Reference
No.: 1998-175

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

Carried Out
By

GEOTECHNICAL LABORATORIES

PREPARED FOR: -

SYMON BROS. CONSTRUCTIONS PTY LTD

Table of Contents

Appendices

Client Name: Symon Bros. Constructions Pty Ltd

Project Name: True North Stage 23

Location: Lysterfield Drive Greenvale

Date: 6th of October 2022

Author: Mr. Sam Loza

Reference No.: 1998-175

Revision: 0

Project Manager: Mr. Nick Goutzamanis

1. Introduction & Scope

At the request of Symon Bros. Construction Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 8th of September 2021 to the 10th of September 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). Detail Plan Drawing No. 307544CR200 (Rev C).

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

2. Site Preparation

Site inspections were undertaken on the 8th of September 2021 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.

Initial proof roll inspections were performed and subsequently throughout the project duration to ensure no significant soft areas were present prior to filling.

3. Fill Material

The fill material used was sourced from on-site excavations. The stockpiled material had been screened to remove any boulders.

The fill material is best described as CLAY, brown, grey-brown, slightly moist to moist, medium to high plasticity with fine to coarse grained sand and gravels of granite and basalt origin.

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 / dump trucks
- A watercart
- A sheepsfoot compactor (825)

The sheepsfoot 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 where possible.

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 fifteen 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 hilf density ratio not less than 95 percent of the maximum hilf density value as determined by the Standard Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

All 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 8th of September 2021 to the 10th of September 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.

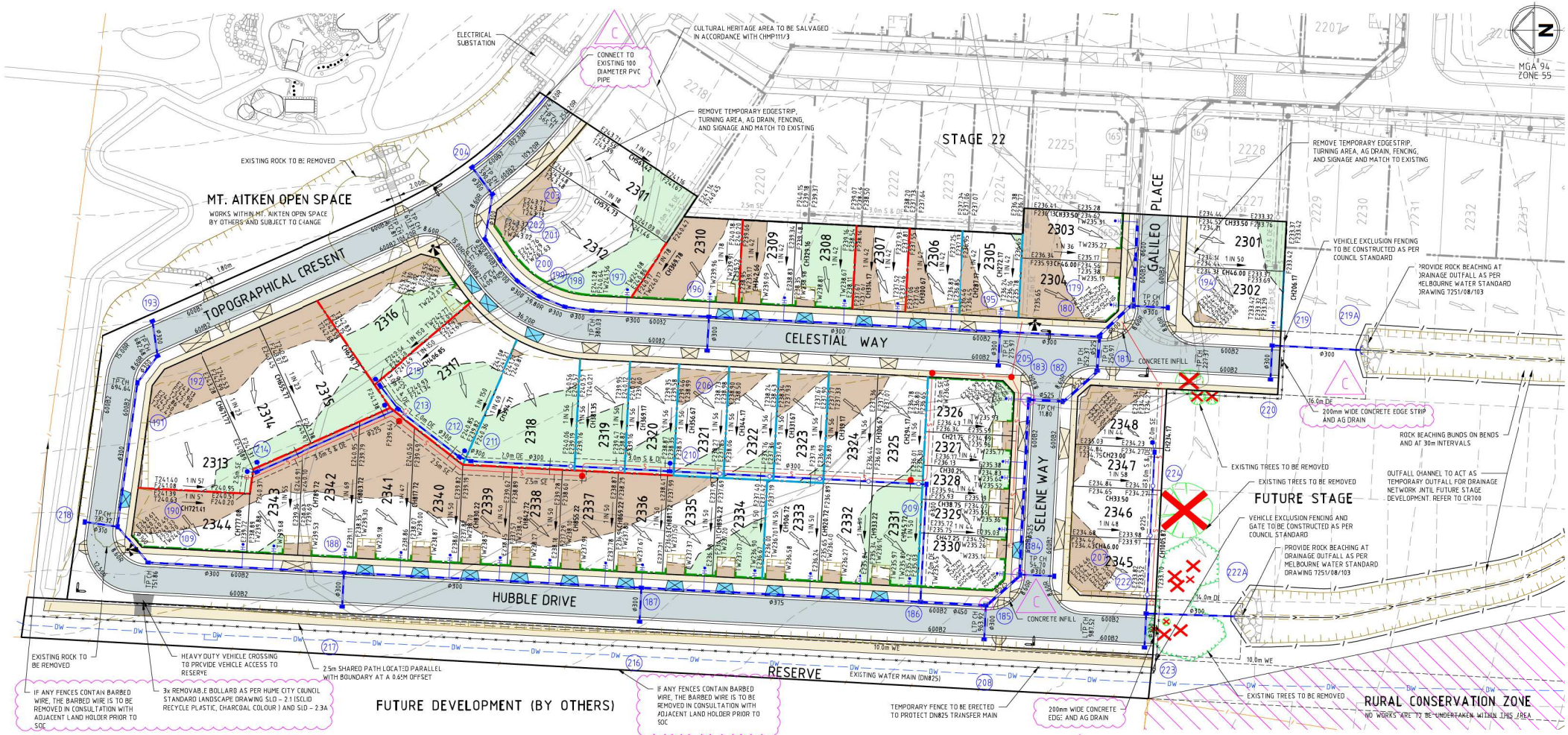
Sam Loza
Laboratory Manager.

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

APPENDIX A



WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

Rev	Amendments	Approved	Date
C	NOTES AND SWD PITS AMENDED	PC	07/05/21
B	PATH, LEVELS, SERVICES LOTS, DRIVEWAYS AMENDED	PC	31/03/21
A	ISSUED TO COUNCIL	PC	09/02/21

Scale
1:1500
SCALE @ A1
0 5 10 15 20 25

spiire
414 LA TROBE STREET PO BOX 16084 MELBOURNE
VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

TRUE NORTH

Satterley

Designed | Checked

Authorised | Date

TRUE NORTH
STAGE 23
ROAD AND DRAINAGE
ROAD LAYOUT PLANS
HUME CITY COUNCIL
SATTERLEY PROPERTY GROUP PTY LTD

PRELIMINARY Dig No **307544CR200** Rev **C**

file name 307544CR200.dwg layout name CR200 plotted by Winnie Ong
file location G:\30\307544\Civil\ACAD plot date 12/05/2021 8:52 AM Sheet 2 of 25 Sheets

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

APPENDIX B

GEOTECHNICAL LABORATORIES
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.: # 1997/667
LOCATION: SYMON BROS - True North Stage 23

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	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)
9/09/21	1	***Refer to #1997/669 for approx. test site locations.***	1.79	36.5	96.5	1.85	33.5	175	3.0 Wetter	109.0	0	0	0
9/09/21	2		1.80	34.5	96.0	1.88	31.5	175	3.0 Wetter	109.5	0	0	0
9/09/21	3		1.78	36.0	96.0	1.85	33.0	175	3.0 Wetter	109.0	0	0	0
9/09/21	4		1.82	34.0	98.5	1.85	31.5	175	2.5 Wetter	107.5	0	0	0
9/09/21	5		1.79	33.0	98.0	1.83	32.0	175	1.0 Wetter	103.5	0	0	0
9/09/21	6		1.80	32.5	97.5	1.84	32.5	175	0.5 Wetter	101.0	0	0	0

NOTES: Clayey Fill Ex. Onsite
Test sites located - Geolab Procedure 4, Part 4.4.
Compaction specimens sampled after compaction.
Start Time: 10:15am Finish Time: 11:30am

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
Soil Layer thickness: 200mm
Compaction Test: AS 1289 5.7.1
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)

NATA ACCREDITED FOR TECHNICAL COMPETENCE

Accredited for compliance with ISO/IEC 17025 - Testing
NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)
Issue Date: 16/9/2021

GEOTECHNICAL LABORATORIES
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REPORT NO.: # 1997/668
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9/09/21	7	***Refer to #1997/669 for approx. test site locations.***	1.75	35.0	96.5	1.81	32.0	175	3.0 Wetter	109.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
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-	-		-	-	-	-	-	-	-	-	-	-	-
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-	-		-	-	-	-	-	-	-	-	-	-	-

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Compaction Test: AS 1289 5.7.1
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)

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CLIENT: SYMON BROS	**DATE: 9/09/2021**	**JOB No.: 1997/669**
LOCATION: True North Stage 23	**OPERATOR: SA**	**CHECKED: KK**
Sketch indicating approx. compaction test locations	**SCALE: NTS**	**FIGURE No: -**

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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/670
LOCATION: SYMON BROS - True North Stage 23

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	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)
10/09/21	1	***Refer to #1997/672 for approx. test site locations.***	1.81	29.5	98.0	1.85	27.5	175	2.0 Wetter	106.5	0	0	0
10/09/21	2		1.83	34.0	98.0	1.86	31.0	175	3.0 Wetter	110.5	0	0	0
10/09/21	3		1.77	34.5	95.5	1.85	32.5	175	2.0 Wetter	106.5	0	0	0
10/09/21	4		1.83	36.5	101.0	1.81	35.0	175	1.5 Wetter	104.5	0	0	0
10/09/21	5		1.80	36.5	97.5	1.85	34.0	175	2.5 Wetter	107.0	0	0	0
10/09/21	6		1.84	33.5	100.5	1.82	33.5	175	0.5 Wetter	101.0	0	0	0

NOTES: Clayey Fill Ex. Onsite
Test sites located - Geolab Procedure 4, Part 4.4.
Compaction specimens sampled after compaction.
Start Time: 9:00am Finish Time: 9:50am

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
Soil Layer thickness: 200mm
Compaction Test: AS 1289 5.7.1
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)

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(Approved Signatory)
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10/09/21	7	***Refer to #1997/672 for approx. test site locations.***	1.78	39.0	99.5	1.79	38.5	175	0.5 Wetter	101.5	0	0	0
10/09/21	8		1.82	35.0	100.0	1.82	35.0	175	0.0 Drier	100.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

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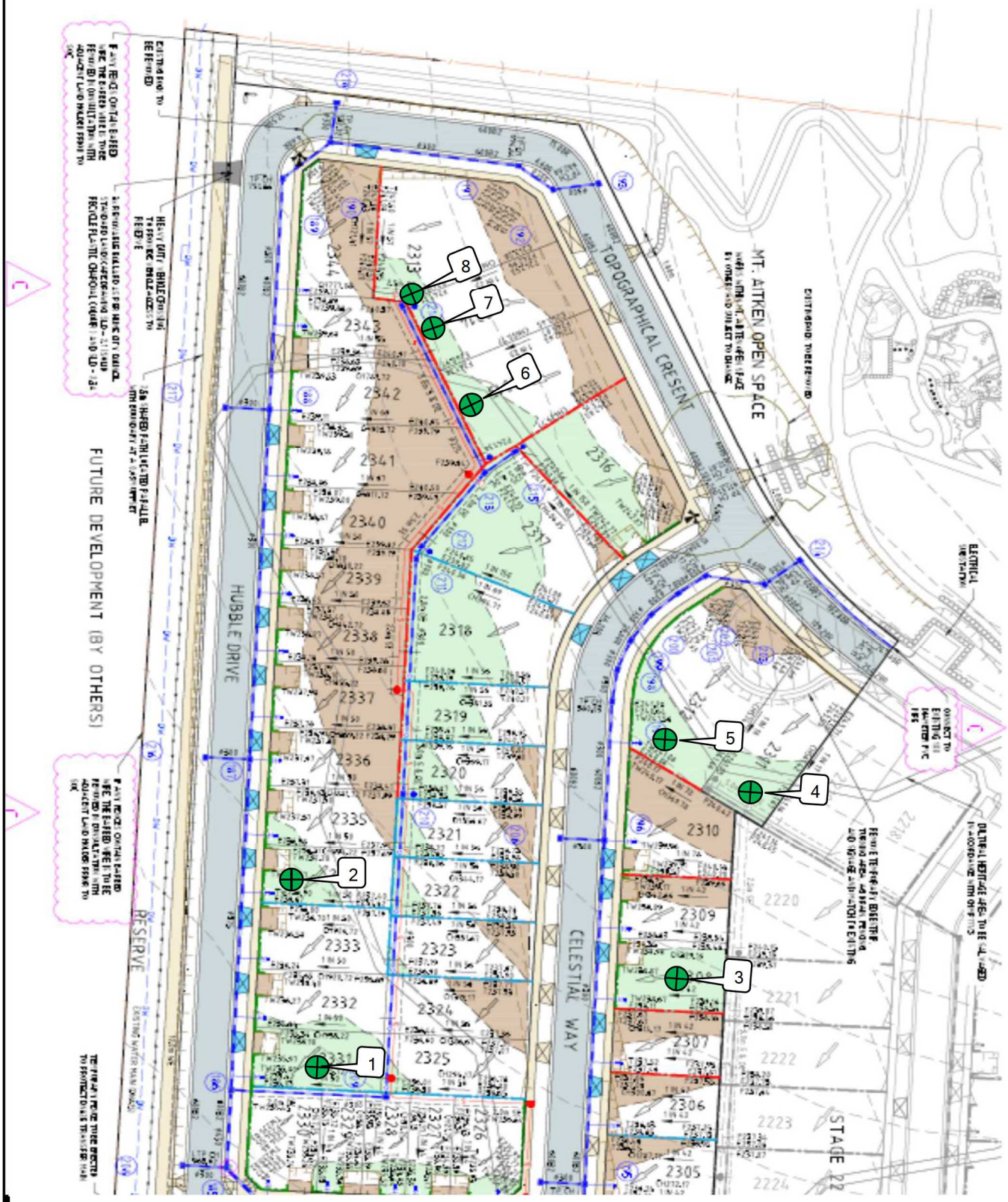

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CLIENT: SYMON BROS	**DATE: 10/09/2021**	**JOB No.: 1997/672**
LOCATION: True North Stage 23	**OPERATOR: SA**	**CHECKED: KK**
Sketch indicating approx. compaction test locations	**SCALE: NTS**	**FIGURE No: -**