

DRAPERS CIVIL
CONTRACTING PTY LTD

SANCTUARY ESTATE
STAGE 1A

ARMSTRONG CREEK

Report On

LEVEL 1
SURVEILLANCE
& COMPACTION CONTROL
OF ALLOTMENT FILLING

*Carried Out
By*



Project No.: 1886/082



Factory 1/8-10 Catalina Drive, Tullamarine, Vic 3043
PO Box 2693, Gladstone Park, Vic, 3043
ABN 51 102 571 077
PH (03) 9335-1225

2nd November 2017
Project No.:1886/082

Drapers Civil Contracting Pty Ltd
PO Box 287
Belmont, Vic 3216
Attention: - Mr. Chris Nation

Dear Sir,

RE: Sanctuary Estate Stage 1A – Allotment Filling

Introduction & Scope

At the request of Drapers Civil Contracting Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site on the 5th of April 2017 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 Drapers Civil Contracting Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Standard Faceplan Layout Drawing No. M110512-01A-CO2 Rev.03.

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

Site Preparation

Site inspections were undertaken on the 5th of April 2017 confirming that 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 soft areas were present prior to filling.

Material

It is understood that the fill material used was sourced from on-site excavations, mainly service trenches and road boxing.

The material is best described as **CLAY fill, brown, grey-brown, slightly moist to moist, low to medium plasticity with fine grained sand.**

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

Source material was deemed a **Suitable Material** in accordance with the guidelines set out in AS 3798 - 2007 Section 4.3.

Compaction of Fill Material

A sheepsfoot compactor placed material in horizontal loose layers of approximately 250mm to 300mm. The sheepsfoot 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). Moisture conditioning was carried out using a water cart and mixing with the compactor prior to sheepsfoot rolling.

Compaction 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 allotment filling. Results are presented in Appendix A of this report.

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 half density ratio not less than 95 percent of the maximum half density value as determined by the Standard Half 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.

Remarks

So far as can be determined, Drapers Civil Contracting 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 Drapers Civil Contracting Pty Ltd on the 5th of April 2017 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

Note: Test results and controlled fill certification relates only to fill placed by Drapers Civil Contracting Pty Ltd and for earthworks completed at the time of testing. Any previous or subsequent earthworks will require a separate evaluation.

Yours Faithfully,
GEOTECHNICAL LABORATORIES.



Sam Loza.
Laboratory Manager.

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SANCTUARY ESTATE
STAGE 1A

ARMSTRONG CREEK

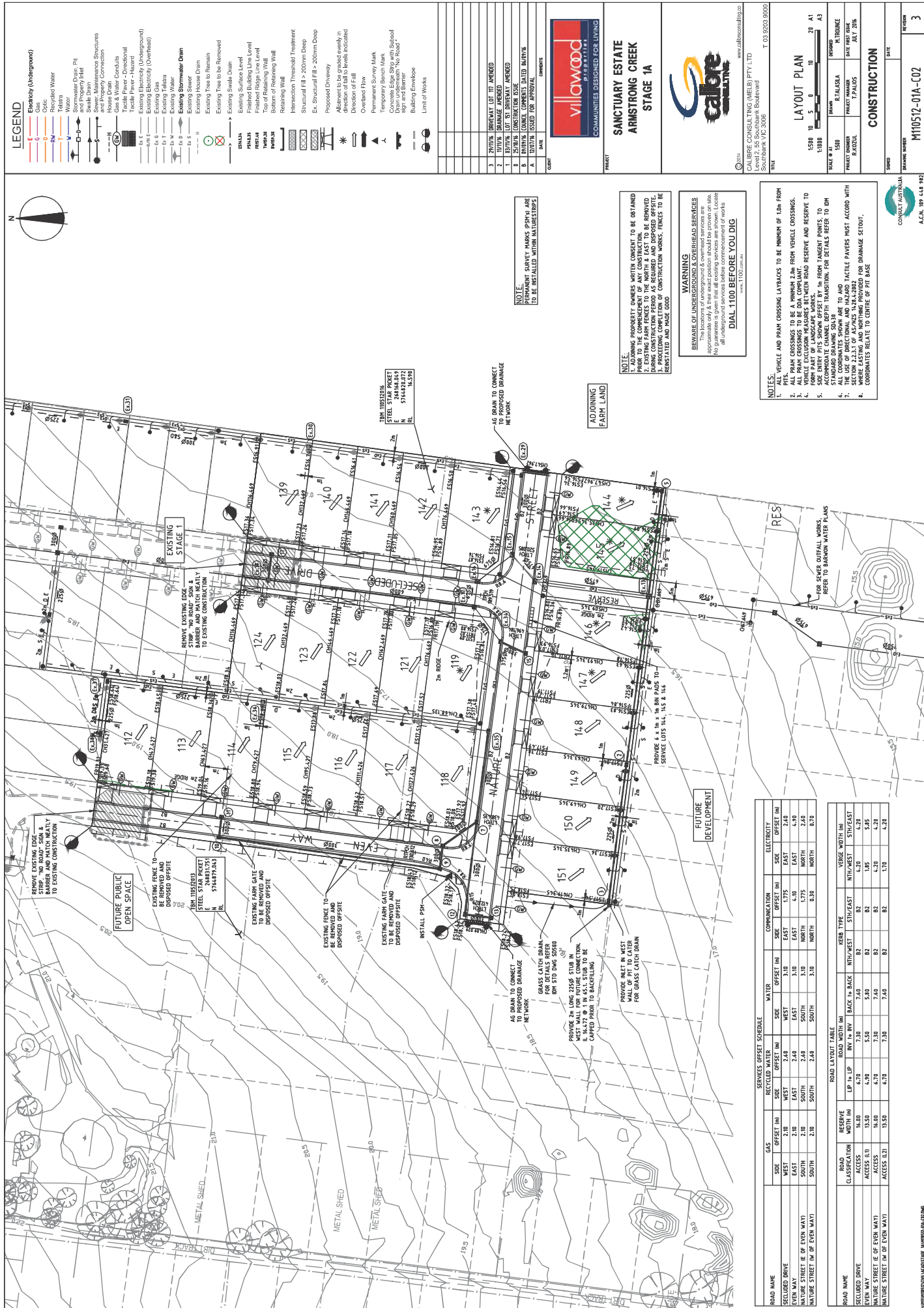
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APPENDIX A





GEOTECHNICAL LABORATORIES
ACN 102 571 077
Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
PO Box 2693 Gladstone Park VIC 3043
PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/370

LOCATION: DRAPERS - Sanctuary Estate Stage 1A

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILLF 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)	
5/04/17	1	Refer to #1897/371 for approx. test site locations.	2.08	16.5	100.5	2.06	18.5	175	2.0	Drier	88.5	-	-	200
5/04/17	2		2.10	16.0	101.0	2.07	18.5	175	2.5	Drier	86.0	-	-	0
5/04/17	3		2.03	14.0	99.0	2.06	16.5	175	2.5	Drier	85.0	-	-	0
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	

NOTES: Onsite Clay Fill

Test sites located - Geolab Procedure 4, Part 4.4

Compaction specimens sampled after compaction.
Start Time: 9.48am Finish Time: 10.13am

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

Soil Layer thickness: 200mm

Hillf Density Ratio and Hillf Moisture Variation ,Hillf 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. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full.

✱ NATA Accredited Laboratory Number 14561



SAM LOZA
(Approved Signatory)

Issue Date: 7/5/2017



**GEOTECHNICAL
LABORATORIES**

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CLIENT: DRAPERS

LOCATION: Sanctuary Estate Stage 1A

Sketch indicating approx. compaction test locations

DATE: 5/4/17

OPERATOR: JC

SCALE: NTS

JOB No.: 1897/371

CHECKED: MC

FIGURE No: -