

LEVEL ONE

Reference
No.: 2306-055

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

SYMON BROS. CONSTRUCTIONS PTY LTD



Table of Contents

1)	Introduction & Scope.....	2
2)	Site Preparation.....	2
3)	Fill Material.....	2
4)	Fill Construction Procedure.....	3
5)	Compaction Control Testing.....	3
6)	Testing Frequency.....	3
7)	Statement of Compliance.....	4
8)	Limitations of this Report.....	4

Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros. Constructions Pty Ltd

Project Name: The Grove West Stage 63

Date: 26th July 2021

Author: Mr. Sam Loza

Reference No.: 2306-055

Revision: 0

Project Manager: Mr. George Dimopoulos

1. Introduction & Scope

At the request of Symon Bros. Constructions Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 7th of October 2020 to the 21st of July 2021 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by Symon Bros. Constructions Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007.

(1) Road & Drainage Layout Plan Drawing No. 2190E-63-91 – Rev C.

General site works involved the placement of fill, using on-site derived clay, to bring the fill region to the required finished levels as indicated on the faceplan drawings.

2. Site Preparation

Site inspections were undertaken on the 7th of October 2020 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Proof roll inspections were performed throughout the project duration to ensure no significant soft areas were present prior to filling.

3. Fill Material

It is understood that the fill material used was sourced from site cut areas.



The fill material is best described as a silty CLAY, brown, grey-brown, slightly moist to moist, medium to high plasticity with basalt gravels and cobbles.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with guidelines set out in AS 3798 - 2007 Section 4.4.

4. Fill Construction Procedure

The following plant (but not always limited to) were engaged in the fill placement process:

- Dump trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor and scrapers placed material in horizontal loose layers of approximately 250-300mm. The sheepsfoot compactor also performed compaction of the clay fill operating in a criss-cross pattern.

The moisture condition of the fill was closely monitored, and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1).

5. Compaction Control Testing

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of twenty-four compaction tests were performed on the fill construction. Results are presented in Appendix B of this report.

6. Testing Frequency

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1 for Large Scale Operations.**

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential.**



As a result, the compliance criteria adopted by Geotechnical Laboratories was a hlf density ratio not less than 95 percent of the maximum hlf density value as determined by the Standard Hlf Rapid Compaction Method in accordance with AS 1289 5.7.1.

Test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criteria was specified.

7. Statement of Compliance

So far as can be determined, Symon Bros. Constructions Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by Symon Bros. Constructions Pty Ltd from the 7th of October 2020 to the 21st of July 2021 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

8. Limitations and Liability of this Report

This report has been produced for and remains the property of Symon Bros. Constructions Pty Ltd.

The release of this report to a third party will only occur if Geotechnical Laboratories Pty Ltd has received, in writing, the authority to do so by our client.

Geotechnical Laboratories Pty Ltd will not engage in any third-party communication regarding this report.

Where information has been supplied by the client or third party, the assumption is made that this is correct. Geotechnical Laboratories Pty Ltd will not be held responsible for any inaccuracies supplied.

Test results and controlled fill compliance relates only to fill placed by Symon Bros. Constructions Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

For & on behalf of
Geotechnical Laboratories Pty Ltd.

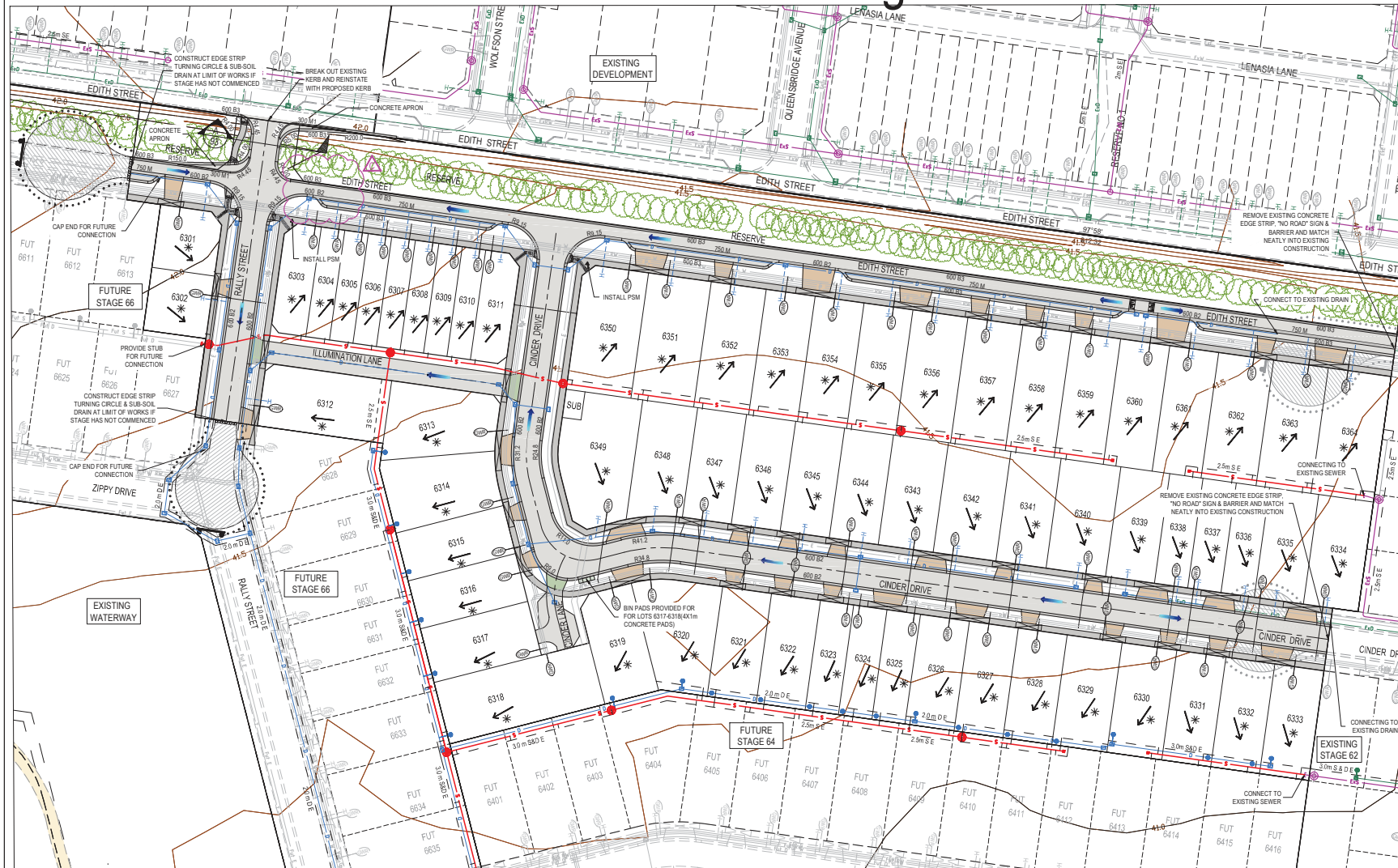
Sam Loza
Laboratory Manager.



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A

The Grove West Stage 63



LEGEND - FUNCTIONAL LAYOUT PLAN	
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY	
	STORMWATER DRAIN, PIT & PROPERTY INLET
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U/GROUND)
	ELECTRICITY (D/HEAD)
	GAS
	TELSTRA
	OPTIC FIBRE
	WATER
	RECYCLED WATER
	AG DRAIN
	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING SWALE DRAIN
	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING HOUSE DRAIN
	EXISTING ELECTRICITY (UNDER GROUND)
	EXISTING ELECTRICITY OVERHEAD
	EXISTING GAS
	EXISTING TELSTRA
	EXISTING OPTIC FIBRE
	EXISTING WATER
	EXISTING RECYCLED WATER
	EXISTING AG DRAIN
	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
	FUTURE STORMWATER DRAIN
	FUTURE SWALE DRAIN
	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE HOUSE DRAIN
	FUTURE ELECTRICITY (UNDER GROUND)
	FUTURE ELECTRICITY OVERHEAD
	FUTURE GAS
	FUTURE TELSTRA
	FUTURE OPTIC FIBRE
	FUTURE WATER
	FUTURE RECYCLED WATER
	FUTURE AG DRAIN
	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	ZERO LOT LINES
	FS140.35
	FR157.40
	CH270.00
	CHAINAGE
	STRUCTURAL FILL > 200mm DEEP
	EXISTING STRUCTURAL FILL > 200mm DEEP
	CUT > 200mm DEEP
	DIRECTION OF FALL
	OVERLAND FLOW
	GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
	EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
	EXISTING TREE TO BE RETAINED
	EXISTING TREE TO BE REMOVED
	PERMANENT SURVEY MARK
	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH
	PROPOSED INDUSTRIAL DRIVEWAY
	PROPOSED SHARED FOOTPATH
	PROPOSED ROAD PAVING
	EXISTING ROAD PAVING

FOR CONTINUATION REFER 2190E-63-92

ROAD NAME	SERVICES OFFSET TABLE				
	GAS	WATER	RECYCLED WATER	ELECTRICITY	TELEPHONE
	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)
EDITH STREET	2.95 S	3.85 S	3.40 S	2.40S	1.95 S
CINDER DRIVE	2.10 W	3.00 W	2.55 W	2.80 E	1.80 E
RALLY STREET	2.10 E	3.10 E	2.60 E	2.80 W	1.80 W

ROAD NAME	ROAD LAYOUT TABLE				
	ROAD RESERVE WIDTH (m)	ROAD WIDTH (m)	KERB TYPE	VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTHWEST
EDITH STREET	10.80	2.80	3.50	3.80	600B2
CINDER DRIVE	16.00	6.40	7.30	7.60	600B2
RALLY STREET	16.00	6.40	7.30	7.60	600B2

Drawing Index

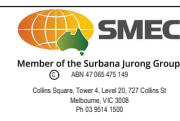
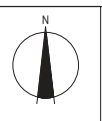
- 2190E-63-91 Layout Plan - 1
- 2190E-63-92 Layout Plan - 2
- 2190E-63-93 Typical Cross Section
- 2190E-63-94 Parking Plan
- 2190E-63-95 Vehicle Turning Movements - 1
- 2190E-63-96 Vehicle Turning Movements - 2

WARNING
BEWARE OF UNDERGROUND SERVICES
 The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works **DIAL 1100 BEFORE YOU DIG** www.1100.org.au

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DESIGN	APPROVAL
A	29.08.19	ISSUED TO COUNCIL FOR APPROVAL	JGRR	TM
B	26.11.19	INTERSECTION, RALLY & EDITH STREET AND CINDER LANE	JGRR	TM
C	19.12.19	LATH REMOVED	JG	TM

TITLE	NAME
DRAFTER	V. Radha
DESIGNER	J. Conners
CHECKED	T. Mait
AUTHORISED	P. Shelle
REFERENCE No. 1	
REFERENCE No. 2	

SCALE	SCALE AS SHOWN AT 1
0 5 10 20	



The Grove West - Stage 63 Wyndham City Council Functional Design Layout Plan - 1	
MELBURN REF 234 E6	PROJECT / DRAWING No. 2190E-63-91
SHEET No. 01 of 06	REVISION C



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX B



GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/055

LOCATION: SYMON BROS - The Grove West Stage 63 & 64

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
7/10/20	1	<i>Refer to #2305/056 for approx. test site locations.</i>	1.99	23.0	102.0	1.95	23.0	175	0.0 Drier	100.0	0	0	0
7/10/20	2		1.97	27.0	99.0	✱ 1.99	23.5	175	3.5 Wetter	114.0	9	0	0
7/10/20	3		1.99	23.0	99.5	✱ 1.99	22.5	175	0.0 Wetter	101.0	7	0	100
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:25am Finish Time: 11:35am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD

❖



Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 9/10/2020



GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/061

LOCATION: SYMON BROS - The Grove West Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
15/10/20	1	<i>Refer to #2305/062 for approx. test site locations.</i>	1.84	27.0	98.0	1.87	27.5	175	0.5 Drier	98.0	0	0	0
15/10/20	2		1.99	26.5	102.5	✕ 1.94	29.5	175	2.5 Drier	91.5	17	0	0
15/10/20	3		1.89	28.5	102.5	1.84	31.0	175	2.5 Drier	91.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:40am Finish Time: 8:55am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✕ Indicates APCWD



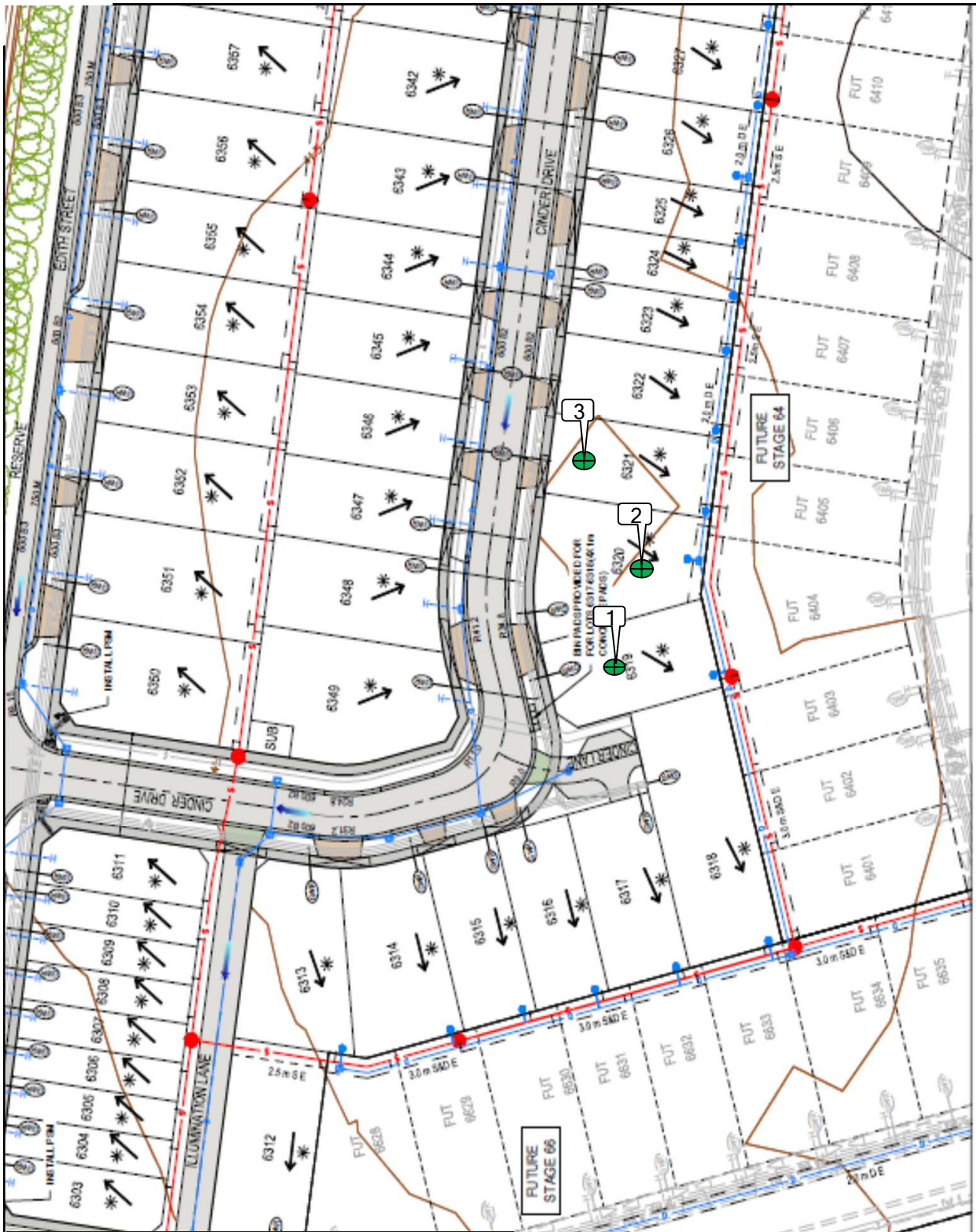
Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

M. Crowe

MICK CROWE
(Approved Signatory)

Issue Date: 19/10/2020



FOR CONTINUATION REFER 2190E-63-92



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: The Grove West Stage 63

Sketch indicating compaction test locations

DATE: 15/10/2020

OPERATOR: RW

SCALE: NTS

JOB No.: 2305/062

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077
 14 Ravenhall Way, Ravenhall, Vic 3023
 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/063

LOCATION: SYMON BROS - The Grove West Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
16/10/20	1	<i>Refer to #2305/064 for approx. test site locations.</i>	1.92	25.5	100.0	✱ 1.92	25.0	175	0.5 Wetter	102.0	4	0	200
16/10/20	2		1.96	25.0	105.5	1.86	25.5	175	0.5 Drier	97.0	0	0	400
16/10/20	3		1.96	23.0	101.0	✱ 1.93	23.5	175	0.0 Drier	99.0	5	0	400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:40am Finish Time: 11:10am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD

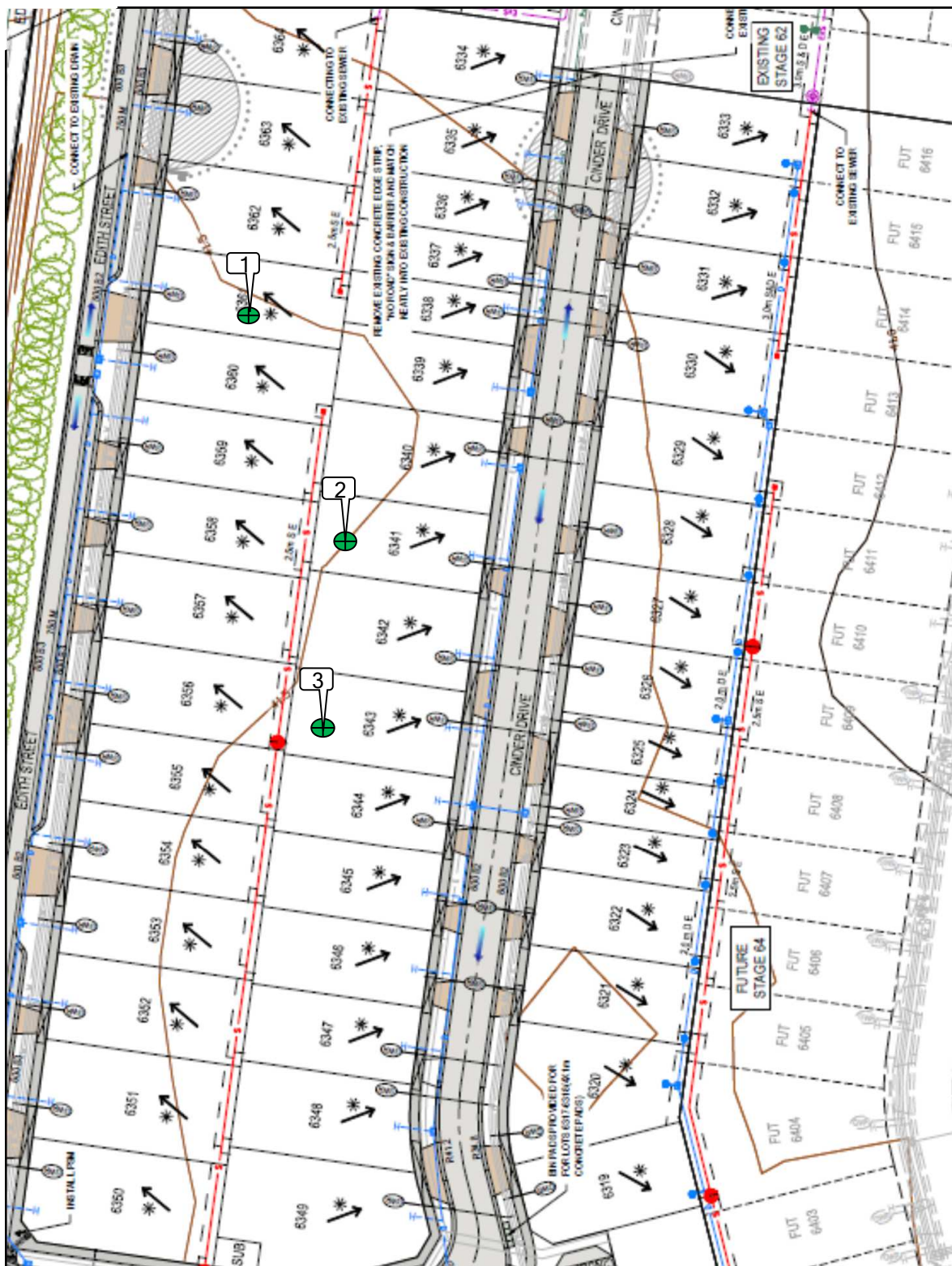


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 20/10/2020



GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES
ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: The Grove West Stage 63

Sketch indicating compaction test locations

DATE: 16/10/2020**JOB No.: 2305/064**

OPERATOR: SL

CHECKED: KK

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077
 14 Ravenhall Way, Ravenhall, Vic 3023
 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/065

LOCATION: SYMON BROS - The Grove West - Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
19/10/20	1	<i>Refer to #2305/066 for approx. test site locations.</i>	2.00	22.0	102.5	1.95	20.5	175	1.5 Wetter	107.0	0	0	0
19/10/20	2		1.99	22.5	103.0	1.93	23.0	175	0.5 Drier	98.0	0	0	0
19/10/20	3		2.03	21.5	107.0	1.90	23.0	175	2.0 Drier	91.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:05am Finish Time: 11:25am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



Accredited for compliance with ISO/IEC
17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 22/10/2020



GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: The Grove West Stage 63

Sketch indicating compaction test locations

DATE: 19/10/2020

JOB No.: 2305/066**OPERATOR: SL**

CHECKED: KK

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/067

LOCATION: SYMON BROS - The Grove West Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
20/10/20	1	<i>Refer to #2305/068 for approx. test site locations.</i>	1.93	20.5	101.0	1.92	23.0	175	2.5 Drier	89.5	0	0	0
20/10/20	2		1.87	27.0	103.0	1.81	30.0	175	3.0 Drier	90.5	0	0	100
20/10/20	3		1.89	29.5	105.5	1.79	31.0	175	1.5 Drier	95.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 2:10pm Finish Time: 2:30pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

M. Crowe

MICK CROWE
(Approved Signatory)

Issue Date: 22/10/2020



FOR CONTINUATION REFER 2190E-63-92



GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: The Grove West Stage 63

Sketch indicating compaction test locations

DATE: 20/10/2020**JOB No.: 2305/068**

OPERATOR: JC

CHECKED: MC

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077
 14 Ravenhall Way, Ravenhall, Vic 3023
 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/069

LOCATION: SYMON BROS- The Grove West Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
21/10/20	1	<i>Refer to #2305/070 for approx. test site locations.</i>	1.95	24.5	101.5	1.92	27.5	175	2.5 Drier	90.0	0	0	200
21/10/20	2		1.97	27.0	104.0	1.90	28.0	175	1.0 Drier	97.5	0	0	0
21/10/20	3		1.87	27.5	100.5	1.86	29.0	175	1.5 Drier	94.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:45am Finish Time: 9:05am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 27/10/2020



Drawing Index
21905-63-92, 21905-63-93, 21905-63-94, 21905-63-95

FOR CONTINUATION REF 21905-63-92



**GEOTECHNICAL
LABORATORIES**

**GEOTECHNICAL LABORATORIES
ACN 102 571 077**

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: The Grove West Stage 63

Sketch indicating compaction test locations

DATE: 21/10/2020

OPERATOR: JC

SCALE: NTS

JOB No.: 2305/070

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/071

LOCATION: SYMON BROS - The Grove West Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
22/10/20	1	<i>Refer to #2305/072 for approx. test site locations.</i>	1.83	27.0	98.5	1.86	28.5	175	2.0 Drier	94.0	0	0	0
22/10/20	2		1.88	28.5	104.0	1.81	30.5	175	2.0 Drier	93.5	0	0	200
22/10/20	3		2.01	25.0	103.0	✱ 1.95	28.0	175	3.0 Drier	90.0	15	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:35am Finish Time: 11:55am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

M. Crowe

MICK CROWE
(Approved Signatory)

Issue Date: 30/10/2020



Drawing Index
21905-63-01: Layout Plan - 1

FOR CONTINUATION REF 21905-63-02



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES
ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: The Grove West Stage 63

Sketch indicating compaction test locations

DATE: 22/10/2020

OPERATOR: JC

SCALE: NTS

JOB No.: 2305/072

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023
 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2305/312

LOCATION: SYMON BROS - The Grove West, Stage 63

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
21/07/21	1	<i>Refer to #2305/313 for approx. test site locations.</i>	1.82	32.0	98.0	1.86	31.0	175	1.0 Wetter	103.5	0	0	0
21/07/21	2		1.85	33.5	100.0	1.85	32.0	175	1.5 Wetter	105.0	0	0	0
21/07/21	3		1.92	32.5	101.0	✱ 1.91	29.0	175	3.0 Wetter	111.0	6	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1:05pm Finish Time: 1:45pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



Accredited for compliance with ISO/IEC
17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 23/7/2021

The Grove West Stage 63

[illegible][illegible]

ACN 102 571 077

Email: info@geolab.com.au PH: (03) 8361-9140

JOB No.: 2305/313

CHECKED: KK

FIGURE No: -