

LEVEL ONE

Reference
No.: 2324-013

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

SYMON BROS CONSTRUCTIONS PTY LTD



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Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros Constructions Pty Ltd

Project Name: Lucas Estate Stage H1

Date: 24th of March 2021

Author: Mr. Sam Loza

Reference No.: 2324-013

Revision: 0

Project Manager: Mr. Nick Goutzamanis

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 6th of October 2020 to the 17th of March 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. 010 Rev A.

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 6th 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.

Re-diversion of an existing watercourse was inspected to ensure a clean firm base was established prior to the commencement of backfilling.

3. Fill Material

It is understood that the fill material used was from on-site excavations, mainly drainage trenches and road boxing. The material was screened to remove any boulders.



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

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:

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

The compactor placed material in horizontal loose layers of approximately 250-300mm. The 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).

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

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 forty-two 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 hilt density ratio not less than 95 percent of the maximum hilt density value as determined by the Standard Hilt Rapid Compaction Method in accordance with AS 1289 5.7.1.

The specified moisture criteria was a moisture content within the range of -10 percent to +5 percent of the material's optimum moisture content.

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

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 6th of October 2020 to the 17th of March 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.

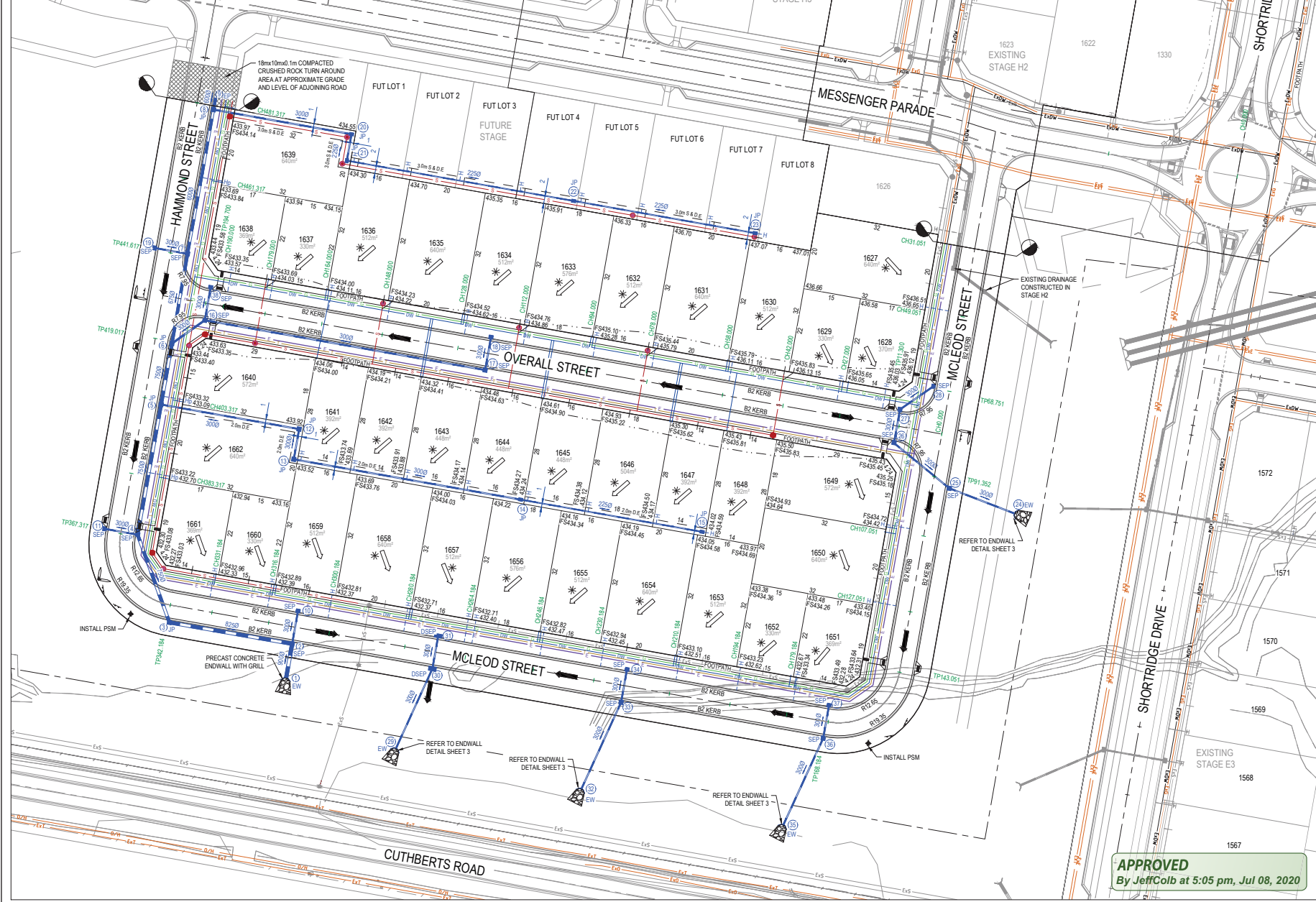
Sam Loza
Laboratory Manager.



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A

ROAD NAME	SERVICES OFFSET SCHEDULE									
	GAS		WATER		ELECTRICITY		TELECOMMUNICATIONS		SEWER	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET
MCLEOD STREET	WEST/NORTH	2.1	WEST/NORTH	2.7	WEST/NORTH	3.8	WEST/NORTH	3.2	WEST/NORTH	1.0
HAMMOND STREET	EAST	2.1	EAST	2.7	EAST	3.8	EAST	3.2	EAST	1.0
OVERALL PLACE	NORTH	2.1	NORTH	2.7	SOUTH	2.7	SOUTH	2.1	SOUTH	1.0



LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN & PIT
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- TACTILE PAVERS (INDICATIVE ONLY)
- ELECTRICITY (UNDERGROUND)
- DM-E ELECTRICITY (OVERHEAD)
- OPTIC FIBRE
- TELECOMMUNICATIONS
- GAS
- WATER
- RECYCLED WATER (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING STORMWATER DRAIN
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- RIDGE LINE
- RETAINING WALL
- ZERO LOT LINES
- PAVEMENT TREATMENT
- STRUCTURAL FILL > 200mm DEEP
- EX STRUCTURAL FILL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN
- "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY
- TREE PROTECTION ZONE (TPZ)
- SUBSOIL DRAIN

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.com.au

APPROVED
 By Jeff Colb at 5:05 pm, Jul 08, 2020

APPROVED
 ISSUED FOR CONSTRUCTION

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REV	DESCRIPTION	DATE	DRN	APP	REV	DESCRIPTION	DATE	DRN	APP
A	ISSUED FOR APPROVAL	08.07.2020	TT	JS					
P2	STAGING CHANGE	23.06.2020	TT	JS					
P1	ISSUED FOR INFORMATION	05.06.2020	TT	JS					
P0	ISSUED FOR INFORMATION	15.01.2019	TT	JS					



Designed Date: T.THEWLIS 17.07.2019
 Drawn: T.THEWLIS
 Approved Date: J.ZAL J.ZAL 17.07.2019
 PS Number: PS830197

BW Beveridge Williams
 96 Main Road
 Ballarat Vic. 3350
 ph: 03 5327 2000
 www.beveridgewilliams.com.au

Project Name: LUCAS ESTATE STAGE H1 CITY OF BALLARAT
 Drawing Title: LAYOUT PLAN
 Project Ref: 1800971 H1 010 A
 Stage No: H1
 Drawing No: 010
 Rev: A

Sheet 04 of 18
 Scale: 1:500 @ A1
 Project Ref: 1800971 H1 010 A
 Stage No: H1
 Drawing No: 010
 Rev: A



X:\181800971 Lucas_Eng\Stage H1 Drawings\1800971 H1 010 LAY.dwg



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX B



DAILY SUMMARY - FIELD DENSITY TESTS

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

REPORT NO.: # 2323/001

LOCATION: SYMON BROS - Lucas Estate Stage H1

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)	
6/10/20	1	<i>Refer to #2323/002 for approx. test site locations.</i>	1.98	25.0	97.0	2.04	24.0	175	1.0 Wetter	104.0	0	0	450	
6/10/20	2		2.06	24.0	99.5	2.06	23.5	175	0.0 Wetter	101.0	0	0	425	
6/10/20	3		2.02	24.5	98.0	2.07	23.5	175	1.0 Wetter	104.0	0	0	400	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:15pm Finish Time: 1:15pm

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)



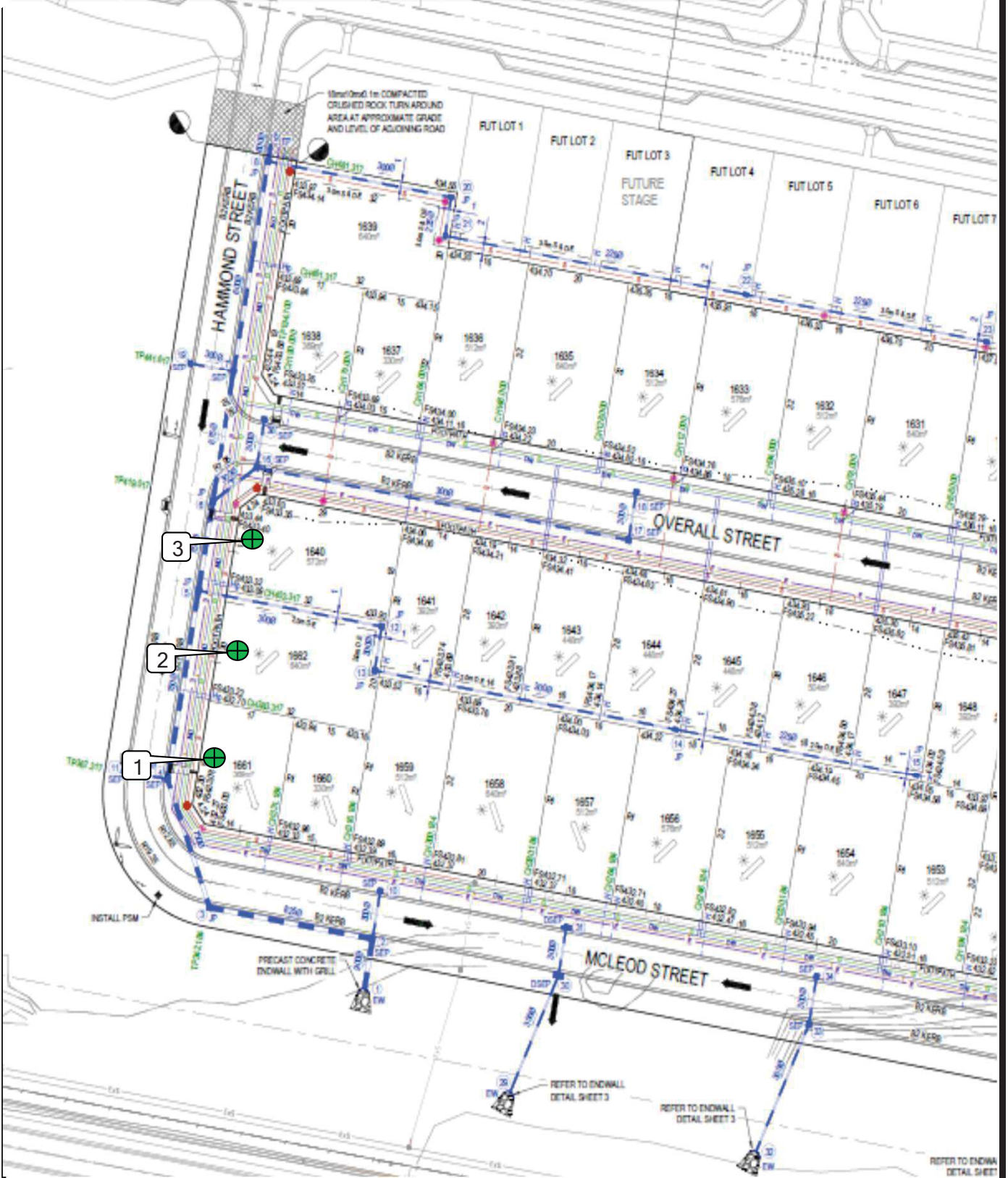
Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 8/10/2020

HAMMOND STREET	EAST	2.1	EAST	2.7	EAST	3.8	EAST	3.2	EAST	1.0
OVERALL PLACE	NORTH	2.1	NORTH	2.7	SOUTH	2.7	SOUTH	2.1	SOUTH	1.0



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: Lucas Estate Stage H1 & H2

Sketch indicating compaction test locations

DATE: 6/10/2020

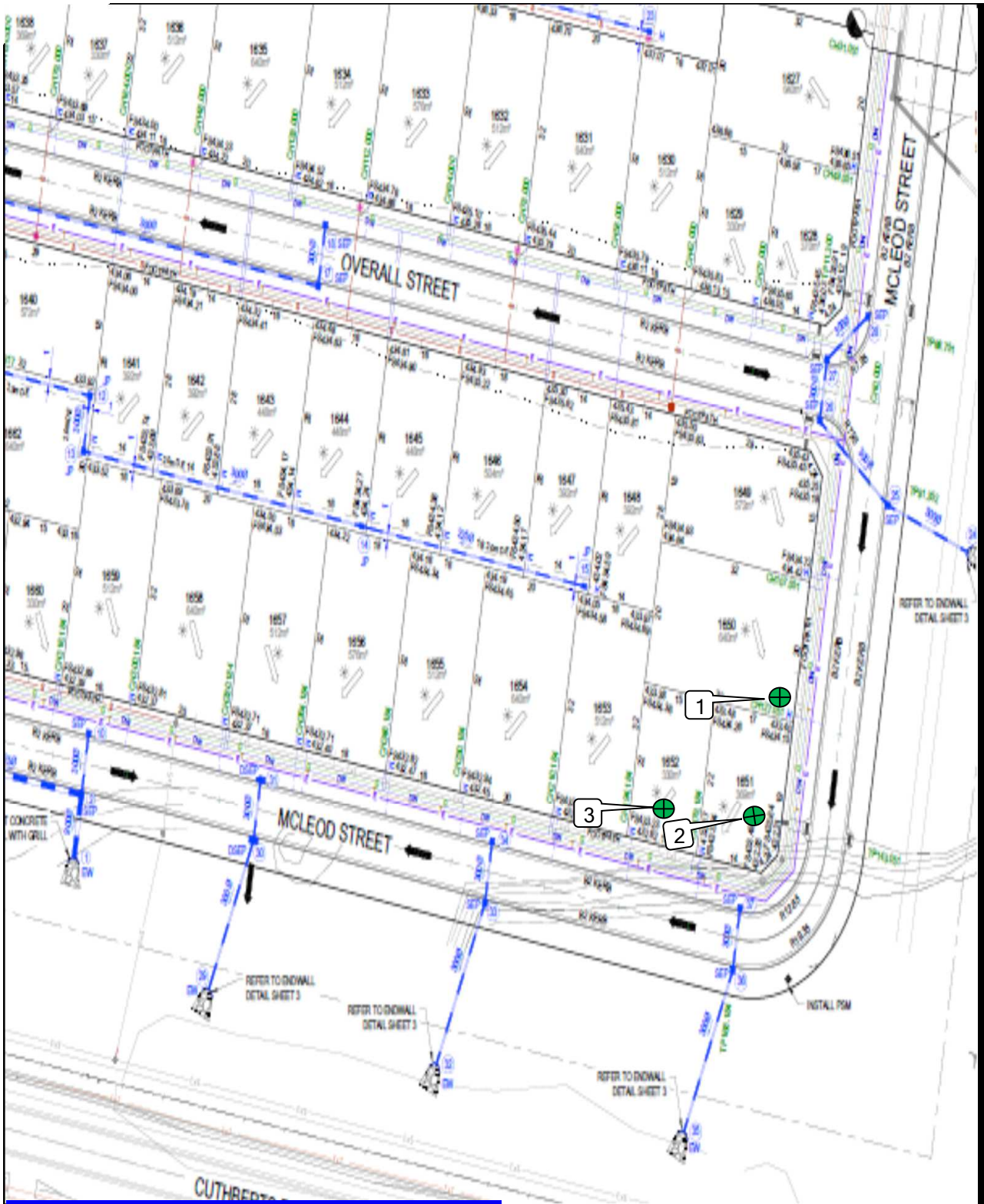
OPERATOR: WS

SCALE: NTS

JOB No.: 2323/002

CHECKED: KK

FIGURE No: -



**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: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 29/10/2020

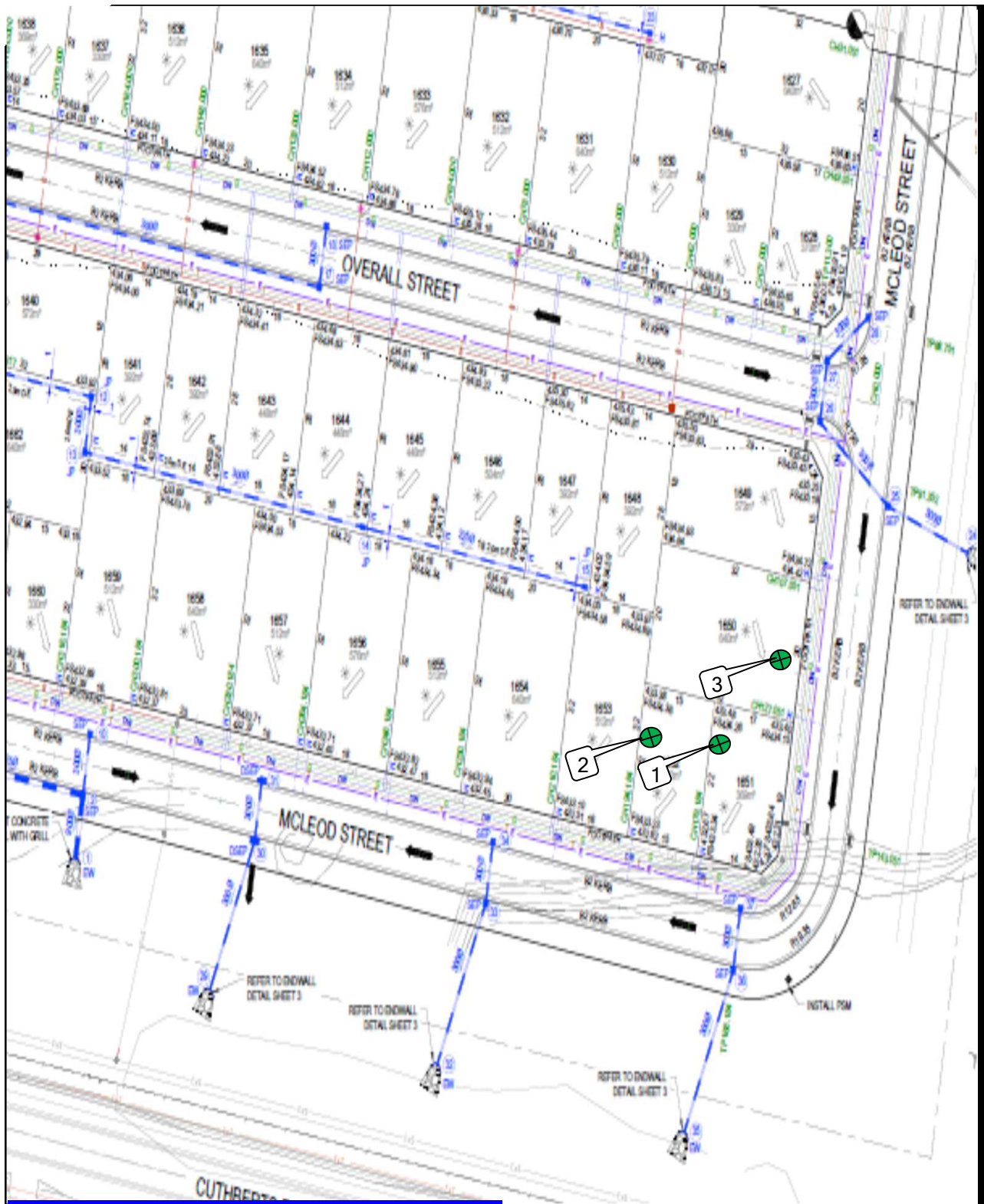
JOB No.: 2323/004

OPERATOR: RW

CHECKED: KK

SCALE: NTS

FIGURE No: -



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**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: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 4/11/2020

OPERATOR: RW

SCALE: NTS

JOB No.: 2323/006

CHECKED: KK

FIGURE No: -



DAILY SUMMARY - FIELD DENSITY TESTS

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

REPORT NO.: # 2323/007

LOCATION: SYMON BROS - Lucas Estate Stage H1

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)
10/11/20	1	<i>Refer to #2323/008 for approx. test site locations.</i>	2.04	20.5	97.0	2.11	20.0	175	0.0 Wetter	101.0	0	0	200
10/11/20	2		1.96	23.0	98.5	2.00	23.5	175	0.0 Drier	99.0	0	0	200
10/11/20	3		2.14	21.0	102.0	2.11	20.0	175	1.0 Wetter	106.0	0	0	200
10/11/20	4		2.14	20.0	99.5	2.15	20.0	175	0.0 Drier	100.0	0	0	200
10/11/20	5		2.09	17.5	95.5	2.18	18.5	175	1.5 Drier	92.5	0	0	200
10/11/20	6		2.01	23.5	103.0	1.95	26.0	175	2.0 Drier	91.5	0	0	200

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:30am Finish Time: 12:15pm

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)

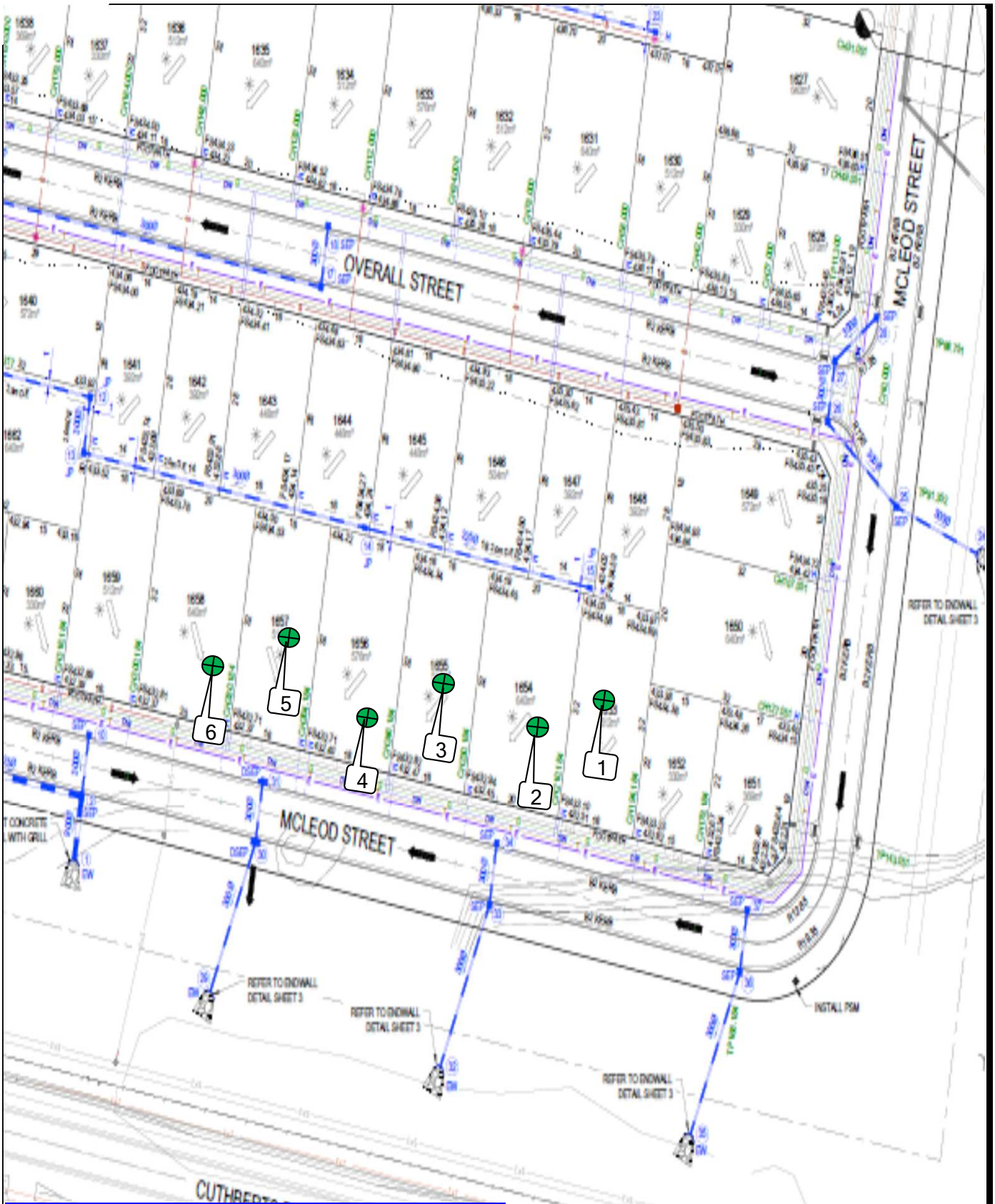


*Accredited for compliance with ISO/IEC
17025 - Testing*

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 12/11/2020



**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: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 10/11/2020

JOB No.: 2323/008

OPERATOR: JC/MS CHECKED: KK

SCALE: NTS

FIGURE No: -



DAILY SUMMARY - FIELD DENSITY TESTS

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

REPORT NO.: # 2323/009

LOCATION: SYMON BROS - Lucas Estate Stage H1

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)
4/12/20	1	<i>Refer to #2323/010 for approx. test site locations.</i>	2.00	22.5	102.0	1.97	24.0	175	1.0 Drier	95.0	0	0	0
4/12/20	2		2.04	25.0	106.5	1.92	27.0	175	2.0 Drier	93.5	0	0	50
4/12/20	3		2.07	24.5	106.0	1.95	25.5	175	0.5 Drier	97.0	0	0	100
4/12/20	4		2.05	22.0	99.5	2.06	22.0	175	0.0 Drier	100.0	0	0	0
4/12/20	5		2.13	22.5	103.0	2.06	22.5	175	0.0 Drier	100.0	0	0	50
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:30am Finish Time: 10:45am

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)

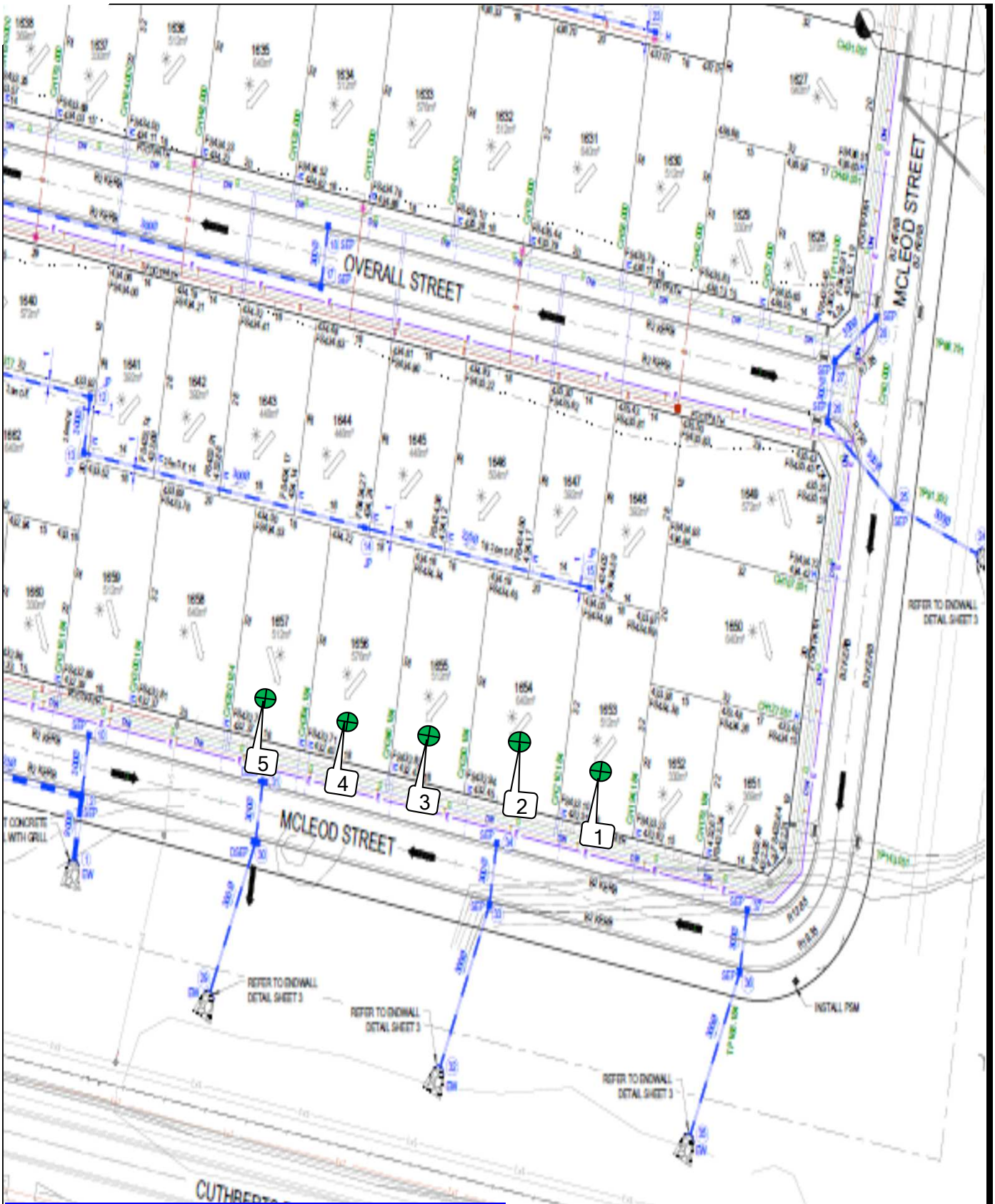


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 8/12/2020



**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: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 4/12/2020

OPERATOR: WS

SCALE: NTS

JOB No.: 2323/010

CHECKED: KK

FIGURE No: -



DAILY SUMMARY - FIELD DENSITY TESTS

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

REPORT NO.: # 2323/011

LOCATION: SYMON BROS - Lucas Estate Stage H1

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)
7/12/20	1	<i>Refer to #2323/012 for approx. test site locations.</i>	2.13	17.5	105.0	✘ 2.03	18.0	175	0.5 Drier	96.0	4	0	100
7/12/20	2		2.18	17.5	102.5	2.13	18.0	175	0.5 Drier	97.5	0	0	50
7/12/20	3		2.15	17.5	102.0	2.10	18.0	175	1.0 Drier	95.0	0	0	0
7/12/20	4		2.14	16.0	100.0	2.14	17.0	175	1.0 Drier	94.5	0	0	50
7/12/20	5		2.12	17.0	95.5	2.21	17.0	175	0.0 Drier	100.0	0	0	50
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:35am Finish Time: 11:20am

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

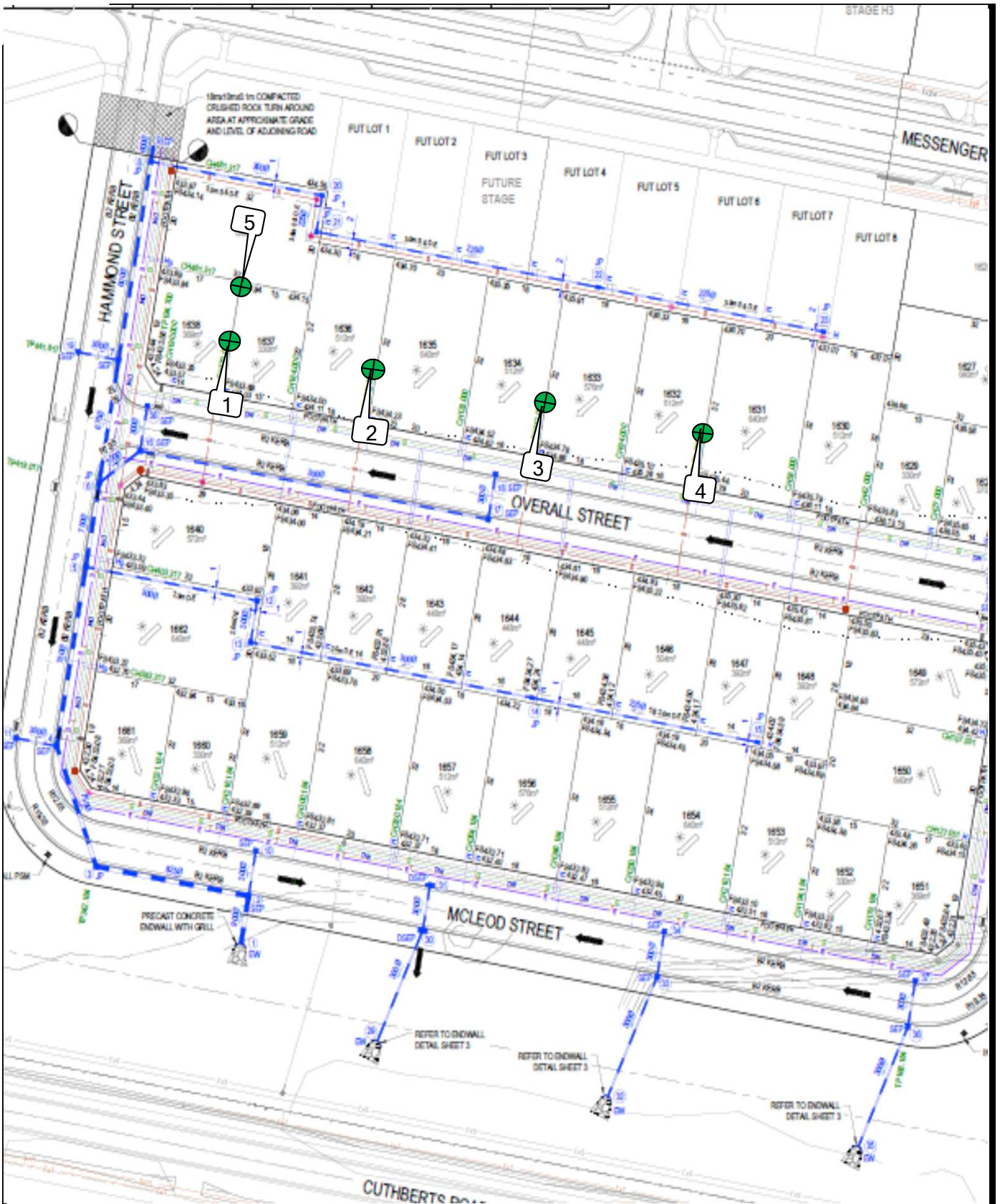


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 10/12/2020



**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: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 7/12/2020

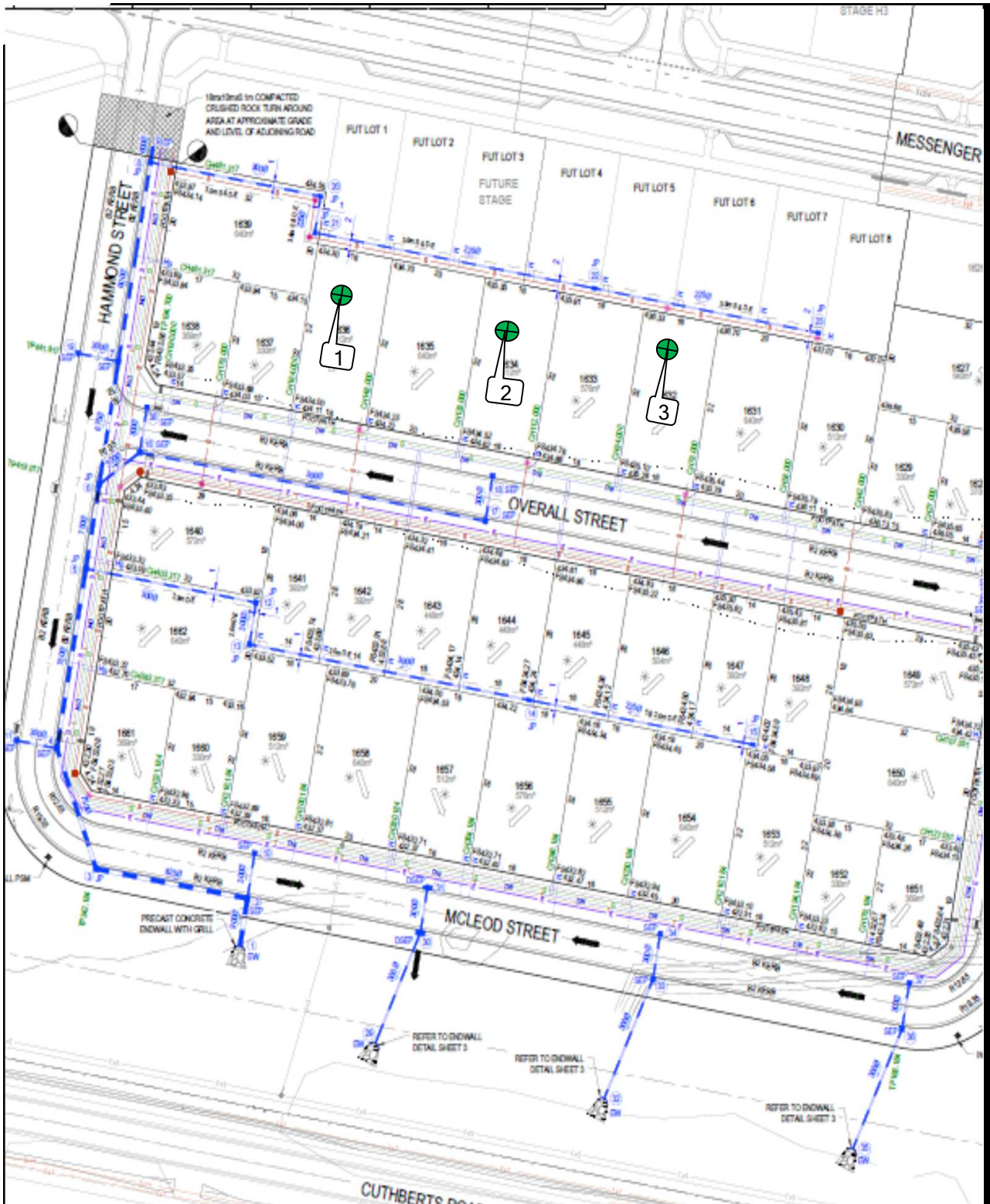
OPERATOR: WS

SCALE: NTS

JOB No.: 2323/012

CHECKED: KK

FIGURE No: -



**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: Lucas Estate Stage H1 & H2

Sketch indicating compaction test locations

DATE: 9/12/2020

JOB No.: 2323/014

OPERATOR: TI/JC

CHECKED: KK

SCALE: NTS

FIGURE No: -



DAILY SUMMARY - FIELD DENSITY TESTS

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

REPORT NO.: # 2323/015

LOCATION: SYMON BROS - Lucas Estage Stage H1 & H2

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)	
16/12/20	1	<i>Refer to #2323/016 for approx. test site locations.</i>	2.14	15.0	102.0	2.09	17.0	175	2.0 Drier	88.0	0	0	200	
16/12/20	2		2.19	19.0	102.5	2.14	18.5	175	0.0 Wetter	101.5	0	0	300	
16/12/20	3		2.02	18.5	98.0	2.06	18.0	175	0.5 Wetter	102.5	0	0	200	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1:55pm Finish Time: 2:20pm

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)

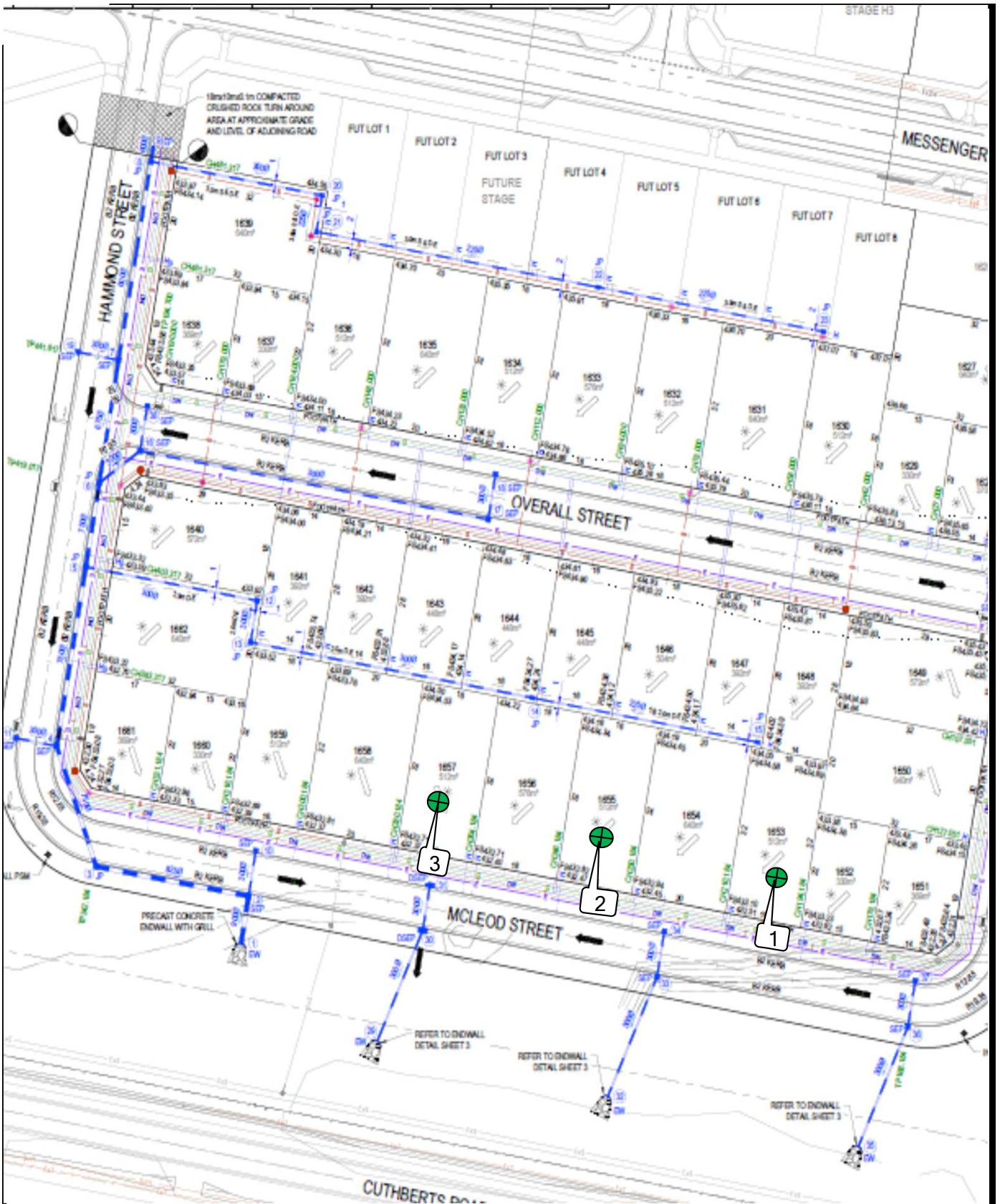


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 18/12/2020



**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: Lucas Estate Stage H1 & H2

Sketch indicating compaction test locations

DATE: 16/12/2020

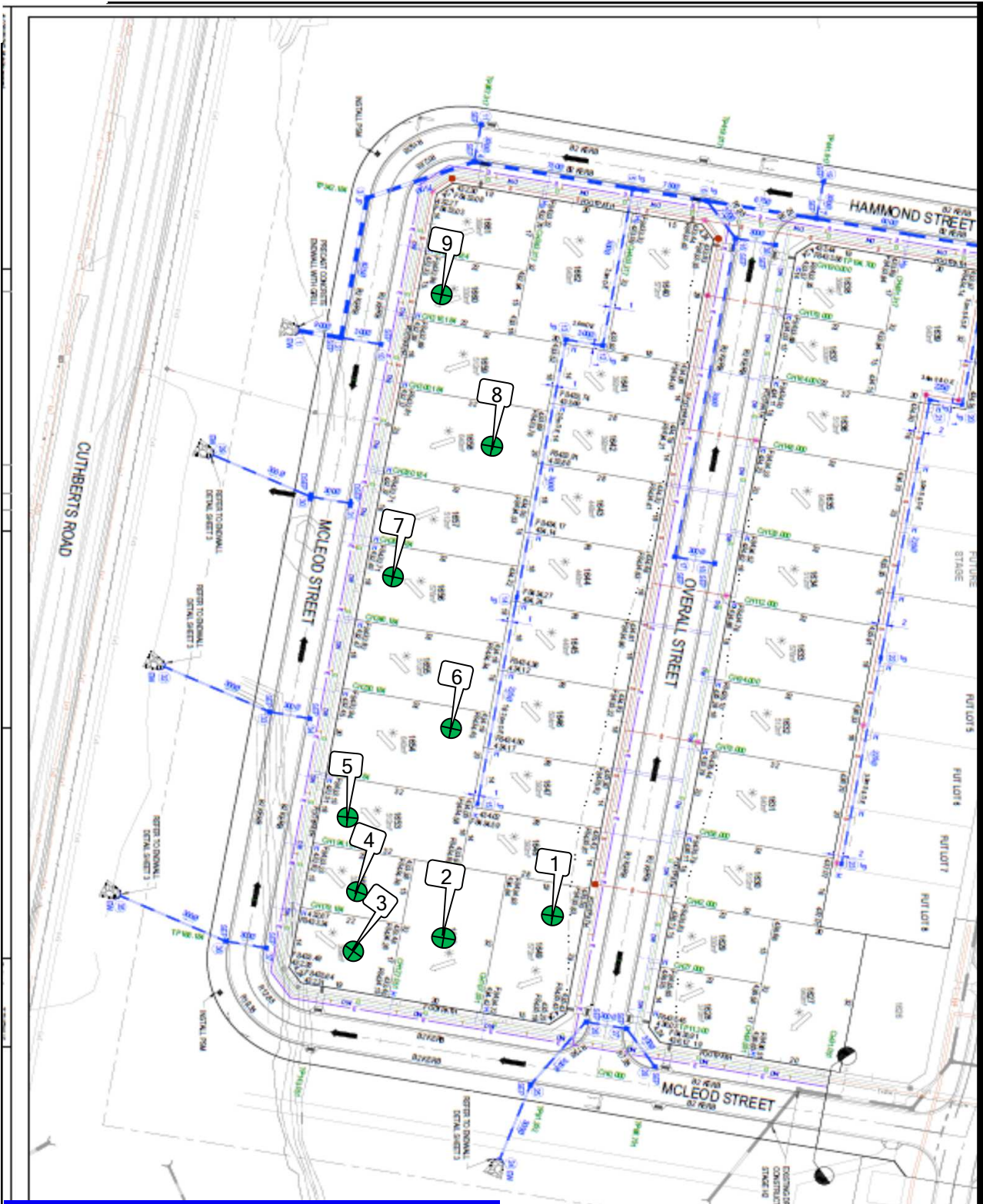
OPERATOR: JC

SCALE: NTS

JOB No.: 2323/016

CHECKED: KK

FIGURE No: -



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ACN 102 571 077**

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

CLIENT: SYMON BROS

LOCATION: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 18/01/2021

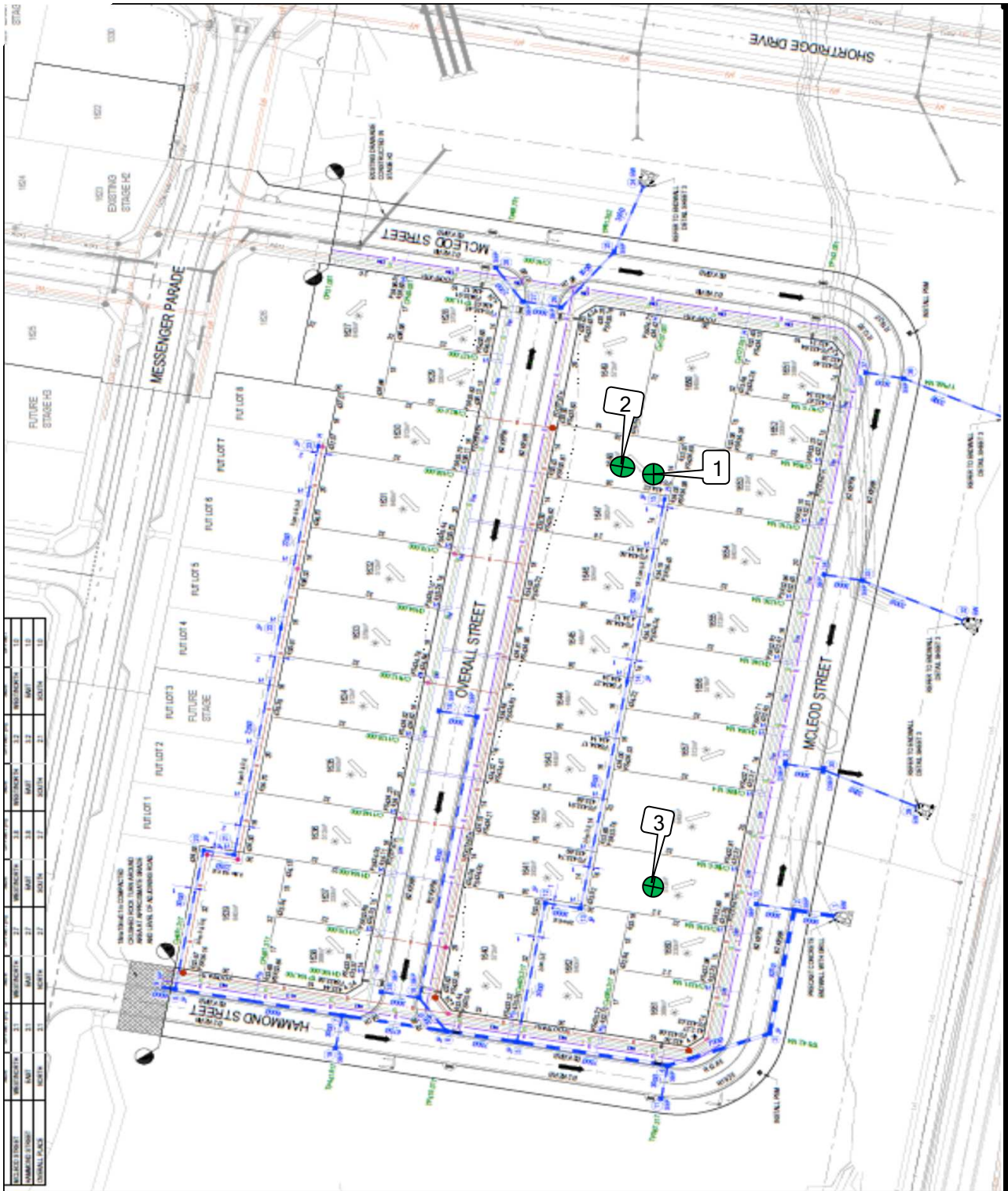
JOB No.: 2323/024

OPERATOR: RW/D

CHECKED: KK

SCALE: NTS

FIGURE No: -



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**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: Lucas Estate Stage H1

Sketch indicating compaction test locations

DATE: 17/03/2021

OPERATOR: JC

SCALE: NTS

JOB No.: 2323/038

CHECKED: KK

FIGURE No: -