill (Level 1 Fill) provides an overview that the Earthwork Specification has been met. There are instances where significant long term settlements of controlled fill can occur. Large total and differential settlements can be expected where fill has been placed over soft and compressible soils and where the thickness of controlled fill varies significantly across a lot.

In some cases, fill materials with high silt content can deteriorate in wet weather conditions resulting in allowable bearing pressures less than 100 kPa.

#### **6.0 LIMITATIONS**

This Report has been prepared by Morrison Geotechnic Pty Ltd (Morrison Geotechnic), and may include contributions from Morrison Geotechnic's officers and employees, sub-contractors, sub-consultants or agents (Contributors).

This Report is for the sole benefit and use of CCA Winslow Pty Ltd (Client), its designers, clients and relevant statutory authorities for the sole purpose of providing geotechnical advice and recommendations in respect of Montego Hills, Stage 5, Upper Ormeau Road, Kingsholme (Project). The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report. This report should not be relied upon for assessing fill extents and thicknesses.

This Report should not be used or relied upon for any other purpose without Morrison Geotechnic's prior written consent. Morrison Geotechnic and the Contributors do not accept any responsibility or liability in any way whatsoever for the use or reliance of this Report by anyone other than the Client, its designers, its clients and relevant statutory authorities or by anyone else for any purpose other than that for which it has been prepared.

Except with Morrison Geotechnic's prior written consent, this Report may not be:

- (a) released to any other party, whether in whole or in part (other than to the Client's officers, employees, advisers, designers, clients and relevant statutory authorities);
- (b) Used or relied upon by any other party.

Morrison Geotechnic and the Contributors, do not accept any liability or responsibility whatsoever for, or in respect of, any use or reliance upon this Report by any other party. Morrison Geotechnic is not obliged to enter into discussions with any third party in respect of this Report.

The information (including technical information and information obtained through discussions) on which this report is based has been provided by the Client and third parties. Morrison Geotechnic and the Contributors:

- (a) have relied upon and presumed the accuracy of this information;
- (b) have not verified the accuracy or reliability of this information (other than as expressly stated in this Report);
- (c) have not made any independent investigations or enquiries in respect of those matters of which it has no actual knowledge at the time of giving this Report to the Client; and
- (d) Make no warranty or guarantee, expressed or implied, as to the accuracy or reliability of this information.

Morrison Geotechnic and the Contributors do not accept responsibility or liability for any incorrect assumptions related to this Report. For the avoidance of doubt, this Report:

- (a) is not an environmental, contamination or hazardous materials assessment; may be invalid, incomplete or inaccurate (including errors in the scope of work, investigation methodology, observations, opinions and advice) where the information provided to Morrison Geotechnic was invalid, incomplete or inaccurate;
- (b) Is limited to observations of those parts of the site described in Section 1.0.

No warranty or guarantee, whether express or implied, is made in respect of the geotechnical data, information, advice, opinions and recommendations present in this Report.

If further information becomes available, or additional assumptions need to be made, Morrison Geotechnic reserves its right to amend this Report.

If you have any queries regarding the above, please contact Mr. Ian Masman at our Gold Coast office.



**Ian Masman**

For and on behalf of

**MORRISON GEOTECHNIC PTY LIMITED**

**M. D. RILEY (RPEQ 5641)**

**ATTACHMENTS:**

Appendix A – Site Plan Showing Test Locations

Appendix B – Test Reports

Appendix C – Photo Gallery

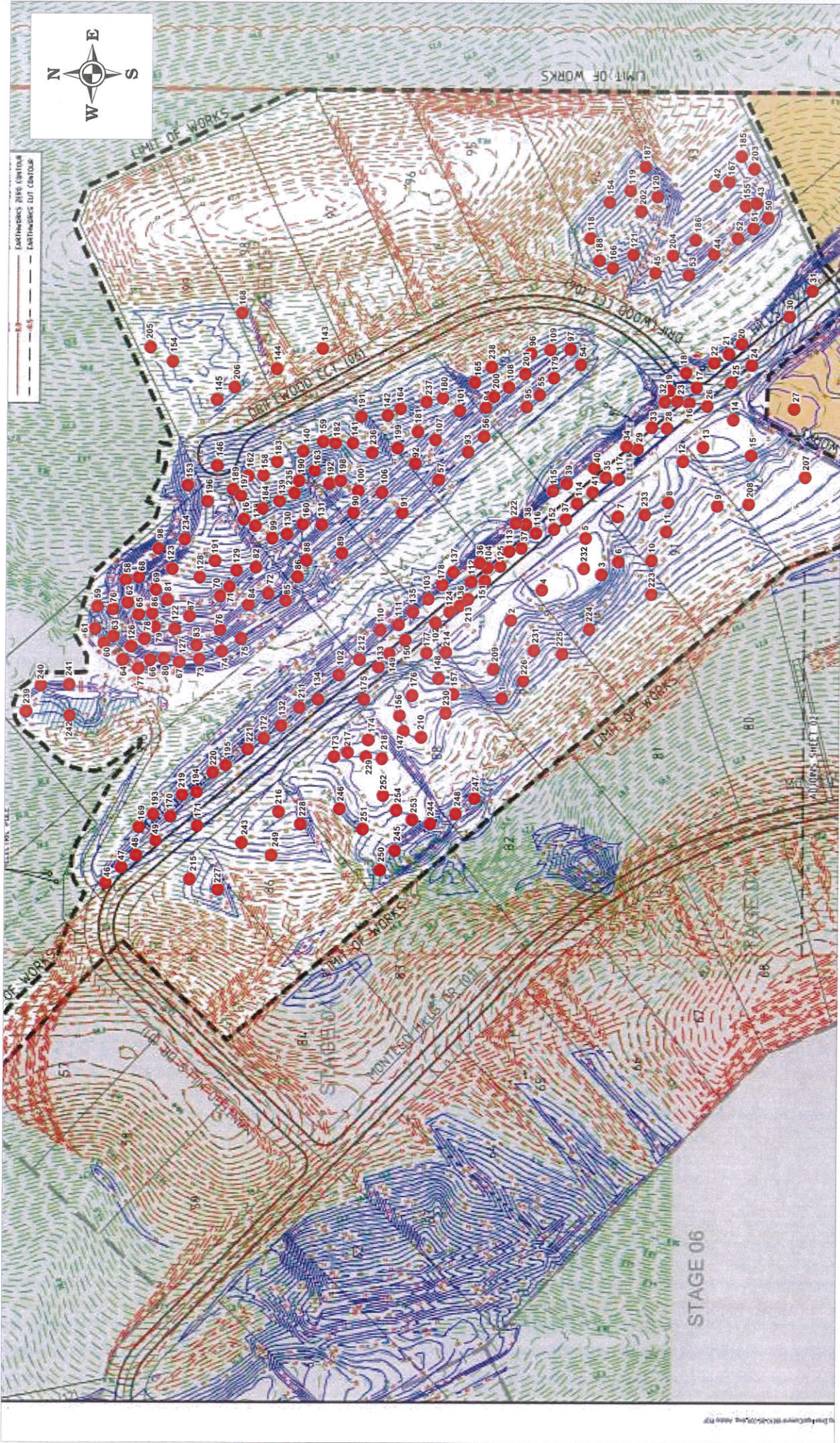
Appendix D – Level 1 Report GL16/175, dated 24<sup>th</sup> April, 2018.

GL17/194

# **APPENDIX 'A'**

**(Site Plans Showing Test Locations)**





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 Email: [goldcoastlab@morrisongeo.com.au](mailto:goldcoastlab@morrisongeo.com.au) Fax: 5527 2027  
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 D.Vanderhor & B.Eismore  
 Geologists: L.Bexley & R.Howchin



**MORRISON**  
**GEOTECHNIC**

Map Description :	Field Density Test Locations
Client :	CCA Winslow
Project :	Stage 5 - Montego Hills, Upper Ormeau Road, Kingsholme
Project No :	GL17/194
Date :	24/4/18
Scale :	Not to Scale



GL17/194

# **APPENDIX 'B'**



**(Laboratory Test Results)**

## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.1/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>19/10/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	238197	238198	238199	
Test Number :	1	2	3	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	13/10/2017	13/10/2017	13/10/2017	
Date Tested :	13/10/2017	13/10/2017	13/10/2017	
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	ONSITE	
Lot Number :	89	89	90	
Sample Location :	REFER TO SITE PLAN RL 32.200	REFER TO SITE PLAN RL 32.100	REFER TO SITE PLAN RL 31.732	
Test Depth (mm) :	150	150	150	
Layer Depth (mm) :	-	-	-	
Maximum Size (mm) :	19	19	19	
Oversize Wet (%) :	6	7	8	
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.501	2.500	2.508	
Field Moisture Content (%) :	8.6	10.9	12.6	
Hilf MDR Number :	238197	238198	238199	
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	
Compactive Effort :	Standard	Standard	Standard	
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	66	84	74	
Field Wet Density (t/m <sup>3</sup> ) :	2.140	2.100	2.110	
Optimum Moisture Content (%) :	13.1	13.0	17.0	
Moisture Variation :	4.4	2.1	4.2	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.15*	2.15*	2.11*	
Hilf Density Ratio (%) :	<b>100.0</b>	<b>97.5</b>	<b>100.0</b>	
Minimum Specification :	95	95	95	
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	CCA WINSLOW	Report Number:	GL17-194.2/1
Address :	1587 IPSWICH ROAD, ROCKLEA, QLD, 4106	Report Date :	25/10/2017
Project Name :	MONTEGO HILLS - STAGE 5	Order Number :	
Project Number :	GL17/194	Test Method :	AS1289.5.8.1 & 5.7.1
Location:	UPPER ORMEAU ROAD , KINGSHOLME		Page 1 of 1

Sample Number :	238317	238318	238319	238320
Test Number :	4	5	6	7
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	20/10/2017	20/10/2017	20/10/2017	20/10/2017
Date Tested :	20/10/2017	20/10/2017	20/10/2017	20/10/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	90	90	90	91
Sample Location :	LOT 90 REFER TO SITE PLAN RL 33.692	LOT 90 REFER TO SITE PLAN RL 33.710	LOT 90 REFER TO SITE PLAN RL 33.784	LOT 91 REFER TO SITE PLAN RL 33.749
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	150	150	150	150
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	6	2	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.415	2.409	2.414	2.412
Field Moisture Content (%) :	10.9	13.0	11.9	10.8
Hilf MDR Number :	238317	238318	238319	238320
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	84.5	106.5	104.5	85.5
Field Wet Density (t/m <sup>3</sup> ) :	2.120	2.150	2.160	2.210
Optimum Moisture Content (%) :	12.9	12.2	11.4	12.6
Moisture Variation :	2.0	-0.7	-0.5	1.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.14*	2.18*	2.12*	2.16*
Hilf Density Ratio (%) :	<b>98.5</b>	<b>98.5</b>	<b>101.5</b>	<b>102.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


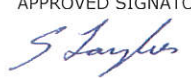
 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.3/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>25/10/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	238321	238322	
Test Number :	8	9	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	20/10/2017	20/10/2017	
Date Tested :	20/10/2017	20/10/2017	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :	91	91	
Sample Location :	LOT 91 REFER TO SITE PLAN RL 33.691	LOT 91 REFER TO SITE PLAN RL 33.630	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	150	150	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	1	4	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :	2.411	2.408	
Field Moisture Content (%) :	11.0	10.7	
Hilf MDR Number :	238321	238322	
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	83	85	
Field Wet Density (t/m <sup>3</sup> ) :	2.010	2.150	
Optimum Moisture Content (%) :	13.3	12.6	
Moisture Variation :	2.3	1.9	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.08*	2.14*	
Hilf Density Ratio (%) :	<b>96.5</b>	<b>100.5</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		

\* - denotes adjusted for oversize



 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b> Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b> Project Name : <b>MONTEGO HILLS - STAGE 5</b> Project Number : <b>GL17/194</b> Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	Report Number: <b>GL17-194.4/1</b> Report Date : <b>25/10/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	238338	238339	238340	238341
Test Number :	10	11	12	13
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	23/10/2017	23/10/2017	23/10/2017	23/10/2017
Date Tested :	23/10/2017	23/10/2017	23/10/2017	23/10/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	91	91	91	92
Sample Location :	LOT 91 REFER TO SITE PLAN RL 34.875	LOT 91 REFER TO SITE PLAN RL 34.818	LOT 91 REFER TO SITE PLAN RL 34.532	LOT 92 REFER TO SITE PLAN RL 33.7
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	150	150	150	150
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	8.4	8.1	8.5	8.0
Hilf MDR Number :	238338	238339	238340	238341
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	66.5	73	107.5	68.5
Field Wet Density (t/m <sup>3</sup> ) :	2.170	2.170	2.180	2.160
Optimum Moisture Content (%) :	12.6	11.1	7.9	11.6
Moisture Variation :	4.2	3.0	-0.5	3.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.120	2.120	2.010	2.120
Hilf Density Ratio (%) :	<b>102.5</b>	<b>102.0</b>	<b>108.5</b>	<b>102.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report


Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.5/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>25/10/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	238342	238343	
Test Number :	14	15	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	23/10/2017	23/10/2017	
Date Tested :	23/10/2017	23/10/2017	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :	92	92	
Sample Location :	LOT 92 REFER TO SITE PLAN RL 33.4	LOT 92 REFER TO SITE PLAN RL 33.8	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	150	150	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	-	-	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :			
Field Moisture Content (%) :	7.3	7.7	
Hilf MDR Number :	238342	238343	
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	77	65	
Field Wet Density (t/m <sup>3</sup> ) :	2.050	2.050	
Optimum Moisture Content (%) :	9.5	11.9	
Moisture Variation :	2.2	4.2	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.150	2.150	
Hilf Density Ratio (%) :	<b>95.0</b>	<b>95.0</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		



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GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.6/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>15/11/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	238938	238939	238940	238941
Test Number :	16	17	18	19
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	10/11/2017	10/11/2017	10/11/2017	10/11/2017
Date Tested :	10/11/2017	10/11/2017	10/11/2017	10/11/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	DRIFTWOOD COURT REFER TO SITE PLAN RL 32.6	DRIFTWOOD COURT REFER TO SITE PLAN RL 32.9	DRIFTWOOD COURT REFER TO SITE PLAN RL 34.8	DRIFTWOOD COURT REFER TO SITE PLAN RL 34.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	150	150	150	150
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	15	11	11	10
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.401	2.402	2.403	2.400
Field Moisture Content (%) :	13.4	13.0	14.3	12.4
Hilf MDR Number :	238938	238939	238940	238941
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	108.5	107.5	106.5	107.5
Field Wet Density (t/m <sup>3</sup> ) :	2.170	2.200	2.150	2.140
Optimum Moisture Content (%) :	12.4	12.1	13.4	11.5
Moisture Variation :	-0.9	-0.8	-0.8	-0.8
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.25*	2.24*	2.24*	2.24*
Hilf Density Ratio (%) :	<b>96.5</b>	<b>98.5</b>	<b>96.0</b>	<b>95.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.7/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>22/11/2017</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	239126	239127	239128	239129
Test Number :	20	21	22	23
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	15/11/2017	15/11/2017	15/11/2017	15/11/2017
Date Tested :	15/11/2017	15/11/2017	15/11/2017	15/11/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 35.4	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 34.8	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 33.9	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 32.0
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	100	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	5	8	12	5
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.411	2.411	2.411	2.414
Field Moisture Content (%) :	22.1	20.8	22.6	22.4
Hilf MDR Number :	239126	239127	239128	239129
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	104.5	104	103.5	104.5
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.130	2.130	2.160
Optimum Moisture Content (%) :	21.1	20.0	21.9	21.4
Moisture Variation :	-0.8	-0.6	-0.6	-0.8
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.03*	2.04*	2.07*	2.01*
Hilf Density Ratio (%) :	<b>104.5</b>	<b>104.5</b>	<b>103.0</b>	<b>107.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.8/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>22/11/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239130	239131	239132	239133
Test Number :	24	25	26	27
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	15/11/2017	15/11/2017	15/11/2017	15/11/2017
Date Tested :	15/11/2017	15/11/2017	15/11/2017	15/11/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 36.0	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 35.6	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 34.3	REFER TO SITE PLAN MONTEGO HILLS DRIVE RL 32.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	8	8	4	8
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.411	2.410	2.411	2.413
Field Moisture Content (%) :	14.9	15.4	28.4	28.0
Hilf MDR Number :	239130	239131	239132	239133
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	97	92	103.5	104
Field Wet Density (t/m <sup>3</sup> ) :	2.060	2.070	2.030	2.010
Optimum Moisture Content (%) :	15.3	16.7	27.5	27.0
Moisture Variation :	0.5	1.2	-0.7	-0.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.04*	2.08*	1.98*	1.96*
Hilf Density Ratio (%) :	<b>100.5</b>	<b>99.5</b>	<b>102.5</b>	<b>102.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.9/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>23/11/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239192	239193		
Test Number :	28	29		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	16/11/2017	16/11/2017		
Date Tested :	16/11/2017	16/11/2017		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :				
Sample Location :	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 31.4	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 31.9		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	2	3		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.500	2.506		
Field Moisture Content (%) :	18.0	17.4		
Hilf MDR Number :	239192	239193		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	100.5	89.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.090	2.110		
Optimum Moisture Content (%) :	17.9	19.5		
Moisture Variation :	0.0	2.0		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.03*	2.05*		
Hilf Density Ratio (%) :	<b>103.0</b>	<b>103.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b> Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b> Project Name : <b>MONTEGO HILLS - STAGE 5</b> Project Number : <b>GL17/194</b> Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	Report Number: <b>GL17-194.10/1</b> Report Date : <b>23/11/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	239194	239195	239196	239197
Test Number :	30	31	32	33
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	17/11/2017	17/11/2017	17/11/2017	17/11/2017
Date Tested :	17/11/2017	17/11/2017	17/11/2017	17/11/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 37.5	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 36.8	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 33.1	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 32.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	15.3	16.3	14.0	19.4
Hilf MDR Number :	239194	239195	239196	239197
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	86.5	88.5	86.5	88.5
Field Wet Density (t/m <sup>3</sup> ) :	2.040	2.030	2.040	2.030
Optimum Moisture Content (%) :	17.7	18.4	16.2	21.9
Moisture Variation :	2.4	2.1	2.2	2.4
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.950	1.950	1.980	1.940
Hilf Density Ratio (%) :	<b>105.0</b>	<b>104.0</b>	<b>103.5</b>	<b>104.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.11/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>23/11/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239198	239199		
Test Number :	34	35		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	17/11/2017	17/11/2017		
Date Tested :	17/11/2017	17/11/2017		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :				
Sample Location :	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 33.5	MONTEGO HILL DRIVE REFER TO SITE PLAN RL 34.7		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	19.1	18.9		
Hilf MDR Number :	239198	239199		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	89.5	93		
Field Wet Density (t/m <sup>3</sup> ) :	2.020	2.050		
Optimum Moisture Content (%) :	21.3	20.4		
Moisture Variation :	2.2	1.4		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.960	1.970		
Hilf Density Ratio (%) :	<b>103.5</b>	<b>104.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				



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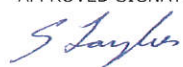


## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.12/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>30/11/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239343	239344	239345	239346
Test Number :	36	37	38	39
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	22/11/2017	22/11/2017	22/11/2017	22/11/2017
Date Tested :	22/11/2017	22/11/2017	22/11/2017	22/11/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.3	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.5	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.0
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	9	10	9	7
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.505	2.506	2.490	2.490
Field Moisture Content (%) :	8.0	7.3	8.4	9.2
Hilf MDR Number :	239343	239344	239345	239346
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	74	79.5	77	78
Field Wet Density (t/m <sup>3</sup> ) :	2.220	2.250	2.200	2.190
Optimum Moisture Content (%) :	10.8	9.2	10.9	11.8
Moisture Variation :	2.8	1.8	2.5	2.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.33*	2.33*	2.31*	2.28*
Hilf Density Ratio (%) :	<b>95.5</b>	<b>96.5</b>	<b>95.5</b>	<b>96.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.13/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>30/11/2017</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	239347	239348	
Test Number :	40	41	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	22/11/2017	22/11/2017	
Date Tested :	22/11/2017	22/11/2017	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :			
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 31.4	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 31.9	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	-	-	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	12	12	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :	2.499	2.501	
Field Moisture Content (%) :	8.4	7.8	
Hilf MDR Number :	239347	239348	
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	81.5	72	
Field Wet Density (t/m <sup>3</sup> ) :	2.200	2.200	
Optimum Moisture Content (%) :	10.3	10.8	
Moisture Variation :	1.9	3.0	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.31*	2.31*	
Hilf Density Ratio (%) :	<b>95.5</b>	<b>95.0</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :			

\* - denotes adjusted for oversize

 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR              NATA Accreditation Number              1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.14/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>12/12/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239711	239712	239713	239714
Test Number :	50	51	52	53
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	6/12/2017	6/12/2017	6/12/2017	6/12/2017
Date Tested :	6/12/2017	6/12/2017	6/12/2017	6/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	93	93	93	93
Sample Location :	LOT 93 REFER TO SITE PLAN RL 42.9	LOT 93 REFER TO SITE PLAN RL 39.9	LOT 93 REFER TO SITE PLAN RL 39.4	LOT 93 REFER TO SITE PLAN RL 37.0
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	10	10	10	7
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.500	2.506	2.493	2.494
Field Moisture Content (%) :	12.1	11.5	10.8	9.7
Hilf MDR Number :	239711	239712	239713	239714
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100	85.5	82.5	69.5
Field Wet Density (t/m <sup>3</sup> ) :	2.150	2.080	2.100	2.090
Optimum Moisture Content (%) :	12.1	13.5	13.1	13.9
Moisture Variation :	0.0	2.0	2.3	4.2
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.23*	2.19*	2.19*	2.18*
Hilf Density Ratio (%) :	<b>96.5</b>	<b>95.0</b>	<b>96.0</b>	<b>96.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.15/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>12/12/2017</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	239715	239716	239717	239718
Test Number :	54	55	56	57
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	6/12/2017	6/12/2017	6/12/2017	6/12/2017
Date Tested :	6/12/2017	6/12/2017	6/12/2017	6/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	103	103	102	102
Sample Location :	LOT 103 REFER TO SITE PLAN RL 37.1	LOT 103 REFER TO SITE PLAN RL 38.2	LOT 102 REFER TO SITE PLAN RL 39.0	LOT 102 REFER TO SITE PLAN RL 37.4
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	11	11	9	12
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.498	2.498	2.492	2.507
Field Moisture Content (%) :	7.3	8.2	9.8	9.9
Hilf MDR Number :	239715	239716	239717	239718
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	71.5	74.5	80.5	78
Field Wet Density (t/m <sup>3</sup> ) :	2.190	2.140	2.160	2.170
Optimum Moisture Content (%) :	10.2	11.0	12.2	12.7
Moisture Variation :	2.9	2.8	2.4	2.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.28*	2.25*	2.2*	2.22*
Hilf Density Ratio (%) :	<b>96.0</b>	<b>95.5</b>	<b>98.0</b>	<b>97.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.16/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>12/12/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239658	239659	239660	239661
Test Number :	42	43	44	45
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	7/12/2017	7/12/2017	7/12/2017	7/12/2017
Date Tested :	7/12/2017	7/12/2017	7/12/2017	7/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	93	93	93	93
Sample Location :	LOT 93 REFER TO SITE PLAN RL 44.1	LOT 93 REFER TO SITE PLAN RL 40.5	LOT 93 REFER TO SITE PLAN RL 41.7	LOT 93 REFER TO SITE PLAN RL 43.8
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	10	7	6	6
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.496	2.495	2.500	2.497
Field Moisture Content (%) :	14.6	13.3	12.8	12.2
Hilf MDR Number :	239658	239659	239660	239661
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	89.5	88	83	79.5
Field Wet Density (t/m <sup>3</sup> ) :	2.150	2.120	2.100	2.140
Optimum Moisture Content (%) :	16.3	15.1	15.4	15.4
Moisture Variation :	1.7	1.8	2.6	3.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.11*	2.09*	2.06*	2.06*
Hilf Density Ratio (%) :	<b>102.0</b>	<b>101.0</b>	<b>102.0</b>	<b>104.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.17/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>13/12/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239707	239708	239709	239710
Test Number :	46	47	48	49
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	8/12/2017	8/12/2017	8/12/2017	8/12/2017
Date Tested :	8/12/2017	8/12/2017	8/12/2017	8/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.206	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.7	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 27.8
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	12	11	10	14
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.411	2.410	2.413	2.411
Field Moisture Content (%) :	9.8	9.5	9.9	9.4
Hilf MDR Number :	239707	239708	239709	239710
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	77	78	78.5	75
Field Wet Density (t/m <sup>3</sup> ) :	2.100	2.140	2.140	2.110
Optimum Moisture Content (%) :	12.7	12.2	12.6	12.5
Moisture Variation :	2.9	2.6	2.7	3.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.19*	2.2*	2.19*	2.19*
Hilf Density Ratio (%) :	<b>96.0</b>	<b>97.5</b>	<b>98.0</b>	<b>96.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b> Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b> Project Name : <b>MONTEGO HILLS - STAGE 5</b> Project Number : <b>GL17/194</b> Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	Report Number: <b>GL17-194.18/1</b> Report Date : <b>20/12/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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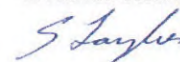
Sample Number :	239898	239899	239900	239901
Test Number :	58	59	60	61
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	13/12/2017	13/12/2017	13/12/2017	13/12/2017
Date Tested :	13/12/2017	13/12/2017	13/12/2017	13/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	104	104
Sample Location :	LOT 104 REFER TO SITE PLAN RL 25.4	LOT 104 REFER TO SITE PLAN RL 26.1	LOT 104 REFER TO SITE PLAN RL 28.2	LOT 104 REFER TO SITE PLAN RL 28.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	10	12	8	12
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.487	2.505	2.490	2.509
Field Moisture Content (%) :	12.2	13.4	14.4	14.2
Hilf MDR Number :	239898	239899	239900	239901
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	80.5	81	83	85.5
Field Wet Density (t/m <sup>3</sup> ) :	2.180	2.180	2.190	2.200
Optimum Moisture Content (%) :	15.1	16.6	17.3	16.6
Moisture Variation :	2.8	3.0	2.8	2.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.25*	2.25*	2.26*	2.28*
Hilf Density Ratio (%) :	<b>97.0</b>	<b>97.0</b>	<b>96.5</b>	<b>96.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize



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APPROVED SIGNATORY




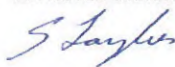
GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169

## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.19/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>20/12/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	239902	239903	239904	239905
Test Number :	62	63	64	65
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	13/12/2017	13/12/2017	13/12/2017	13/12/2017
Date Tested :	13/12/2017	13/12/2017	13/12/2017	13/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	101	101	101	101
Sample Location :	LOT 101 REFER TO SITE PLAN RL 24.1	LOT 101 REFER TO SITE PLAN RL 23.1	LOT 101 REFER TO SITE PLAN RL 25.9	LOT 101 REFER TO SITE PLAN RL 26.4
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	14	13	11	9
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.491	2.508	2.490	2.506
Field Moisture Content (%) :	11.7	12.2	14.0	12.8
Hilf MDR Number :	239902	239903	239904	239905
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	82	80	80.5	85.5
Field Wet Density (t/m <sup>3</sup> ) :	2.170	2.190	2.160	2.190
Optimum Moisture Content (%) :	14.2	15.3	17.4	15.0
Moisture Variation :	2.5	2.9	3.2	2.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.28*	2.28*	2.25*	2.26*
Hilf Density Ratio (%) :	<b>95.0</b>	<b>96.0</b>	<b>96.0</b>	<b>97.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.20/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>20/12/2017</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

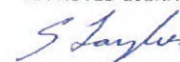
Sample Number :	239943	239944	239945	239946
Test Number :	66	67	68	69
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	14/12/2017	14/12/2017	14/12/2017	14/12/2017
Date Tested :	14/12/2017	14/12/2017	14/12/2017	14/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	104	104
Sample Location :	LOT 104 REFER TO SITE PLAN RL 27.9	LOT 104 REFER TO SITE PLAN RL 31.3	LOT 104 REFER TO SITE PLAN RL 28.1	LOT 104 REFER TO SITE PLAN RL 30.7
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	19	16	17	13
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.502	2.506	2.482	2.496
Field Moisture Content (%) :	6.1	8.1	7.6	7.2
Hilf MDR Number :	239943	239944	239945	239946
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	75.5	79	78.5	101
Field Wet Density (t/m <sup>3</sup> ) :	2.190	2.230	2.190	2.190
Optimum Moisture Content (%) :	8.1	10.3	9.7	7.1
Moisture Variation :	2.1	2.2	2.1	0.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.29*	2.28*	2.27*	2.29*
Hilf Density Ratio (%) :	<b>95.5</b>	<b>97.5</b>	<b>96.5</b>	<b>95.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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APPROVED SIGNATORY



GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.21/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>22/12/2017</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

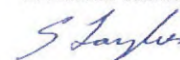
Sample Number :	239997	239998	239999	240000
Test Number :	70	71	72	73
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	15/12/2017	15/12/2017	15/12/2017	15/12/2017
Date Tested :	15/12/2017	15/12/2017	15/12/2017	15/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	104	104
Sample Location :	LOT 104 REFER TO SITE PLAN RL 33.3	LOT 104 REFER TO SITE PLAN RL 34.6	LOT 104 REFER TO SITE PLAN RL 34.9	LOT 104 REFER TO SITE PLAN RL 32.8
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	17	17	14	16
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.497	2.497	2.491	2.508
Field Moisture Content (%) :	7.2	7.3	6.8	7.7
Hilf MDR Number :	239997	239998	239999	240000
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	73.5	73	72.5	77
Field Wet Density (t/m <sup>3</sup> ) :	2.180	2.150	2.190	2.200
Optimum Moisture Content (%) :	9.8	10.0	9.4	10.0
Moisture Variation :	2.6	2.7	2.6	2.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.23*	2.24*	2.21*	2.25*
Hilf Density Ratio (%) :	<b>97.5</b>	<b>96.5</b>	<b>99.0</b>	<b>98.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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 NATA Accreditation Number  
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.22/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>22/12/2017</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240001	240002		
Test Number :	74	75		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	15/12/2017	15/12/2017		
Date Tested :	15/12/2017	15/12/2017		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	104	104		
Sample Location :	LOT 104 REFER TO SITE PLAN RL 32.9	LOT 104 REFER TO SITE PLAN RL 33.1		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	18	19		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.504	2.494		
Field Moisture Content (%) :	7.2	7.2		
Hilf MDR Number :	240001	240002		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	76.5	77.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.150	2.170		
Optimum Moisture Content (%) :	9.4	9.3		
Moisture Variation :	2.3	2.2		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.23*	2.23*		
Hilf Density Ratio (%) :	<b>96.5</b>	<b>97.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


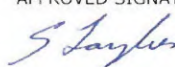
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.23/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>9/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240123	240124	240125	240126
Test Number :	76	77	78	79
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	19/12/2017	19/12/2017	19/12/2017	19/12/2017
Date Tested :	19/12/2017	19/12/2017	19/12/2017	19/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	104	104
Sample Location :	LOT 104 REFER TO SITE PLAN RL 29.5	LOT 104 REFER TO SITE PLAN RL 30.4	LOT 104 REFER TO SITE PLAN RL 33.6	LOT 104 REFER TO SITE PLAN RL 32.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	16	16	11	11
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.405	2.414	2.431	2.485
Field Moisture Content (%) :	8.3	9.2	11.3	10.7
Hilf MDR Number :	240123	240124	240125	240126
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	83	69	84	80
Field Wet Density (t/m <sup>3</sup> ) :	2.140	2.190	2.200	2.170
Optimum Moisture Content (%) :	10.0	13.3	13.4	13.3
Moisture Variation :	1.8	4.1	2.1	2.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.16*	2.15*	2.18*	2.14*
Hilf Density Ratio (%) :	<b>99.0</b>	<b>102.0</b>	<b>101.0</b>	<b>101.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.24/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>9/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240127	240128	240129	240130
Test Number :	80	81	82	83
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	19/12/2017	19/12/2017	19/12/2017	19/12/2017
Date Tested :	19/12/2017	19/12/2017	19/12/2017	19/12/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	104	104
Sample Location :	LOT 104 REFER TO SITE PLAN RL 34.1	LOT 104 REFER TO SITE PLAN RL 33.7	LOT 104 REFER TO SITE PLAN RL 33.1	LOT 104 REFER TO SITE PLAN RL 33.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	16	18	14	13
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.445	2.442	2.435	2.457
Field Moisture Content (%) :	6.0	7.4	7.9	6.9
Hilf MDR Number :	240127	240128	240129	240130
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	72	78.5	82	62
Field Wet Density (t/m <sup>3</sup> ) :	2.190	2.190	2.160	2.180
Optimum Moisture Content (%) :	8.3	9.4	9.6	11.2
Moisture Variation :	2.4	2.1	1.8	4.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.21*	2.19*	2.2*	2.18*
Hilf Density Ratio (%) :	<b>99.0</b>	<b>100.0</b>	<b>98.0</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


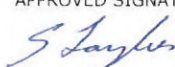
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.25/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>9/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240131	240132		
Test Number :	84	85		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	19/12/2017	19/12/2017		
Date Tested :	19/12/2017	19/12/2017		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	104	104		
Sample Location :	LOT 104 REFER TO SITE PLAN RL 35.6	LOT 104 REFER TO SITE PLAN RL 31.4		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	13	13		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.440	2.447		
Field Moisture Content (%) :	8.2	4.2		
Hilf MDR Number :	240131	240132		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	79	68		
Field Wet Density (t/m <sup>3</sup> ) :	2.140	2.190		
Optimum Moisture Content (%) :	10.4	6.2		
Moisture Variation :	2.2	2.1		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.16*	2.17*		
Hilf Density Ratio (%) :	<b>99.0</b>	<b>101.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>IAN MASMAN (Gold Coast) -        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b> Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b> Project Name : <b>MONTEGO HILLS - STAGE 5</b> Project Number : <b>GL17/194</b> Location : <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	Report Number: <b>GL17-194.26/1</b> Report Date : <b>16/01/2018</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	240286	240287	240288	240289
Test Number :	86	87	88	89
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	10/01/2018	10/01/2018	10/01/2018	10/01/2018
Date Tested :	10/01/2018	10/01/2018	10/01/2018	10/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	100	100
Sample Location :	LOT 104 REFER TO SITE PLAN RL 40.3	LOT 104 REFER TO SITE PLAN RL 39.4	LOT 100 REFER TO SITE PLAN RL 38.7	LOT 100 REFER TO SITE PLAN RL 39.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	19	19	18	19
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.401	2.401	2.401	2.401
Field Moisture Content (%) :	9.8	10.5	9.7	11.2
Hilf MDR Number :	240286	240287	240288	240289
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	82	85	91	91
Field Wet Density (t/m <sup>3</sup> ) :	2.180	2.160	2.190	2.210
Optimum Moisture Content (%) :	12.0	12.4	10.7	12.3
Moisture Variation :	2.2	1.9	1.0	1.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.22*	2.22*	2.21*	2.17*
Hilf Density Ratio (%) :	<b>98.0</b>	<b>97.5</b>	<b>99.0</b>	<b>101.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


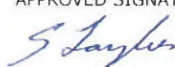
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <p style="text-align: center;"><i>G Taylor</i></p> <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.27/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>16/01/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240290	240291	240292	240293
Test Number :	90	91	92	93
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	10/01/2018	10/01/2018	10/01/2018	10/01/2018
Date Tested :	10/01/2018	10/01/2018	10/01/2018	10/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	101	101	102	102
Sample Location :	LOT 101 REFER TO SITE PLAN RL 33.3	LOT 101 REFER TO SITE PLAN RL 33.1	LOT 102 REFER TO SITE PLAN RL 38.9	LOT 102 REFER TO SITE PLAN RL 39.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	17	19	19	18
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.402	2.402	2.402	2.401
Field Moisture Content (%) :	10.5	10.8	9.3	15.4
Hilf MDR Number :	240290	240291	240292	240293
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	88	90	82.5	87
Field Wet Density (t/m <sup>3</sup> ) :	2.170	2.180	2.200	2.180
Optimum Moisture Content (%) :	11.9	12.0	11.3	17.8
Moisture Variation :	1.4	1.2	2.0	2.2
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.2*	2.2*	2.21*	2.14*
Hilf Density Ratio (%) :	<b>98.5</b>	<b>99.0</b>	<b>99.5</b>	<b>102.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR                  NATA Accreditation Number                  1169</p>
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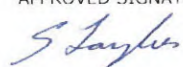


## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.28/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>16/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240294	240295	240296	240297
Test Number :	94	95	96	97
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	10/01/2018	10/01/2018	10/01/2018	10/01/2018
Date Tested :	10/01/2018	10/01/2018	10/01/2018	10/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	103	103	103	103
Sample Location :	LOT 103 REFER TO SITE PLAN RL 36.5	LOT 103 REFER TO SITE PLAN RL 37.1	LOT 103 REFER TO SITE PLAN RL 33.0	LOT 103 REFER TO SITE PLAN RL 38.3
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	18	20	16	20
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.401	2.400	2.401	2.402
Field Moisture Content (%) :	7.0	7.5	8.7	13.1
Hilf MDR Number :	240294	240295	240296	240297
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	68.5	62	79	101.5
Field Wet Density (t/m <sup>3</sup> ) :	2.180	2.140	2.190	2.150
Optimum Moisture Content (%) :	10.2	12.1	11.0	12.9
Moisture Variation :	3.3	4.5	2.4	-0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.19*	2.22*	2.23*	2.15*
Hilf Density Ratio (%) :	<b>99.5</b>	<b>96.5</b>	<b>98.5</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


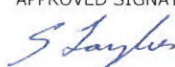
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.29/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>18/01/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240350	240351	240352	240353
Test Number :	98	99	100	101
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	12/01/2018	12/01/2018	12/01/2018	12/01/2018
Date Tested :	12/01/2018	12/01/2018	12/01/2018	12/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	100	101	102
Sample Location :	LOT 104 REFER TO SITE PLAN RL 40.1	LOT 100 REFER TO SITE PLAN RL 40.7	LOT 101 REFER TO SITE PLAN RL 40.9	LOT 102 REFER TO SITE PLAN RL 39.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	10	12	20	10
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.403	2.405	2.402	2.400
Field Moisture Content (%) :	8.3	7.4	7.6	10.4
Hilf MDR Number :	240350	240351	240352	240353
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	61.5	57	55	63
Field Wet Density (t/m <sup>3</sup> ) :	2.150	2.120	2.140	2.110
Optimum Moisture Content (%) :	13.5	13.0	13.9	16.5
Moisture Variation :	5.3	5.7	6.3	6.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.01*	2.01*	2.06*	1.98*
Hilf Density Ratio (%) :	<b>107.0</b>	<b>105.5</b>	<b>104.0</b>	<b>106.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize

 <b>NATA</b> <small>WORLD RECOGNISED ACCREDITATION</small>	Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  <b>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR</b> NATA Accreditation Number 1169
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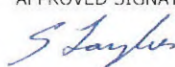


## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.30/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>22/01/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240411	240412	240413	240414
Test Number :	102	103	104	105
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	15/01/2018	15/01/2018	15/01/2018	15/01/2018
Date Tested :	15/01/2018	15/01/2018	15/01/2018	15/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	REFER TO SITE PLAN RL 27.8	REFER TO SITE PLAN RL 28.4	REFER TO SITE PLAN RL 27.9	REFER TO SITE PLAN RL 29.2
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	7	5	8	5
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.401	2.402	2.411	2.402
Field Moisture Content (%) :	20.8	15.0	1.3	19.0
Hilf MDR Number :	240411	240412	240413	240414
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	74	73	18	82.5
Field Wet Density (t/m <sup>3</sup> ) :	1.900	1.910	1.910	2.000
Optimum Moisture Content (%) :	28.2	20.5	7.3	23.0
Moisture Variation :	7.0	5.6	6.7	3.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.83*	1.82*	1.85*	1.9*
Hilf Density Ratio (%) :	<b>103.5</b>	<b>105.0</b>	<b>103.5</b>	<b>105.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


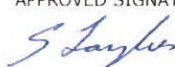
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.31/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>22/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240415	240416	240417	240418
Test Number :	106	107	108	109
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	15/01/2018	15/01/2018	15/01/2018	15/01/2018
Date Tested :	15/01/2018	15/01/2018	15/01/2018	15/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	101	102	103	103
Sample Location :	LOT 101 REFER TO SITE PLAN RL 37.9	LOT 102 REFER TO SITE PLAN RL 39.1	LOT 103 REFER TO SITE PLAN RL 40.6	LOT 103 REFER TO SITE PLAN RL 40.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	7	4	9	5
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.409	2.422	2.402	2.405
Field Moisture Content (%) :	17.2	25.3	15.7	21.0
Hilf MDR Number :	240415	240416	240417	240418
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	78	83	75	79.5
Field Wet Density (t/m <sup>3</sup> ) :	2.020	1.910	2.030	1.900
Optimum Moisture Content (%) :	22.1	30.6	21.0	26.5
Moisture Variation :	4.8	4.9	5.2	5.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.9*	1.84*	1.9*	1.83*
Hilf Density Ratio (%) :	<b>106.5</b>	<b>104.0</b>	<b>106.5</b>	<b>104.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.32/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>23/01/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240469	240470	240471	240472
Test Number :	110	111	112	113
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	17/01/2018	17/01/2018	17/01/2018	17/01/2018
Date Tested :	17/01/2018	17/01/2018	17/01/2018	17/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.9	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.3	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.4
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	12	9	7	7
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.455	2.454	2.533	2.536
Field Moisture Content (%) :	7.7	6.2	10.9	
Hilf MDR Number :	240469	240470	240471	240472
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	51.5	49	64.5	148
Field Wet Density (t/m <sup>3</sup> ) :	2.120	2.110	2.140	2.100
Optimum Moisture Content (%) :	15.0	12.7	16.9	
Moisture Variation :	7.3	6.6	5.9	5.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.98*	1.99*	1.99*	2.01*
Hilf Density Ratio (%) :	<b>107.0</b>	<b>106.5</b>	<b>107.5</b>	<b>104.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize



 <p><b>NATA</b> WORLD RECOGNISED ACCREDITATION</p>	<p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p> 
		<p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>

## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.33/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>23/01/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240473	240474	240475	240476
Test Number :	114	115	116	117
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	17/01/2018	17/01/2018	17/01/2018	17/01/2018
Date Tested :	17/01/2018	17/01/2018	17/01/2018	17/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.7	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.4	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	10	9	9	4
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.446	2.482	2.443	2.507
Field Moisture Content (%) :	7.9	9.3	8.8	4.9
Hilf MDR Number :	240473	240474	240475	240476
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	58	64.5	67.5	45.5
Field Wet Density (t/m <sup>3</sup> ) :	2.110	2.130	2.150	2.130
Optimum Moisture Content (%) :	13.7	14.4	13.0	10.8
Moisture Variation :	5.8	5.1	4.3	6.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.02*	2.03*	2*	1.99*
Hilf Density Ratio (%) :	<b>104.5</b>	<b>105.0</b>	<b>107.5</b>	<b>107.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <b>NATA</b> <small>WORLD RECOGNISED ACCREDITATION</small>	Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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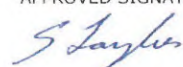


## Hilf Density Ratio Report

Client :	CCA WINSLOW	Report Number:	GL17-194.34/1
Address :	1587 IPSWICH ROAD, ROCKLEA, QLD, 4106	Report Date :	23/01/2018
Project Name :	MONTEGO HILLS - STAGE 5	Order Number :	
Project Number :	GL17/194	Test Method :	AS1289.5.8.1 & 5.7.1
Location:	UPPER ORMEAU ROAD , KINGSHOLME		Page 1 of 1

Sample Number :	240500	240501	240502	240503
Test Number :	118	119	120	121
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/01/2018	18/01/2018	18/01/2018	18/01/2018
Date Tested :	18/01/2018	18/01/2018	18/01/2018	18/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	94	94	94	94
Sample Location :	LOT 94 REFER TO SITE PLAN RL 50.9	LOT 94 REFER TO SITE PLAN RL 48.1	LOT 94 REFER TO SITE PLAN RL 47.6	LOT 94 REFER TO SITE PLAN RL 46.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	3	4	4	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.507	2.467	2.536	2.518
Field Moisture Content (%) :	16.2	15.7	13.8	18.2
Hilf MDR Number :	240500	240501	240502	240503
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100	101	100.5	100.5
Field Wet Density (t/m <sup>3</sup> ) :	2.090	2.100	2.110	2.110
Optimum Moisture Content (%) :	16.2	15.6	13.7	18.1
Moisture Variation :	0.0	0.0	0.0	0.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.14*	2.14*	2.16*	2.13*
Hilf Density Ratio (%) :	<b>97.5</b>	<b>98.0</b>	<b>97.5</b>	<b>99.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize


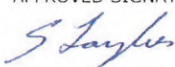
 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.35/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>23/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240504	240505	
Test Number :	122	123	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	18/01/2018	18/01/2018	
Date Tested :	18/01/2018	18/01/2018	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :	104	104	
Sample Location :	LOT 104 REFER TO SITE PLAN RL 43.7	LOT 104 REFER TO SITE PLAN RL 42.9	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	200	200	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	3	1	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :	2.510	2.534	
Field Moisture Content (%) :	12.1	16.0	
Hilf MDR Number :	240504	240505	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	85	97.5	
Field Wet Density (t/m <sup>3</sup> ) :	2.080	2.110	
Optimum Moisture Content (%) :	14.3	16.5	
Moisture Variation :	2.1	0.5	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.12*	2.14*	
Hilf Density Ratio (%) :	<b>98.0</b>	<b>98.5</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.36/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>23/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240510	240511		
Test Number :	124	125		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	19/01/2018	19/01/2018		
Date Tested :	19/01/2018	19/01/2018		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 28.6	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 27.7		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	200	200		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	13	19		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.521	2.511		
Field Moisture Content (%) :	10.0	12.9		
Hilf MDR Number :	240510	240511		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	81	101.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.160	2.140		
Optimum Moisture Content (%) :	12.4	12.7		
Moisture Variation :	2.3	-0.1		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.18*	2.22*		
Hilf Density Ratio (%) :	<b>99.0</b>	<b>96.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize



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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.37/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>25/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240560	240561	240562	240563
Test Number :	126	127	128	129
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	22/01/2018	22/01/2018	22/01/2018	22/01/2018
Date Tested :	22/01/2018	22/01/2018	22/01/2018	22/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	104	104	104	104
Sample Location :	LOT 104 REFER TO SITE PLAN RL 33.7	LOT 104 REFER TO SITE PLAN RL 34.1	LOT 104 REFER TO SITE PLAN RL 34.6	LOT 104 REFER TO SITE PLAN RL 34.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	1	2	-	1
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.419	2.436	2.437	2.480
Field Moisture Content (%) :	13.5	13.6	15.9	15.3
Hilf MDR Number :	240560	240561	240562	240563
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	89.5	90	90	90
Field Wet Density (t/m <sup>3</sup> ) :	2.010	2.020	2.060	2.080
Optimum Moisture Content (%) :	15.1	15.1	17.7	17.0
Moisture Variation :	1.6	1.5	1.7	1.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.04*	2.05*	2.050	2.06*
Hilf Density Ratio (%) :	<b>98.5</b>	<b>99.0</b>	<b>101.0</b>	<b>101.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169</p>
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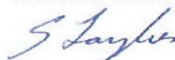


## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.38/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>25/01/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240564	240565	
Test Number :	130	131	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	22/01/2018	22/01/2018	
Date Tested :	22/01/2018	22/01/2018	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :	100	100	
Sample Location :	LOT 100 REFER TO SITE PLAN RL 37.1	LOT 100 REFER TO SITE PLAN RL 38.0	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	200	200	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	3	8	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :	2.470	2.450	
Field Moisture Content (%) :	14.1	11.7	
Hilf MDR Number :	240564	240565	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	88	87	
Field Wet Density (t/m <sup>3</sup> ) :	2.080	2.020	
Optimum Moisture Content (%) :	16.1	13.5	
Moisture Variation :	1.9	1.8	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.06*	2.03*	
Hilf Density Ratio (%) :	<b>101.0</b>	<b>99.5</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		

\* - denotes adjusted for oversize


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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.39/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>2/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240685	240686	240687	240688
Test Number :	132	133	134	135
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	24/01/2018	24/01/2018	24/01/2018	24/01/2018
Date Tested :	24/01/2018	24/01/2018	24/01/2018	24/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 38.7	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 39.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 39.3	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 39.0
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	2	2	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.500	2.509	2.503	2.500
Field Moisture Content (%) :	13.6	10.9	9.8	12.8
Hilf MDR Number :	240685	240686	240687	240688
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	106	85.5	82	86.5
Field Wet Density (t/m <sup>3</sup> ) :	2.150	2.160	2.160	2.030
Optimum Moisture Content (%) :	12.9	12.8	11.9	14.8
Moisture Variation :	-0.7	1.9	2.1	1.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.13*	2.12*	2.08*	2.020
Hilf Density Ratio (%) :	<b>101.0</b>	<b>102.0</b>	<b>103.5</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <p style="text-align: center;"><i>G Taylor</i></p> <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR                  NATA Accreditation Number                  1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b> Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b> Project Name : <b>MONTEGO HILLS - STAGE 5</b> Project Number : <b>GL17/194</b> Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	Report Number: <b>GL17-194.40/1</b> Report Date : <b>2/02/2018</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	240689	240690		
Test Number :	136	137		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	24/01/2018	24/01/2018		
Date Tested :	24/01/2018	24/01/2018		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 40.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 40.3		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	2	2		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.504	2.498		
Field Moisture Content (%) :	9.5	11.3		
Hilf MDR Number :	240689	240690		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	85	84.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.190	2.090		
Optimum Moisture Content (%) :	11.2	13.4		
Moisture Variation :	1.7	2.1		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.11*	2.07*		
Hilf Density Ratio (%) :	<b>103.5</b>	<b>100.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

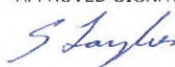
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.41/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>5/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240916	240917	240918	240919
Test Number :	147	148	149	150
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	31/01/2018	31/01/2018	31/01/2018	31/01/2018
Date Tested :	31/01/2018	31/01/2018	31/01/2018	31/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	88	88		
Sample Location :	LOT 88 REFER TO SITE PLAN RL 31.8	LOT 88 REFER TO SITE PLAN RL 32.4	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.4
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	12	12	16	8
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.495	2.499	2.501	2.498
Field Moisture Content (%) :	14.8	14.2	13.0	10.1
Hilf MDR Number :	240916	240917	240918	240919
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	99	99	97	82
Field Wet Density (t/m <sup>3</sup> ) :	2.140	2.160	2.150	2.130
Optimum Moisture Content (%) :	14.9	14.3	13.4	12.3
Moisture Variation :	0.1	0.1	0.3	2.2
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.19*	2.23*	2.24*	2.13*
Hilf Density Ratio (%) :	<b>98.0</b>	<b>97.0</b>	<b>96.0</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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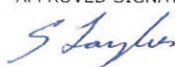


## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.42/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>5/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240920	240921	
Test Number :	151	152	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	31/01/2018	31/01/2018	
Date Tested :	31/01/2018	31/01/2018	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :			
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 29.4	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.2	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	-	-	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	14	5	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :	2.497	2.503	
Field Moisture Content (%) :	13.3	14.2	
Hilf MDR Number :	240920	240921	
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	97	89	
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.090	
Optimum Moisture Content (%) :	13.7	15.9	
Moisture Variation :	0.3	1.7	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.22*	2.06*	
Hilf Density Ratio (%) :	<b>96.5</b>	<b>101.5</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		

\* - denotes adjusted for oversize


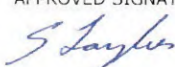
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.43/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>8/02/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240794	240795	240796	240797
Test Number :	138	139	140	141
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	30/01/2018	30/01/2018	30/01/2018	30/01/2018
Date Tested :	30/01/2018	30/01/2018	30/01/2018	30/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	100	100	101	101
Sample Location :	LOT 100 REFER TO SITE PLAN RL 39.0	LOT 100 REFER TO SITE PLAN RL 39.4	LOT 101 REFER TO SITE PLAN RL 42.0	LOT 101 REFER TO SITE PLAN RL 41.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	3	5	7	8
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.494	2.492	2.499	2.508
Field Moisture Content (%) :	4.3	9.2	8.0	10.0
Hilf MDR Number :	240794	240795	240796	240797
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	50	67.5	56	74.5
Field Wet Density (t/m <sup>3</sup> ) :	2.010	2.020	2.000	2.040
Optimum Moisture Content (%) :	8.6	13.6	14.3	13.4
Moisture Variation :	4.7	4.5	6.3	3.5
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.91*	1.98*	1.96*	2.03*
Hilf Density Ratio (%) :	<b>105.0</b>	<b>102.0</b>	<b>102.0</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <b>NATA</b> <small>WORLD RECOGNISED ACCREDITATION</small>	Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.44/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>8/02/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	240798	240799	240800	240801
Test Number :	142	143	144	145
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	30/01/2018	30/01/2018	30/01/2018	30/01/2018
Date Tested :	30/01/2018	30/01/2018	30/01/2018	30/01/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	102	98	98	98
Sample Location :	LOT 102 REFER TO SITE PLAN RL 44.3	LOT 98 REFER TO SITE PLAN RL 47.2	LOT 98 REFER TO SITE PLAN RL 47.6	LOT 99 REFER TO SITE PLAN RL 44.0
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	17	7	5	19
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.502	2.495	2.500	2.504
Field Moisture Content (%) :	5.4	11.4	12.2	13.3
Hilf MDR Number :	240798	240799	240800	240801
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	46.5	75	75	80
Field Wet Density (t/m <sup>3</sup> ) :	2.210	2.070	2.090	2.090
Optimum Moisture Content (%) :	11.7	15.2	16.2	16.6
Moisture Variation :	6.2	3.8	4.0	3.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.17*	2*	1.99*	2.01*
Hilf Density Ratio (%) :	<b>102.0</b>	<b>103.5</b>	<b>105.0</b>	<b>104.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


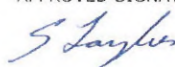
 <p><b>NATA</b> WORLD RECOGNISED ACCREDITATION</p> <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.45/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>8/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	240802		
Test Number :	146		
Sampling Method :	AS1289.1.2.1 CL. 6.4		
Date Sampled :	30/01/2018		
Date Tested :	30/01/2018		
Material Type :	GENERAL FILL		
Material Source :	ONSITE		
Lot Number :	98		
Sample Location :	LOT 98 REFER TO SITE PLAN RL 43.7		
Test Depth (mm) :	150		
Layer Depth (mm) :	-		
Maximum Size (mm) :	19		
Oversize Wet (%) :	7		
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :	2.496		
Field Moisture Content (%) :	8.3		
Hilf MDR Number :	240802		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard		
Field Density Method :	AS1289.5.8.1		
Moisture Method :	AS 1289.2.1.1		
Moisture Ratio (%) :	61		
Field Wet Density (t/m <sup>3</sup> ) :	2.100		
Optimum Moisture Content (%) :	13.7		
Moisture Variation :	5.6		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.94*		
Hilf Density Ratio (%) :	<b>108.5</b>		
Minimum Specification :	95		
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		

\* - denotes adjusted for oversize

 <p style="text-align: center;"><b>Accredited for compliance with ISO/IEC 17025 - Testing.</b></p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.46/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>13/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241045	241046	241047	241048
Test Number :	153	154	155	156
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	6/02/2018	6/02/2018	6/02/2018	6/02/2018
Date Tested :	6/02/2018	6/02/2018	6/02/2018	6/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :		99	94	93
Sample Location :	DRIFTWOOD CCT REFER TO SITE PLAN RL 38.4	LOT 99 REFER TO SITE PLAN RL 51.3	LOT 94 REFER TO SITE PLAN RL 50.7	LOT 93 REFER TO SITE PLAN RL 44.3
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	2	2	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.436	2.424	2.403	2.400
Field Moisture Content (%) :	13.5	19.4	17.3	17.1
Hilf MDR Number :	241045	241046	241047	241048
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :				
Moisture Ratio (%) :	104	100.5	89	97.5
Field Wet Density (t/m <sup>3</sup> ) :	2.100	2.090	2.110	2.100
Optimum Moisture Content (%) :	13.0	19.3	19.5	17.6
Moisture Variation :	-0.4	0.0	2.1	0.5
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.12*	2.09*	2.11*	2.08*
Hilf Density Ratio (%) :	<b>99.0</b>	<b>99.5</b>	<b>100.0</b>	<b>101.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


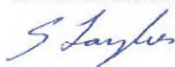
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.47/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>13/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241049	241050	241051	241052
Test Number :	157	158	159	160
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	6/02/2018	6/02/2018	6/02/2018	6/02/2018
Date Tested :	6/02/2018	6/02/2018	6/02/2018	6/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	88	88	100	101
Sample Location :	LOT 88 REFER TO SITE PLAN RL 31.8	LOT 88 REFER TO SITE PLAN RL 31.5	LOT 100 REFER TO SITE PLAN RL 40.2	LOT 101 REFER TO SITE PLAN RL 42.8
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	3	3	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.413	2.405	2.406	2.403
Field Moisture Content (%) :	19.8	9.3	21.8	9.1
Hilf MDR Number :	241049	241050	241051	241052
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :				
Moisture Ratio (%) :	116.5	102	100	98.5
Field Wet Density (t/m <sup>3</sup> ) :	2.180	2.190	2.200	2.220
Optimum Moisture Content (%) :	17.0	9.1	21.8	9.3
Moisture Variation :	-2.5	-0.1	0.0	0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.25*	2.19*	2.24*	2.18*
Hilf Density Ratio (%) :	<b>97.0</b>	<b>100.0</b>	<b>98.5</b>	<b>102.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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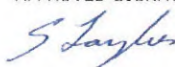


## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.48/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>19/02/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGS HOLME</b>		<b>Page 1 of 1</b>

Sample Number :	241166	241167	241168	241169
Test Number :	161	162	163	164
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	8/02/2018	8/02/2018	8/02/2018	8/02/2018
Date Tested :	8/02/2018	8/02/2018	8/02/2018	8/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	100	100	101	102
Sample Location :	LOT 100 REFER TO SITE PLAN RL 39.7	LOT 100 REFER TO SITE PLAN RL 39.9	LOT 101 REFER TO SITE PLAN RL 41.5	LOT 102 REFER TO SITE PLAN RL 44.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	5	5	3	10
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.491	2.480	2.491	2.502
Field Moisture Content (%) :	9.0	9.0	9.2	9.7
Hilf MDR Number :	241166	241167	241168	241169
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	71	81	81	72.5
Field Wet Density (t/m <sup>3</sup> ) :	2.100	2.110	2.110	2.100
Optimum Moisture Content (%) :	12.7	11.1	11.3	13.4
Moisture Variation :	3.7	2.2	2.3	3.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.08*	2.06*	2.03*	2.11*
Hilf Density Ratio (%) :	<b>100.5</b>	<b>103.0</b>	<b>104.0</b>	<b>99.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize



 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.49/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>19/02/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241170	241171	241172	241173
Test Number :	165	166	167	168
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	8/02/2018	8/02/2018	8/02/2018	8/02/2018
Date Tested :	8/02/2018	8/02/2018	8/02/2018	8/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	103	94	93	98
Sample Location :	LOT 103 REFER TO SITE PLAN RL 42.1	LOT 94 REFER TO SITE PLAN RL 47.1	LOT 93 REFER TO SITE PLAN RL 45.1	LOT 98 REFER TO SITE PLAN RL 47.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	7	5	5	8
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.497	2.492	2.492	2.496
Field Moisture Content (%) :	9.0	10.0	10.0	8.6
Hilf MDR Number :	241170	241171	241172	241173
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	76	70	84.5	66.5
Field Wet Density (t/m <sup>3</sup> ) :	2.120	2.110	2.120	2.160
Optimum Moisture Content (%) :	11.9	14.3	11.9	12.9
Moisture Variation :	2.9	4.2	1.9	4.4
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.1*	2.1*	2.06*	2.08*
Hilf Density Ratio (%) :	<b>101.0</b>	<b>100.0</b>	<b>102.5</b>	<b>103.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;"><b>Accredited for compliance with ISO/IEC 17025 - Testing.</b></p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.50/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>1/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241389	241390	241391	241392
Test Number :	169	170	171	172
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	19/02/2018	19/02/2018	19/02/2018	19/02/2018
Date Tested :	19/02/2018	19/02/2018	19/02/2018	19/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 42.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 37.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 37.0	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 32.0
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	6	9	4	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.492	2.504	2.494	2.497
Field Moisture Content (%) :	9.4	11.2	11.4	8.0
Hilf MDR Number :	241389	241390	241391	241392
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	71	70.5	77	78.5
Field Wet Density (t/m <sup>3</sup> ) :	2.110	2.140	2.110	2.010
Optimum Moisture Content (%) :	13.3	15.8	14.8	10.2
Moisture Variation :	3.9	4.6	3.5	2.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.02*	2.04*	2.03*	1.94*
Hilf Density Ratio (%) :	<b>104.5</b>	<b>105.0</b>	<b>104.0</b>	<b>103.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <p style="text-align: center;"><i>G Taylor</i></p> <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.51/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>1/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241440	241441	241442	241443
Test Number :	173	174	175	176
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	20/02/2018	20/02/2018	20/02/2018	20/02/2018
Date Tested :	20/02/2018	20/02/2018	20/02/2018	20/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	87	87		88
Sample Location :	LOT 87 REFER TO SITE PLAN RL 33.4	LOT 87 REFER TO SITE PLAN RL 33.8	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 33.0	LOT 88 REFER TO SITE PLAN RL 31.4
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	6	10	6	4
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.512	2.491	2.496	2.470
Field Moisture Content (%) :	8.9	9.2	8.6	9.0
Hilf MDR Number :	241440	241441	241442	241443
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	84	84	83.5	83.5
Field Wet Density (t/m <sup>3</sup> ) :	2.060	2.070	2.090	2.100
Optimum Moisture Content (%) :	10.6	10.9	10.3	10.8
Moisture Variation :	1.7	1.8	1.7	1.8
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.06*	2.09*	2.08*	2.04*
Hilf Density Ratio (%) :	<b>100.0</b>	<b>99.0</b>	<b>100.5</b>	<b>103.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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APPROVED SIGNATORY



GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169





## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.52/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>1/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241444	241445	241446	241447
Test Number :	177	178	179	180
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	20/02/2018	20/02/2018	20/02/2018	20/02/2018
Date Tested :	20/02/2018	20/02/2018	20/02/2018	20/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :			103	103
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.9	LOT 103 REFER TO SITE PLAN RL 41.9	LOT 103 REFER TO SITE PLAN RL 45.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	7	7	7	5
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.486	2.501	2.474	2.467
Field Moisture Content (%) :	12.5	10.3	11.4	12.4
Hilf MDR Number :	241444	241445	241446	241447
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	94.5	83.5	90	97
Field Wet Density (t/m <sup>3</sup> ) :	2.100	2.120	2.100	2.170
Optimum Moisture Content (%) :	13.3	12.4	12.7	12.8
Moisture Variation :	0.8	2.1	1.2	0.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.13*	2.16*	2.15*	2.24*
Hilf Density Ratio (%) :	<b>98.5</b>	<b>98.0</b>	<b>97.5</b>	<b>97.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


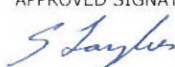
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.53/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>1/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241448	241449	241450	241451
Test Number :	181	182	183	184
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	20/02/2018	20/02/2018	20/02/2018	20/02/2018
Date Tested :	20/02/2018	20/02/2018	20/02/2018	20/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	102	101	100	100
Sample Location :	LOT 102 REFER TO SITE PLAN RL 45.0	LOT 101 REFER TO SITE PLAN RL 42.2	LOT 100 REFER TO SITE PLAN RL 42.0	LOT 100 REFER TO SITE PLAN RL 40.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	6	10	9	6
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.479	2.490	2.503	2.496
Field Moisture Content (%) :	10.3	10.1	11.7	9.3
Hilf MDR Number :	241448	241449	241450	241451
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	85.5	79	88.5	80
Field Wet Density (t/m <sup>3</sup> ) :	2.080	2.100	2.120	2.110
Optimum Moisture Content (%) :	12.0	12.8	13.2	11.6
Moisture Variation :	1.8	2.7	1.5	2.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.17*	2.14*	2.12*	2.12*
Hilf Density Ratio (%) :	<b>95.5</b>	<b>98.0</b>	<b>100.0</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <b>WORLD RECOGNISED ACCREDITATION</b>	Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  <b>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR</b> NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.54/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>1/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241481	241482	241483	241484
Test Number :	185	186	187	188
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	21/02/2018	21/02/2018	21/02/2018	21/02/2018
Date Tested :	21/02/2018	21/02/2018	21/02/2018	21/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	93	93	94	94
Sample Location :	LOT 93 REFER TO SITE PLAN RL 46.0	LOT 93 REFER TO SITE PLAN RL 45.4	LOT 94 REFER TO SITE PLAN RL 51.0	LOT 94 REFER TO SITE PLAN RL 49.4
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	4	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.494			
Field Moisture Content (%) :	12.2	15.2	5.6	25.6
Hilf MDR Number :	241481	241482	241483	241484
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	88.5	105	106.5	99.5
Field Wet Density (t/m <sup>3</sup> ) :	2.060	2.040	2.070	2.080
Optimum Moisture Content (%) :	13.8	14.5	5.3	25.8
Moisture Variation :	1.6	-0.6	-0.2	0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.1*	2.110	2.060	2.080
Hilf Density Ratio (%) :	<b>98.0</b>	<b>96.5</b>	<b>100.0</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


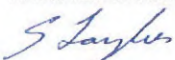
 <b>Accredited for compliance with ISO/IEC 17025 - Testing.</b>	APPROVED SIGNATORY  <b>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR</b> NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.55/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>1/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241485	241486	241487	241488
Test Number :	189	190	191	192
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	21/02/2018	21/02/2018	21/02/2018	21/02/2018
Date Tested :	21/02/2018	21/02/2018	21/02/2018	21/02/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :		100	104	101
Sample Location :	DRIFTWOOD CCT REFER TO SITE PLAN RL 42.4	LOT 100 REFER TO SITE PLAN RL 40.0	LOT 104 REFER TO SITE PLAN RL 37.1	LOT 101 REFER TO SITE PLAN RL 44.2
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	2	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.484	2.471		
Field Moisture Content (%) :	15.0	13.4	10.4	12.5
Hilf MDR Number :	241485	241486	241487	241488
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	86.5	91.5	87	85
Field Wet Density (t/m <sup>3</sup> ) :	2.100	2.050	2.040	2.030
Optimum Moisture Content (%) :	17.3	14.6	11.9	14.7
Moisture Variation :	2.2	1.2	1.6	2.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.09*	2.08*	2.090	2.090
Hilf Density Ratio (%) :	<b>100.5</b>	<b>98.5</b>	<b>97.5</b>	<b>97.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <b>NATA</b> <small>WORLD RECOGNISED ACCREDITATION</small>	Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report


Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.56/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>8/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241656	241657	241658	241659
Test Number :	193	194	195	196
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Date Tested :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				104
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 43.8	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 43.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 40.1	LOT 104 REFER TO SITE PLAN RL 41.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	10.3	10.8	10.4	12.3
Hilf MDR Number :	241656	241657	241658	241659
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	82	81.5	82	101.5
Field Wet Density (t/m <sup>3</sup> ) :	2.090	2.110	2.100	2.080
Optimum Moisture Content (%) :	12.6	13.3	12.7	12.1
Moisture Variation :	2.2	2.4	2.3	-0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.140	2.120	2.110	2.120
Hilf Density Ratio (%) :	<b>97.5</b>	<b>99.5</b>	<b>100.0</b>	<b>98.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

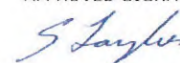
Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.57/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>8/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>		<b>Page 1 of 1</b>

Sample Number :	241660	241661	241662	241663
Test Number :	197	198	199	200
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Date Tested :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	100	101	102	103
Sample Location :	LOT 100 REFER TO SITE PLAN RL 41.3	LOT 101 REFER TO SITE PLAN RL 41.1	LOT 102 REFER TO SITE PLAN RL 44.8	LOT 103 REFER TO SITE PLAN RL 41.3
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	10.4	10.4	10.0	11.8
Hilf MDR Number :	241660	241661	241662	241663
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100.5	83.5	79.5	84.5
Field Wet Density (t/m <sup>3</sup> ) :	2.070	2.090	2.120	2.110
Optimum Moisture Content (%) :	10.4	12.5	12.6	14.0
Moisture Variation :	0.0	2.1	2.6	2.2
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.030	2.160	2.100	2.160
Hilf Density Ratio (%) :	<b>101.5</b>	<b>97.0</b>	<b>101.0</b>	<b>97.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				



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## Hilf Density Ratio Report

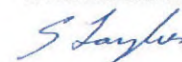
Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.58/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>8/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241664	241665	241666	241667
Test Number :	201	202	203	204
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Date Tested :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	103	94	93	93
Sample Location :	LOT 103 REFER TO SITE PLAN RL 41.8	LOT 94 REFER TO SITE PLAN RL 50.9	LOT 93 REFER TO SITE PLAN RL 45.8	LOT 93 REFER TO SITE PLAN RL 45.3
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	10.9	11.1	10.7	10.6
Hilf MDR Number :	241664	241665	241666	241667
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	82.5	82.5	82	82
Field Wet Density (t/m <sup>3</sup> ) :	2.070	2.110	2.120	2.080
Optimum Moisture Content (%) :	13.3	13.5	13.0	12.9
Moisture Variation :	2.3	2.3	2.3	2.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.120	2.130	2.140	2.130
Hilf Density Ratio (%) :	<b>98.0</b>	<b>99.0</b>	<b>99.0</b>	<b>97.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

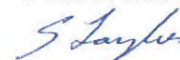
Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.59/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>8/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241668	241669	241670	241671
Test Number :	205	206	207	208
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Date Tested :	1/03/2018	1/03/2018	1/03/2018	1/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	99	99	92	92
Sample Location :	LOT 99 REFER TO SITE PLAN RL 49.4	LOT 99 REFER TO SITE PLAN RL 50.1	LOT 92 REFER TO SITE PLAN RL 35.0	LOT 92 REFER TO SITE PLAN RL 34.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	6.9	8.5	9.6	9.4
Hilf MDR Number :	241668	241669	241670	241671
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	73	77.5	78.5	77
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.120	2.160	2.130
Optimum Moisture Content (%) :	9.5	11.0	12.2	12.2
Moisture Variation :	2.6	2.5	2.6	2.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.140	2.140	2.110	2.120
Hilf Density Ratio (%) :	<b>99.5</b>	<b>99.0</b>	<b>102.5</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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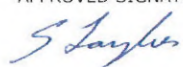
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.60/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>8/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241672	241673	
Test Number :	209	210	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	1/03/2018	1/03/2018	
Date Tested :	1/03/2018	1/03/2018	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :	89	88	
Sample Location :	LOT 89 REFER TO SITE PLAN RL 31.0	LOT 89 REFER TO SITE PLAN RL 31.2	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	200	200	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	-	-	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :			
Field Moisture Content (%) :	13.0	11.6	
Hilf MDR Number :	241672	241673	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	82.5	86	
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.110	
Optimum Moisture Content (%) :	15.8	13.5	
Moisture Variation :	2.7	1.9	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.130	2.050	
Hilf Density Ratio (%) :	<b>100.0</b>	<b>102.5</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		


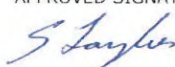
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.61/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>12/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241712	241713	241714	241715
Test Number :	211	212	213	214
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Date Tested :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.6	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.1	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.3	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.9
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	6	5	6	6
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.651	2.596	2.674	2.643
Field Moisture Content (%) :	11.6	10.8	10.6	10.1
Hilf MDR Number :	241712	241713	241714	241715
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	69.5	70	67.5	69
Field Wet Density (t/m <sup>3</sup> ) :	2.090	2.110	2.100	2.090
Optimum Moisture Content (%) :	16.7	15.4	15.7	14.6
Moisture Variation :	4.8	4.4	5.0	4.4
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.11*	2.19*	2.09*	2.17*
Hilf Density Ratio (%) :	<b>99.0</b>	<b>96.5</b>	<b>101.0</b>	<b>96.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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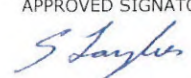


## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.62/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>12/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241716	241717	241718	241719
Test Number :	215	216	217	218
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Date Tested :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	85	86	87	87
Sample Location :	LOT 85 REFER TO SITE PLAN RL 42.7	LOT 86 REFER TO SITE PLAN RL 37.5	LOT 87 REFER TO SITE PLAN RL 34.0	LOT 87 REFER TO SITE PLAN RL 33.8
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	11	7	8	8
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.617	2.629	2.659	2.670
Field Moisture Content (%) :	10.4	10.7	11.0	13.2
Hilf MDR Number :	241716	241717	241718	241719
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	69.5	62	68	85.5
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.080	2.130	2.120
Optimum Moisture Content (%) :	14.9	17.2	16.1	15.5
Moisture Variation :	4.5	6.2	5.0	2.2
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.09*	2.16*	2.09*	2.19*
Hilf Density Ratio (%) :	<b>102.0</b>	<b>96.5</b>	<b>102.0</b>	<b>97.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.63/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>12/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241720	241721	241722	241723
Test Number :	219	220	221	222
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Date Tested :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 38.0	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 37.7	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 37.4	MONTEGO HILLS DRIVE REFER TO SITE PLAN RL 30.5
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	8	11	19	17
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.613	2.650	2.615	2.619
Field Moisture Content (%) :	10.2	8.3	7.6	7.6
Hilf MDR Number :	241720	241721	241722	241723
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	83	77.5	76	63
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.160	2.130	2.140
Optimum Moisture Content (%) :	12.3	10.7	10.0	12.0
Moisture Variation :	2.1	2.4	2.4	4.4
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.19*	2.19*	2.18*	2.2*
Hilf Density Ratio (%) :	<b>97.5</b>	<b>98.5</b>	<b>97.5</b>	<b>97.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p><b>NATA</b> WORLD RECOGNISED ACCREDITATION</p> <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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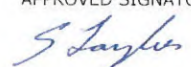


## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.64/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>12/03/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	241724	241725	241726	241727
Test Number :	223	224	225	226
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Date Tested :	5/03/2018	5/03/2018	5/03/2018	5/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	90	90	89	89
Sample Location :	LOT 90 REFER TO SITE PLAN RL 32.8	LOT 90 REFER TO SITE PLAN RL 33.4	LOT 89 REFER TO SITE PLAN RL 32.0	LOT 89 REFER TO SITE PLAN RL 32.1
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	19	10	16	8
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.666	2.616	2.619	2.644
Field Moisture Content (%) :	8.0	5.4	6.4	5.2
Hilf MDR Number :	241724	241725	241726	241727
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	64	54.5	60	65.5
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.150	2.160	2.050
Optimum Moisture Content (%) :	12.5	9.9	10.7	7.9
Moisture Variation :	4.5	4.6	4.3	2.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.19*	2.22*	2.23*	2.08*
Hilf Density Ratio (%) :	<b>97.0</b>	<b>97.0</b>	<b>96.5</b>	<b>98.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


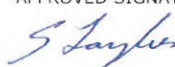
 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR                  NATA Accreditation Number                  1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.65/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>22/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241952	241953	241954	241955
Test Number :	227	228	229	230
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	19/03/2018	19/03/2018	19/03/2018	19/03/2018
Date Tested :	19/03/2018	19/03/2018	19/03/2018	19/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	85	86	87	88
Sample Location :	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	8	9	16	7
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.494	2.487	2.509	2.476
Field Moisture Content (%) :	8.2	9.7	8.2	9.0
Hilf MDR Number :	241952	241953	241954	241955
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	66	73.5	80.5	67.5
Field Wet Density (t/m <sup>3</sup> ) :	2.130	2.150	2.110	2.120
Optimum Moisture Content (%) :	12.4	13.2	10.2	13.3
Moisture Variation :	4.2	3.5	2.0	4.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.13*	2.1*	2.19*	2.16*
Hilf Density Ratio (%) :	<b>100.0</b>	<b>102.5</b>	<b>96.0</b>	<b>98.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.66/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>22/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241956	241957	241958	241959
Test Number :	231	232	233	234
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	19/03/2018	19/03/2018	19/03/2018	19/03/2018
Date Tested :	19/03/2018	19/03/2018	19/03/2018	19/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	89	90	91	104
Sample Location :	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	7	12	14	12
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.500	2.496	2.503	2.486
Field Moisture Content (%) :	9.8	11.4	11.2	11.3
Hilf MDR Number :	241956	241957	241958	241959
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	79	100.5	99.5	100
Field Wet Density (t/m <sup>3</sup> ) :	2.140	2.110	2.160	2.140
Optimum Moisture Content (%) :	12.4	11.4	11.3	11.3
Moisture Variation :	2.6	0.0	0.1	0.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.17*	2.18*	2.19*	2.19*
Hilf Density Ratio (%) :	<b>98.5</b>	<b>97.0</b>	<b>98.5</b>	<b>97.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


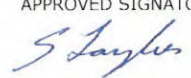
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.67/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>22/03/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	241960	241961	241962	241963
Test Number :	235	236	237	238
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	19/03/2018	19/03/2018	19/03/2018	19/03/2018
Date Tested :	19/03/2018	19/03/2018	19/03/2018	19/03/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	100	101	102	103
Sample Location :	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	11	12	7	12
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.477	2.484	2.489	2.494
Field Moisture Content (%) :	10.8	8.6	10.7	12.1
Hilf MDR Number :	241960	241961	241962	241963
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	102	80	99	99.5
Field Wet Density (t/m <sup>3</sup> ) :	2.170	2.150	2.140	2.160
Optimum Moisture Content (%) :	10.6	10.8	10.8	12.2
Moisture Variation :	-0.1	2.2	0.1	0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.22*	2.19*	2.14*	2.17*
Hilf Density Ratio (%) :	<b>97.5</b>	<b>98.5</b>	<b>100.0</b>	<b>99.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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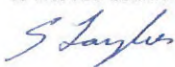


## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.68/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>19/04/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>

Sample Number :	242482	242483	242484	242485
Test Number :	239	240	241	242
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Date Tested :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :				
Sample Location :	REFER TO SITE PLAN  FINISHED LEVEL	REFER TO SITE PLAN  FINISHED LEVEL	REFER TO SITE PLAN  FINISHED LEVEL	REFER TO SITE PLAN  FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	3	2	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.412	2.405	2.397	2.385
Field Moisture Content (%) :	13.0	12.8	12.7	11.3
Hilf MDR Number :	242482	242483	242484	242485
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	89	86.5	84.5	85
Field Wet Density (t/m <sup>3</sup> ) :	2.190	2.200	2.220	2.190
Optimum Moisture Content (%) :	14.6	14.8	15.1	13.3
Moisture Variation :	1.5	2.0	2.3	2.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.16*	2.15*	2.2*	2.19*
Hilf Density Ratio (%) :	<b>101.0</b>	<b>102.0</b>	<b>101.0</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


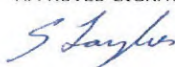
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>CCA WINSLOW</b>	Report Number:	<b>GL17-194.69/1</b>
Address :	<b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date :	<b>19/04/2018</b>
Project Name :	<b>MONTEGO HILLS - STAGE 5</b>	Order Number :	
Project Number :	<b>GL17/194</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>UPPER ORMEAU ROAD , KINGS HOLME</b>	<b>Page 1 of 1</b>	

Sample Number :	242486	242487	242488	242489
Test Number :	243	244	245	246
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Date Tested :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	86	87	87	87
Sample Location :	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	3	2	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.380	2.357	2.459	2.360
Field Moisture Content (%) :	15.5	12.6	12.7	11.3
Hilf MDR Number :	242486	242487	242488	242489
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	99	86	99	84
Field Wet Density (t/m <sup>3</sup> ) :	2.190	2.170	2.180	2.180
Optimum Moisture Content (%) :	15.7	14.6	12.9	13.4
Moisture Variation :	0.1	2.0	0.1	2.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.2*	2.15*	2.25*	2.21*
Hilf Density Ratio (%) :	<b>99.5</b>	<b>101.0</b>	<b>97.0</b>	<b>98.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p> 
	<p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>


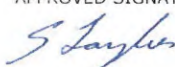


## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.70/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>19/04/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	242490	242491	242492	242493
Test Number :	247	248	249	250
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Date Tested :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	88	88	86	87
Sample Location :	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	4	4	3	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.404	2.384	2.352	2.375
Field Moisture Content (%) :	14.1	14.9	14.0	13.2
Hilf MDR Number :	242490	242491	242492	242493
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	90	91.5	102	88.5
Field Wet Density (t/m <sup>3</sup> ) :	2.200	2.200	2.190	2.190
Optimum Moisture Content (%) :	15.7	16.3	13.7	14.9
Moisture Variation :	1.5	1.3	-0.1	1.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.22*	2.2*	2.21*	2.2*
Hilf Density Ratio (%) :	<b>99.0</b>	<b>100.0</b>	<b>99.0</b>	<b>99.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>CCA WINSLOW</b>	Report Number: <b>GL17-194.71/1</b>
Address : <b>1587 IPSWICH ROAD, ROCKLEA, QLD, 4106</b>	Report Date : <b>19/04/2018</b>
Project Name : <b>MONTEGO HILLS - STAGE 5</b>	Order Number :
Project Number : <b>GL17/194</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>UPPER ORMEAU ROAD , KINGSHOLME</b>	<b>Page 1 of 1</b>

Sample Number :	242494	242495	242496	242497
Test Number :	251	252	253	254
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Date Tested :	18/04/2018	18/04/2018	18/04/2018	18/04/2018
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	87	87	87	87
Sample Location :	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL	REFER TO SITE PLAN FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	3	3	4	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.434	2.386	2.407	2.490
Field Moisture Content (%) :	13.2	13.5	15.8	14.2
Hilf MDR Number :	242494	242495	242496	242497
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	88.5	88	105	88.5
Field Wet Density (t/m <sup>3</sup> ) :	2.200	2.190	2.190	2.190
Optimum Moisture Content (%) :	14.9	15.3	15.0	16.1
Moisture Variation :	1.6	1.8	-0.7	1.8
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.22*	2.2*	2.25*	2.18*
Hilf Density Ratio (%) :	<b>99.0</b>	<b>99.5</b>	<b>97.0</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

\* - denotes adjusted for oversize

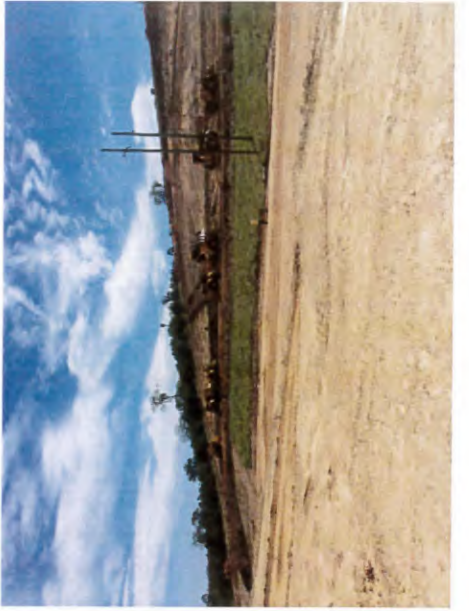
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <p style="text-align: center;"><i>Gary Taylor</i></p> <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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GL17/194

# **APPENDIX 'C'**

**(Photo Gallery)**





































GL17/194

## **APPENDIX 'D'**

**(Level 1 Report GL16/175, dated 24<sup>th</sup> April, 2018)**