

LEVEL ONE

Reference  
No.: 2372-008

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out  
By*



PREPARED FOR: -

CIVILWORX CONSTRUCTIONS PTY LTD



## Table of Contents

1)	Introduction & Scope.....	2
2)	Site Preparation.....	2
3)	Fill Material.....	3
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: Civilworx Constructions Pty Ltd

Project Name: Davis Vineyard Stage 2

Date: 21<sup>st</sup> of December 2021

Author: Mr. Sam Loza

Reference No.: 2372-008

Revision: 0

Project Manager: Mr. Brittany Gardiner

### **1. Introduction & Scope**

At the request of Civilworx Constructions Pty Ltd, Geotechnical Laboratories has carried out inspections and testing of the above-mentioned site on the 20<sup>th</sup> of December 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 Civilworx Constructions Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Site Layout Plan Drawing Number 010 (Rev 0).

General site works involved the placement of fill, using on-site derived materials, to bring the fill construction regions to the required finished levels as indicated on the construction drawings.

### **2. Site Preparation**

Initial site inspections were undertaken on the 19<sup>th</sup> of March 2021 and subsequently again on the 20<sup>th</sup> of December 2021 confirming that selected areas to be filled were completely stripped of topsoil and significant tree roots prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Initial subgrade proof roll inspections were performed to ensure no significant soft areas were present prior to filling.

### **3. Fill Material**

The fill material used was sourced from on-site excavations, mainly road boxing and service trenches.



The fill material is best described a silty CLAY, brown, pale brown, slightly moist to moist, medium to high plasticity with basalt gravels and occasional 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:

- Highway trucks
- A grader
- A watercart
- A padfoot roller

The grader placed material in horizontal loose layers of approximately 250mm-300mm. The pad foot roller performed compaction of the 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 three 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 and Concentrated 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.

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, Civilworx 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 Civilworx Constructions Pty Ltd on the 20<sup>th</sup> of December 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 Civilworx 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 Civilworx 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





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.: # 2371/074

LOCATION: CIVILWORX - Davis Vineyard, Diggers Rest, Stage 2

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	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)	
20/12/21	1	<i>Refer to #2371/075 for approx. test site locations.</i>	1.93	28.0	103.0	1.87	27.5	175	0.5 Wetter	101.0	0	0	450	
20/12/21	2		2.01	23.5	103.0	1.95	23.5	175	0.0 Drier	100.0	0	0	250	
20/12/21	3		1.84	33.0	100.5	1.83	32.5	175	0.5 Wetter	101.5	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: 1:00pm

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: 21/12/2021



**GEOTECHNICAL  
LABORATORIES**

**GEOTECHNICAL LABORATORIES**

**ACN 102 571 077**

14 Ravenhall Way, Ravenhall, Vic 3023

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

**CLIENT: CIVILWORX**

**LOCATION: Davis Vineyard Estate Stage 3**

**Sketch indicating compaction test locations**

**DATE: 20/12/2021**

**OPERATOR: BM**

**SCALE: NTS**

**JOB No.: 2371/075**

**CHECKED: KK**

**FIGURE No: -**