

Reference  
No.: 2066-006

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out  
By*



PREPARED FOR: -

DRAPERS CIVIL CONTRACTING PTY LTD



## Table of Contents

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## Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Drapers Civil Contracting Pty Ltd  
Project Name: Sanctuary Estate Stage 5 Armstrong Creek  
Date: 25<sup>th</sup> of February 2019  
Author: Mr. Sam Loza  
Reference No.: 2066-006  
Revision: 0  
Project Manager: Mr. Chris Nation

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

At the request of Drapers Civil Contracting Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 25<sup>th</sup> of January 2018 to the 1<sup>st</sup> of November 2018 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). Calibre Consulting Construction Drawing No. C02 Rev 04.

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 construction drawings.

### **2. Site Preparation**

Site inspections were undertaken on the 25<sup>th</sup> of January 2018 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**

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



The fill material is best described as a CLAY, brown, grey-brown, slightly moist to moist, slightly silty, medium 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 / highway trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250mm-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 forty-eight 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.



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, 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 from the 25<sup>th</sup> of January 2018 to the 1<sup>st</sup> of November 2018 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 Drapers Civil Contracting 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 Drapers Civil Contracting Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

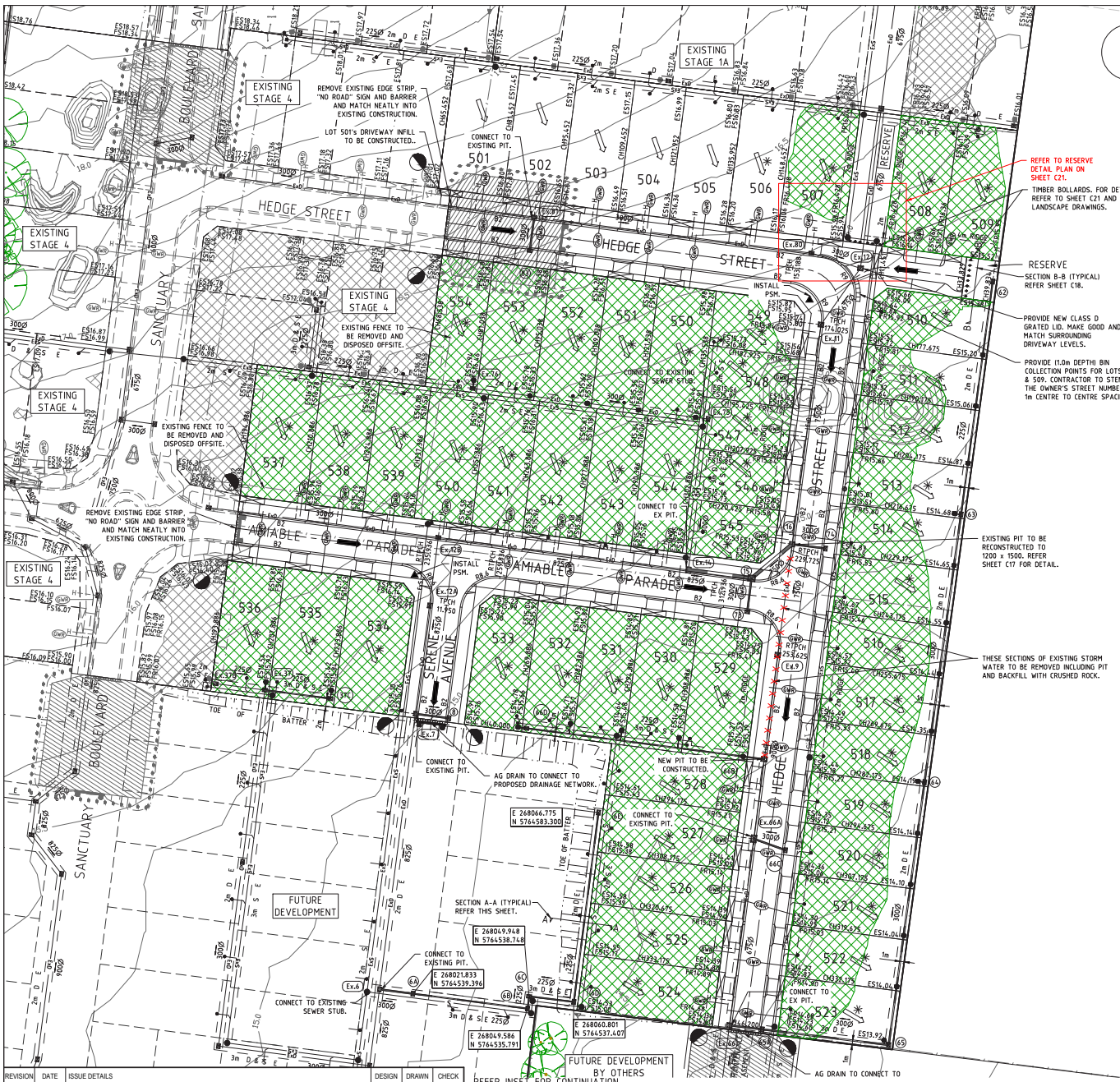
For & on behalf of  
Geotechnical Laboratories Pty Ltd.

Sam Loza  
Laboratory Manager.



LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT  
  
APPENDIX A

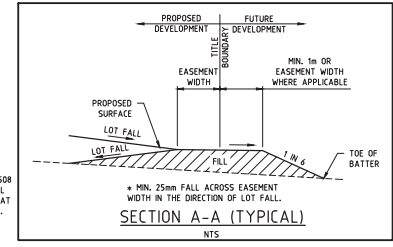




NOTE: LOTS 501-508, 524-528, 534 & 536-549  
HOUSE CONNECTIONS CONNECT TO EXISTING DRAIN.

NOTE: ALL EXISTING PIT COVERS TO  
BE ADJUSTED TO MATCH THE DESIGN  
SURFACE LEVEL AND POSITION WITH  
RESPECT TO THE ADJACENT KERB,  
FOOTPATH AND TITLE BOUNDARIES  
WHERE APPROPRIATE AND MADE GOOD.

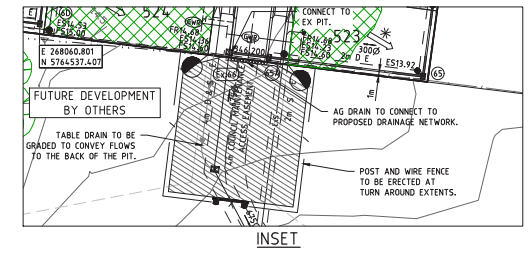
**WARNING**  
**BWARE OF UNDERGROUND & OVERHEAD SERVICES**  
The locations of underground & overhead services are  
approximate only & their exact position should be proven on site.  
No guarantee is given that all existing services are shown. Locate  
all underground services before commencement of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



- LEGEND - LAYOUT PLAN**
- STORMWATER DRAIN, PIT & PROPERTY INLET
  - SWALE DRAIN
  - SEWER & MAINTENANCE STRUCTURES
  - HOUSE DRAIN
  - SERVICE CONDUITS
  - TACTILE PAVERS
  - EXISTING ELECTRICITY (UNDERGROUND)
  - EXISTING ELECTRICITY (OVERHEAD)
  - EXISTING GAS
  - EXISTING OPTIC FIBRE
  - EXISTING TELSTRA
  - 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
  - RETAINING WALL
  - BUILDING ENVELOPE
  - PAVEMENT TREATMENT
  - EX. EX. STRUCTURAL FILL > 200mm DEEP
  - DIRECTION OF FILL
  - OVERLAND FLOW
  - ALLOTMENT TO BE GRADED EVENLY IN  
DIRECTION OF FILL TO LEVELS INDICATED
  - CONCRETE EDGE STOP WITH SUBSOL DRAIN
  - "NO ROAD" SIGN & BARRIER
  - LIMIT OF WORKS
  - EXISTING TREE TO BE REMOVED
  - PERMANENT SURVEY MARK
  - TEMPORARY BENCH MARK
  - PROPOSED DRIVEWAY

ROAD LAYOUT TABLE										
ROAD NAME	ROAD CLASSIFICATION	RESERVE WIDTH (m)	ROAD WIDTH (m)				KERB TYPE		VERGE WIDTH (m)	
			LIP TO LIP	INV TO INV	BACK TO BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST	
AMABLE PARADE	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20	
SERENE AVENUE	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20	
HEDGE STREET	ACCESS	16.00	6.70	7.30	7.60	B2	B2	4.20	4.20	
HEDGE STREET (LOTS 508-509)	LANE	10.00	4.00	-	-	-	-	-	-	

ROAD NAME	SIDE	GAS	SERVICES OFFSET SCHEDULE				SIDE	COMMUNICATION	SIDE	ELECTRICITY
			WATER	WATER	WATER	WATER				
			WATER	WATER	WATER	WATER				
AMABLE PARADE	NORTH	2.10	2.10	2.60	2.60	2.60	SOUTH	1.775	SOUTH	2.60
SERENE AVENUE	WEST	2.10	2.10	2.60	2.60	2.60	WEST	1.775	EAST	2.60
HEDGE STREET	NORTH/WEST	2.10	2.10	2.60	2.60	2.60	SOUTH/EAST	1.775	SOUTH/EAST	2.60
HEDGE STREET (LOTS 508-509)	NORTH	2.10	2.10	2.50	2.50	2.50	SOUTH	1.775	SOUTH	1.00

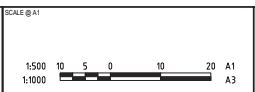


**GREATER GEELONG CITY COUNCIL**  
PLANNING & ENVIRONMENT ACT 1987  
GREATER GEELONG PLANNING SCHEME  
Endorsed Plan referred to in Permit No: 1610-2014  
Signed: [Signature] Date: 17/01/2015  
For and on behalf of the Greater Geelong City Council as the Responsible Authority  
NOTE: THIS IS NOT A BUILDING APPROVAL

- NOTES:**
- ALL VEHICLE AND PRAM CROSSING LAYBACKS TO BE MINIMUM OF 1.0m FROM PITS.
  - ALL PRAM CROSSINGS TO BE A MINIMUM 2.0m FROM VEHICLE CROSSINGS.
  - ALL PRAM CROSSINGS TO BE BDA COMPLIANT.
  - VEHICLE EXCLUSION MEASURES BETWEEN ROAD RESERVE AND RESERVE TO FORM PART OF LANDSCAPE WORKS.
  - SIDE ENTRY PITS SHOWN OFFSET BY 1m FROM TANGENT POINTS, TO ACCOMMODATE CHANNEL DEPTH TRANSITION. FOR DETAILS REFER TO IDH STANDARD DRAWING SD-39.
  - ALL COORDINATES SHOWN ARE TO AH.
  - THE USE OF DIRECTIONAL AND HAZARD TACTILE PAVERS MUST ACCORD WITH SECTION 2.2.3.1 OF AS/NZS 14284:2002.
  - WHERE EASTING AND NORTHING PROVIDED FOR DRAINAGE SETOUT, COORDINATES RELATE TO CENTRE OF PIT BASE.
  - CHANGES FOR PROPERTY INLET POINTS SERVING FUTURE LOTS ARE MEASURED FROM DOWNSTREAM PIT.
  - REFER ARBORIST REPORT FOR DETAILS OF EXISTING TREES TO BE REMOVED.

REVISION	DATE	ISSUE DETAILS	DESIGN	DRAWN	CHECK
4	08.01.19	FOOTPATH ADDED TO RESERVE	GM	RD	JC
3	13.12.18	SERVICES OFFSET SCHED. UPDATED	GM	GM	JC
2	27.07.18	EXISTING PIT NUMBERS ADDED	GM	GM	JC
1	08.06.18	LOT 507 RETAINING WALL, LOT 508 HOUSE DRAIN RELOCATED & BOLLARDS ADDED AT RESERVE	GM	GM	JC
0	18.05.18	CONSTRUCTION ISSUE	GM	GM	JC
E	14.05.18	ISSUED IN ACCORDANCE WITH COUNCIL'S COMMENTS DATED 09.04.18	GM	GM	JC
D	28.03.18	LOTS 517 & 528 CROSSOVERS RELOCATED	GM	GM	JC
C	29.11.17	ISSUED IN ACCORDANCE WITH COUNCIL'S COMMENTS DATED 22.11.17	KM	KM	JC
B	08.11.17	LOTS 547 & 548 CROSSOVERS RELOCATED	KM	KM	JC
A	13.09.17	ISSUED FOR APPROVAL	KM	KM	TM

**ISSUED FOR  
CONSTRUCTION**



**SANCTUARY ESTATE  
STAGE 5  
ARMSTRONG CREEK**

**LAYOUT PLAN - 1**

PROJECT No.	DRAWING No.	REVISION
17-001737-05	C02	4



LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT  
  
APPENDIX B





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.: # 1897/614

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
25/01/18	1	<i>Refer to #1897/615 for approx. test site locations.</i>	1.88	23.0	97.0	1.94	26.0	175	3.0 Drier	88.5	0	0	0
25/01/18	2		1.95	23.5	102.5	1.90	25.5	175	2.0 Drier	92.5	0	0	0
25/01/18	3		1.95	26.5	101.5	1.92	25.5	175	1.0 Wetter	103.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10.30am Finish Time: 11.00am

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.

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)



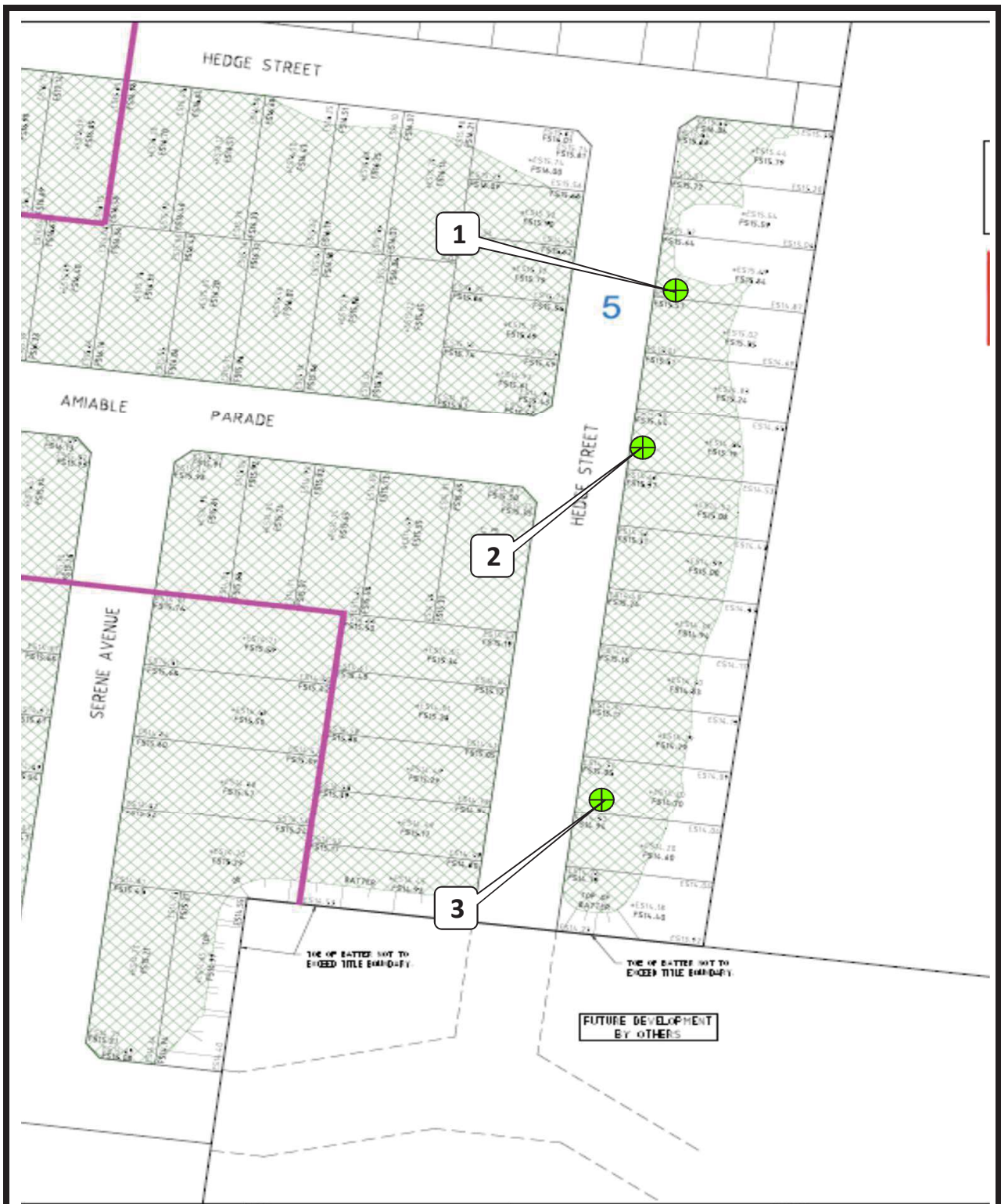
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NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 30/1/2018



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PO Box 184 Keilor VIC 3036  
PH: (03) 9335 1225 Fax: (03) 9335 1775

**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 25/1/18**

**OPERATOR: NM**

**SCALE: NTS**

**JOB No.: 1897/615**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/618

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
30/01/18	1	<i>Refer to #1897/619 for approx. test site locations.</i>	1.95	20.5	97.5	2.00	20.0	175	0.5 Wetter	102.5	0	0	200
30/01/18	2		1.93	20.0	99.5	1.94	21.0	175	1.0 Drier	95.5	0	0	200
30/01/18	3		2.03	17.5	102.0	1.99	19.0	175	1.0 Drier	93.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4

Compaction specimens sampled after compaction.

Start Time: 1.31pm Finish Time: 1.56pm

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.

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)



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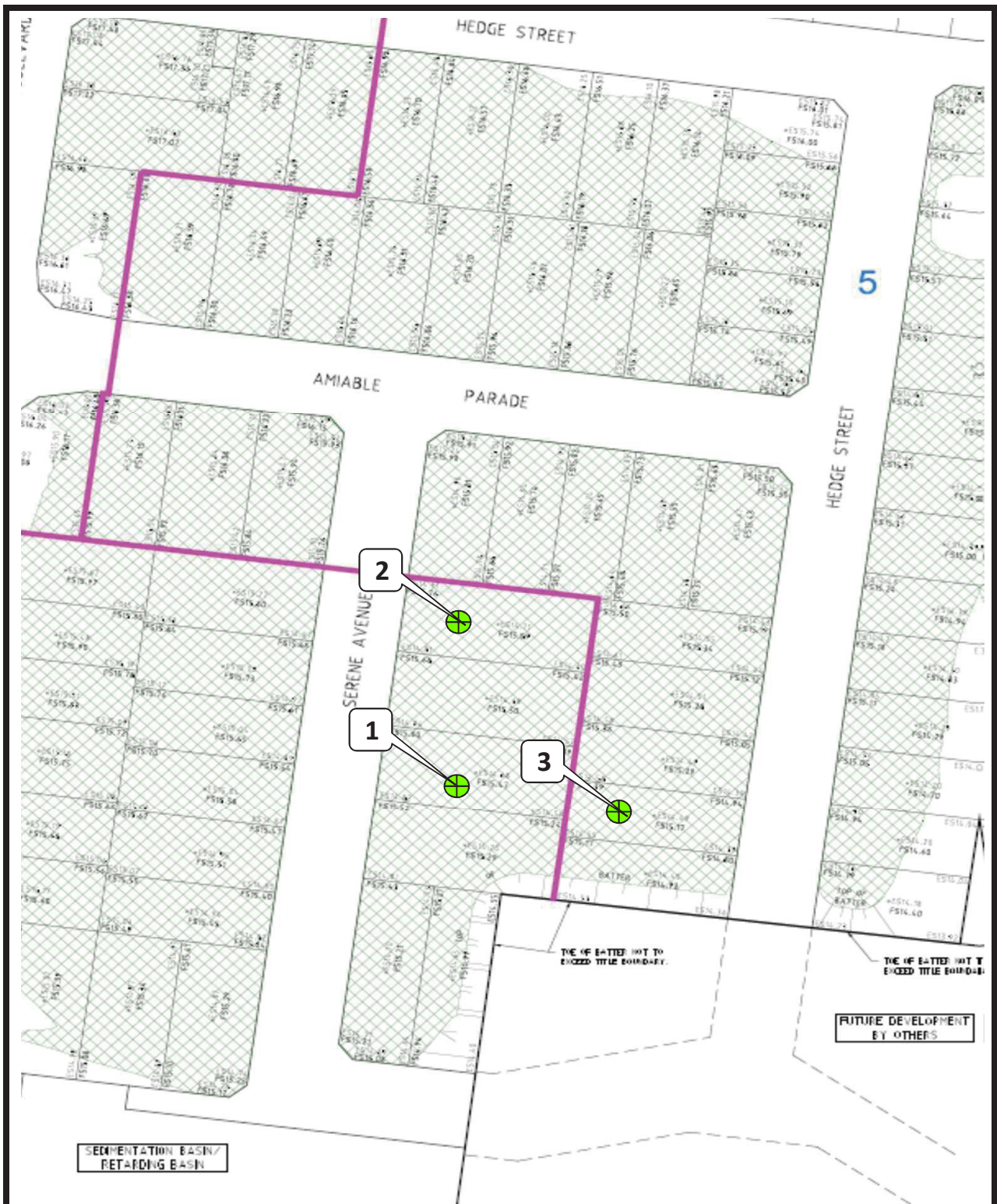
NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 2/2/2018





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PH: (03) 9335 1225 Fax: (03) 9335 1775

**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 30/1/18**

**OPERATOR: DR**

**SCALE: NTS**

**JOB No.: 1897/619**

**CHECKED: EG**



GEOTECHNICAL LABORATORIES  
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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/620

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
1/02/18	1	<i>Refer to #1897/621 for approx. test site locations.</i>	1.96	13.5	101.0	1.94	17.0	175	3.5 Drier	80.0	0	0	0
1/02/18	2		1.91	20.5	101.5	1.88	23.5	175	3.0 Drier	87.5	0	0	0
1/02/18	3		1.94	24.0	102.5	1.89	25.5	175	1.5 Drier	94.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 2.35pm Finish Time: 2.45pm

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.

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)



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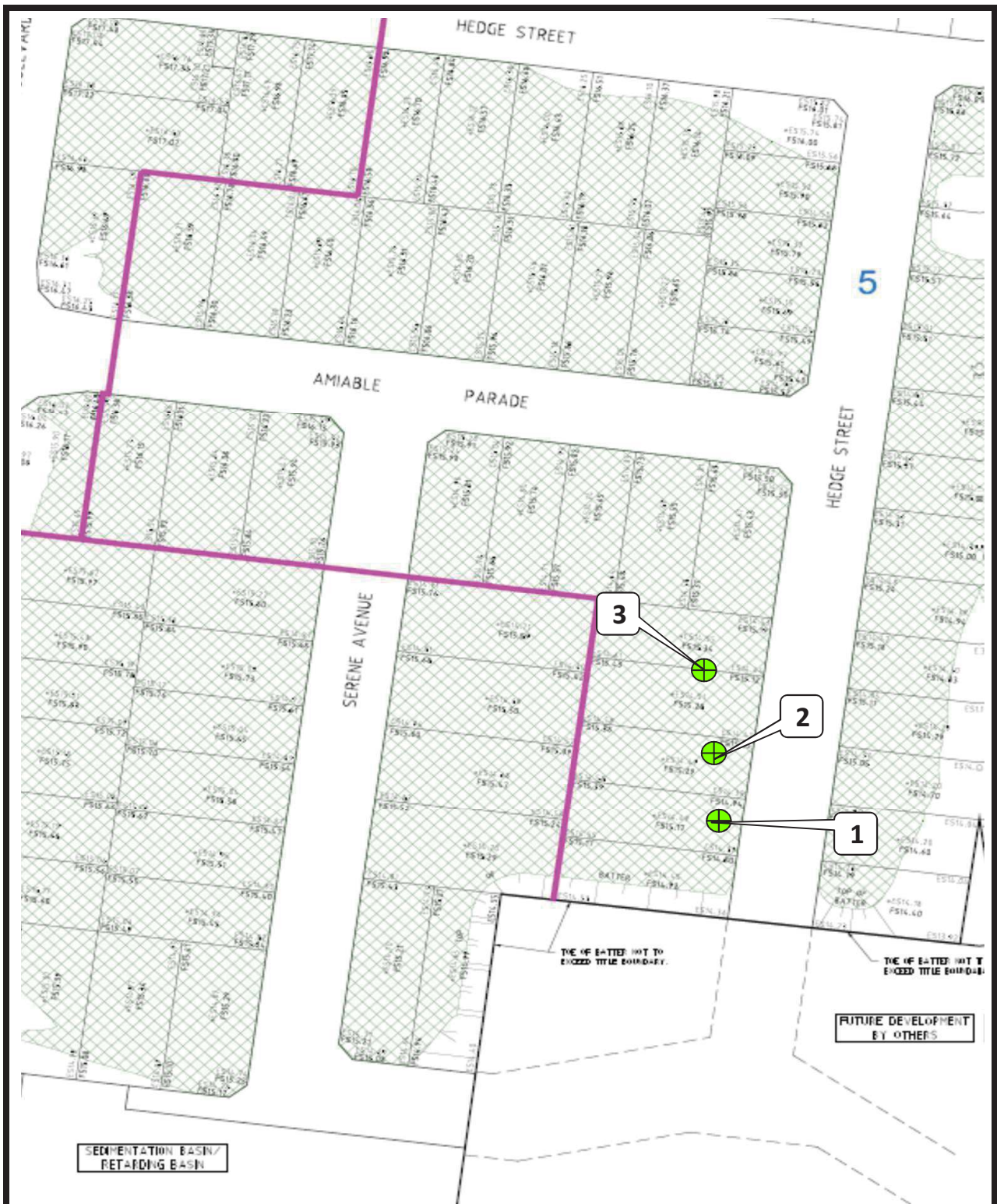
NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 5/2/2018





**GEOTECHNICAL  
LABORATORIES**

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PO Box 184 Keilor VIC 3036  
PH: (03) 9335 1225 Fax: (03) 9335 1775

**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4,5,6**

**Sketch indicating compaction test locations**

**DATE: 1/2/18**

**OPERATOR: NM**

**SCALE: NTS**

**JOB No.: 1897/621**

**CHECKED: EG**



GEOTECHNICAL LABORATORIES  
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PO Box 2693 Gladstone Park VIC 3043  
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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/622

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
2/02/18	1	<i>Refer to #1897/623 for approx. test site locations.</i>	2.02	16.0	96.5	2.09	16.0	175	0.0 Wetter	101.5	0	0	200
2/02/18	2		2.04	16.0	97.0	2.11	15.5	175	0.0 Wetter	101.5	0	0	200
2/02/18	3		2.06	15.5	97.5	2.11	15.0	175	0.5 Wetter	103.0	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8.42am Finish Time: 9.01am

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.

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)



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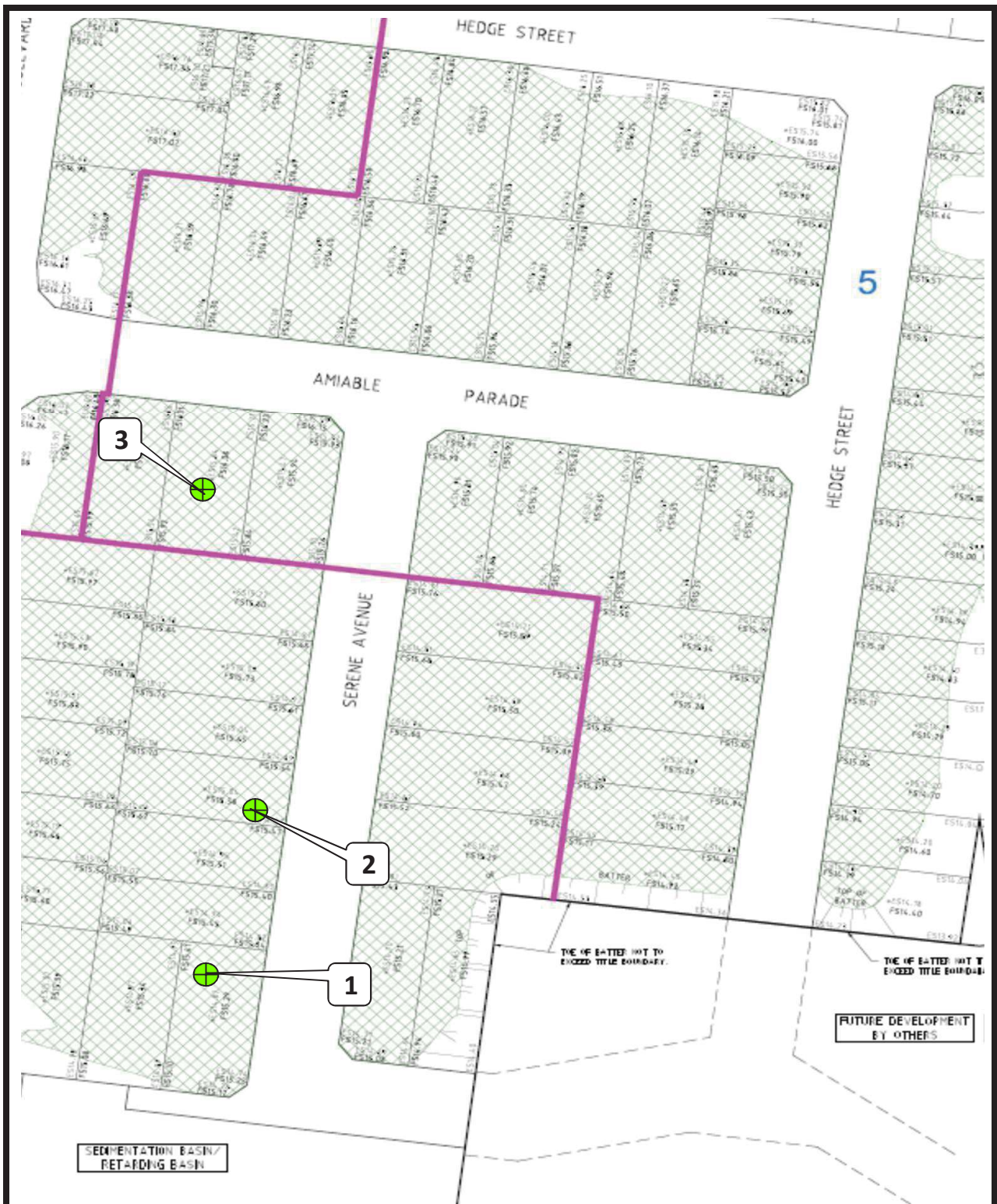
NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 5/2/2018





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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 2/2/18**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1897/623**

**CHECKED: EG**



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.: # 1897/637

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
7/02/18	1	<i>Refer to #1897/640 for approx. test site locations.</i>	1.99	23.0	104.5	1.90	25.5	175	2.5 Drier	89.5	0	0	200
7/02/18	2		1.93	17.5	105.5	1.83	22.5	175	5.0 Drier	78.0	0	0	0
7/02/18	3		1.98	20.5	105.0	1.89	24.5	175	4.5 Drier	82.5	0	0	0
7/02/18	4		1.98	19.0	105.0	1.89	23.0	175	4.5 Drier	81.5	0	0	0
7/02/18	5		1.99	20.5	105.5	1.88	24.0	175	4.0 Drier	84.0	0	0	0
7/02/18	6		1.95	22.0	103.0	1.89	26.0	175	4.0 Drier	85.0	0	0	200

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10.50am Finish Time: 12.36pm

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.

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)



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SAM LOZA

(Approved Signatory)

Issue Date: 9/2/2018



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/638

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
7/02/18	7	<i>Refer to #1897/640 for approx. test site locations.</i>	2.05	21.5	103.0	1.98	23.0	175	1.5 Drier	92.5	0	0	0
7/02/18	8		2.05	21.5	105.0	1.95	22.5	175	1.0 Drier	94.5	0	0	0
7/02/18	9		1.99	24.0	105.5	1.88	26.0	175	2.0 Drier	91.5	0	0	200
7/02/18	10		2.01	23.5	104.0	1.93	25.0	175	1.5 Drier	94.0	0	0	200
7/02/18	11		1.99	24.0	104.5	1.90	26.0	175	2.0 Drier	91.5	0	0	200
7/02/18	12		1.96	23.5	103.5	1.90	25.5	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: 10.50am Finish Time: 12.36pm

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.

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)

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Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/639

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
7/02/18	13	<i>Refer to #1897/640 for approx. test site locations.</i>	2.00	23.0	106.0	1.89	25.0	175	2.0 Drier	91.0	0	0	200
7/02/18	14		1.96	23.5	104.0	1.89	26.0	175	2.5 Drier	90.5	0	0	200
7/02/18	15		2.12	15.0	103.5	2.04	17.5	175	2.5 Drier	86.5	0	0	0
7/02/18	16		2.08	19.5	105.5	1.98	21.0	175	1.5 Drier	93.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4

Compaction specimens sampled after compaction.

Start Time: 10.50am Finish Time: 12.36pm

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.

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)



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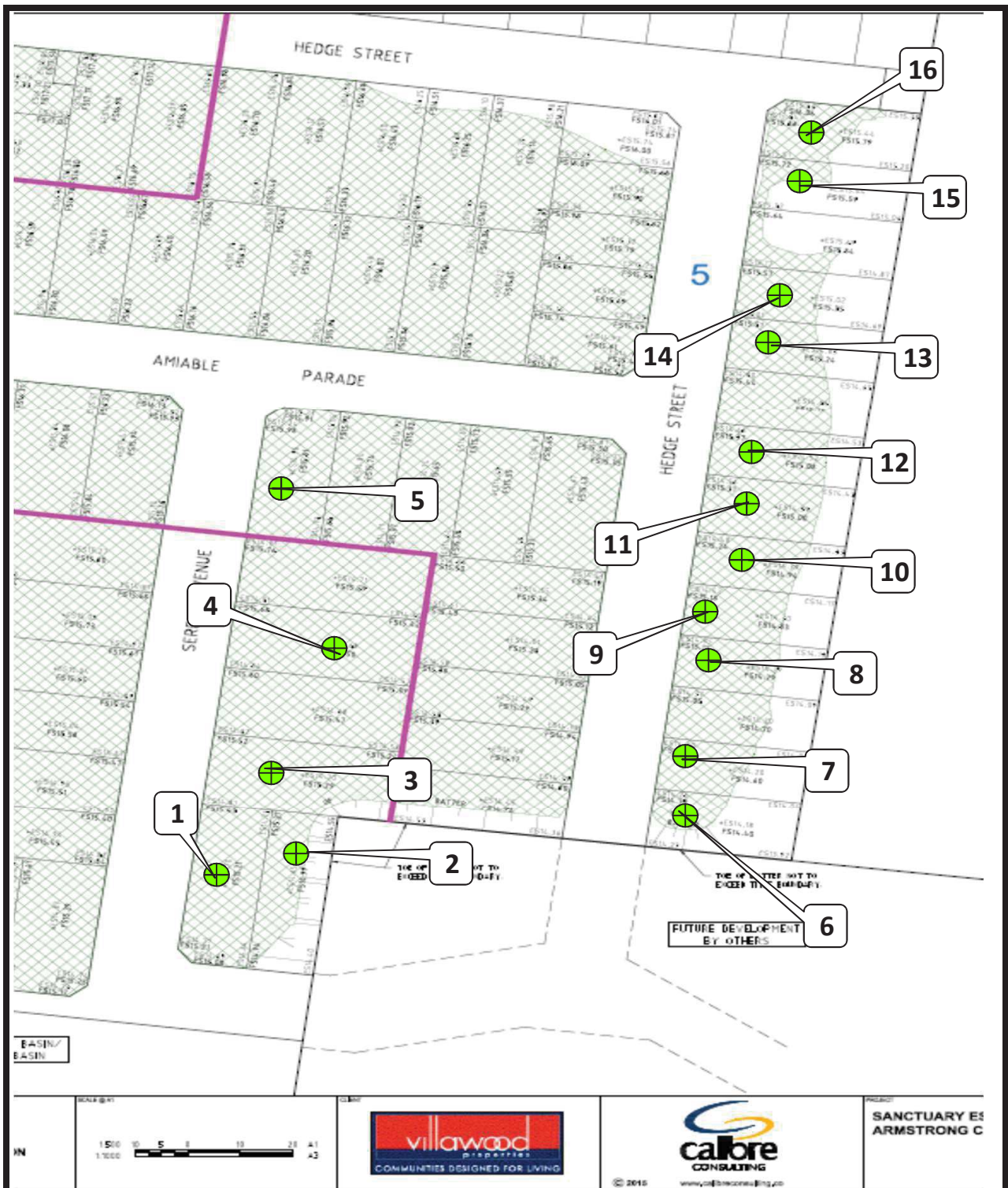
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Issue Date: 9/2/2018





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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 7/2/18**

**OPERATOR: DR**

**SCALE: NTS**

**JOB No.: 1897/640**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/641

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
8/02/18	7	<b>Refer to #1897/642 for approx. test site locations.</b>	1.92	13.5	96.0	1.99	16.5	175	3.5 Drier	79.5	0	0	0
8/02/18	8		1.95	13.5	98.0	2.00	17.0	175	4.0 Drier	77.5	0	0	0
8/02/18	9		2.00	15.5	98.0	2.03	17.5	175	2.0 Drier	89.5	0	0	200
8/02/18	10		2.01	14.5	99.0	2.03	19.0	175	4.0 Drier	78.0	0	0	0
8/02/18	11		1.97	16.0	97.5	2.02	18.5	175	2.5 Drier	87.5	0	0	200
8/02/18	12		1.94	17.5	102.0	1.90	22.0	175	4.5 Drier	79.5	0	0	400

NOTES: Clayey Fill Ex. Onsite

Compaction specimens sampled after compaction.

Test sites located - Geolab Procedure 4, Part 4.4

Start Time: 11.40am Finish Time: 12.21pm

A Hifl 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

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)

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



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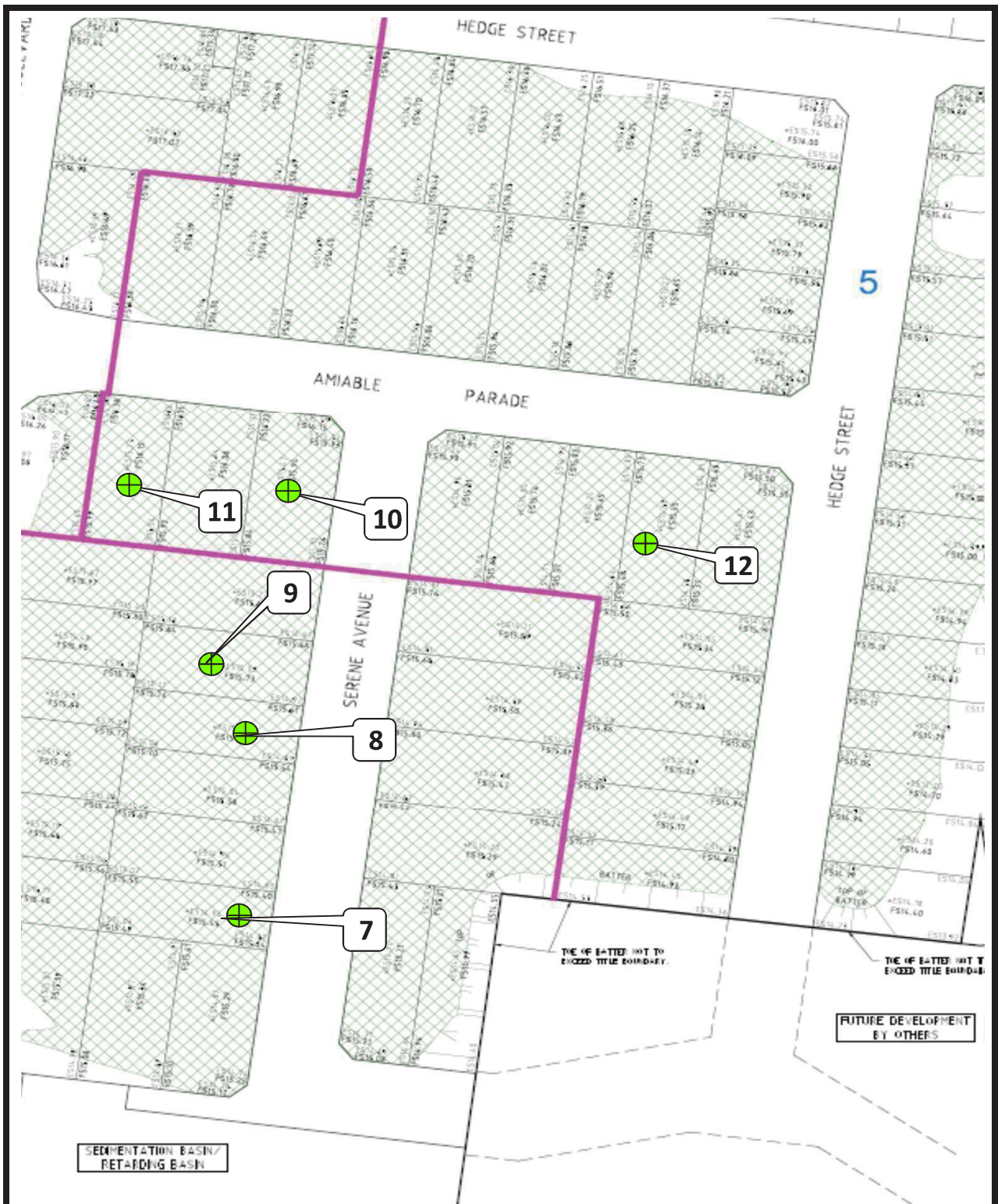
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Issue Date: 12/2/2018





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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 8/2/18**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1897/642**

**CHECKED: EG**





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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/645

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
9/02/18	1	<i>Refer to #1897/646 for approx. test site locations.</i>	1.85	19.5	97.0	1.91	23.5	175	4.5 Drier	82.0	0	0	200
9/02/18	2		1.98	19.0	104.5	1.89	23.5	175	4.5 Drier	80.5	0	0	0
9/02/18	3		1.98	17.0	104.5	1.89	21.5	175	4.5 Drier	78.5	0	0	200
9/02/18	4		1.89	17.5	99.5	1.90	22.0	175	4.5 Drier	79.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1.46pm Finish Time: 2.15pm

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.

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)

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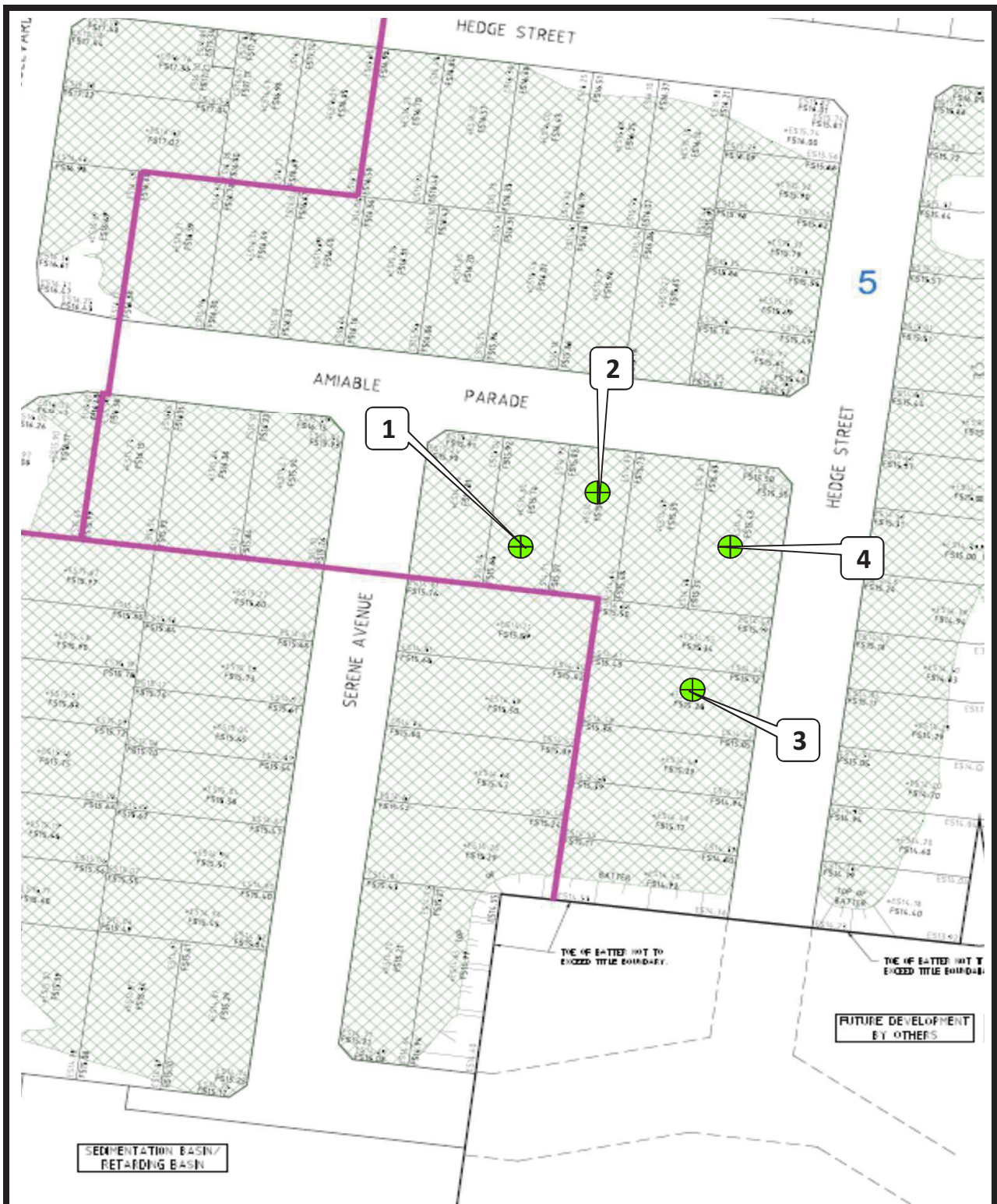
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Issue Date: 12/2/2018



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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 9/2/18**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1897/646**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/651

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
13/02/18	1	<i>Refer to #1897/652 for approx. test site locations.</i>	2.10	14.5	101.5	2.07	15.5	175	1.0 Drier	94.0	0	0	200
13/02/18	2		2.08	13.0	100.5	2.07	14.0	175	1.0 Drier	93.5	0	0	200
13/02/18	3		2.11	13.5	100.5	2.09	15.0	175	1.0 Drier	92.5	0	0	200
13/02/18	4		2.01	14.5	99.5	2.02	16.0	175	1.5 Drier	91.5	0	0	200
13/02/18	5		2.00	19.5	98.0	2.04	19.0	175	0.5 Wetter	102.5	0	0	0
13/02/18	6		2.01	17.5	97.0	2.08	18.0	175	0.5 Drier	97.5	0	0	0

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10.35am 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.

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)

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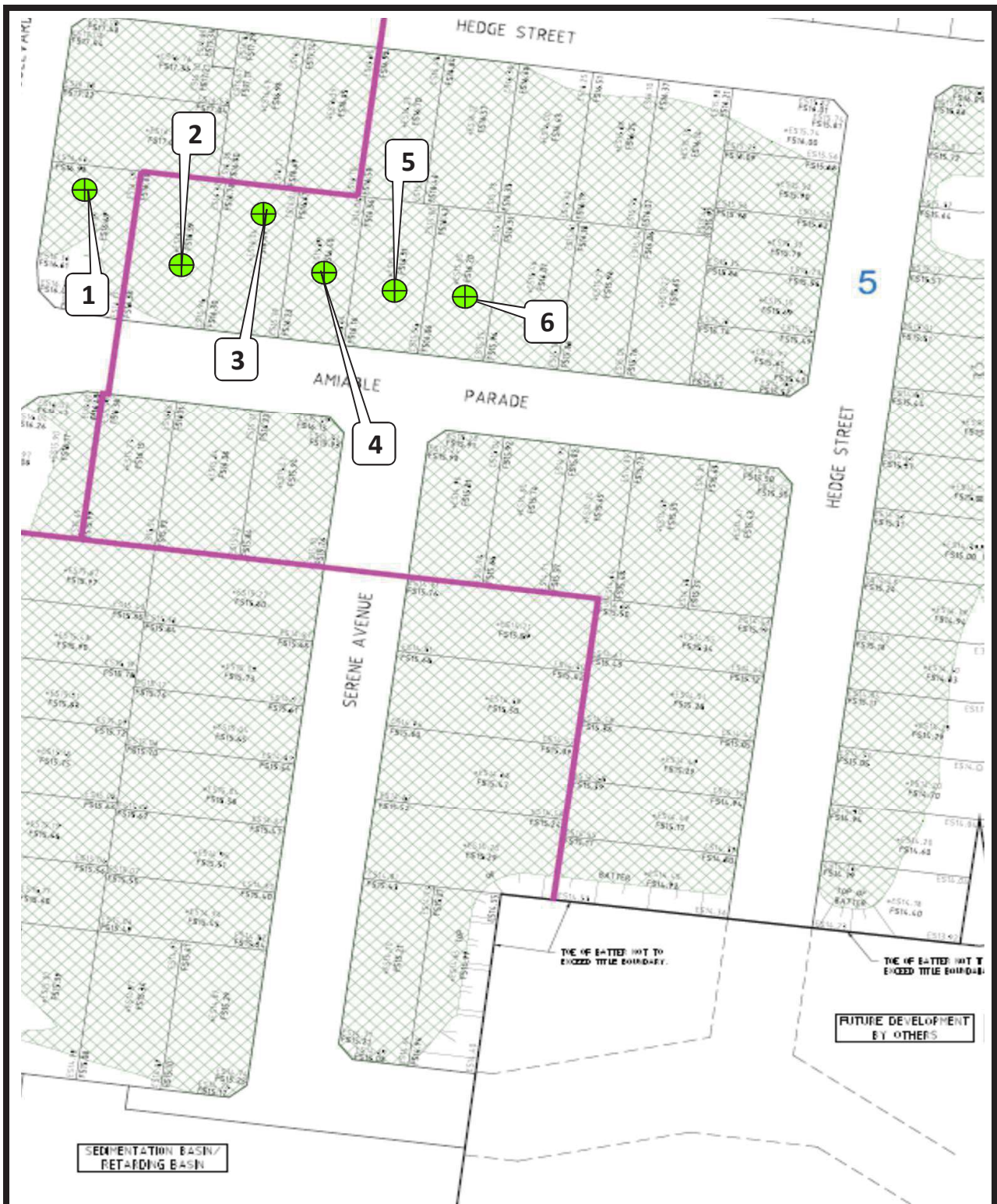
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Issue Date: 15/2/2018





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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 13/2/18**

**OPERATOR: NM**

**SCALE: NTS**

**JOB No.: 1897/652**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/655

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
15/02/18	1	<i>Refer to #1897/656 for approx. test site locations.</i>	1.93	19.5	101.0	1.92	22.5	175	3.0 Drier	86.0	0	0	0
15/02/18	2		1.97	17.5	100.0	1.97	18.5	175	1.0 Drier	95.0	0	0	0
15/02/18	3		2.02	21.5	99.5	2.03	22.0	175	0.5 Drier	98.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11.30am Finish Time: 11.45am

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.

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)



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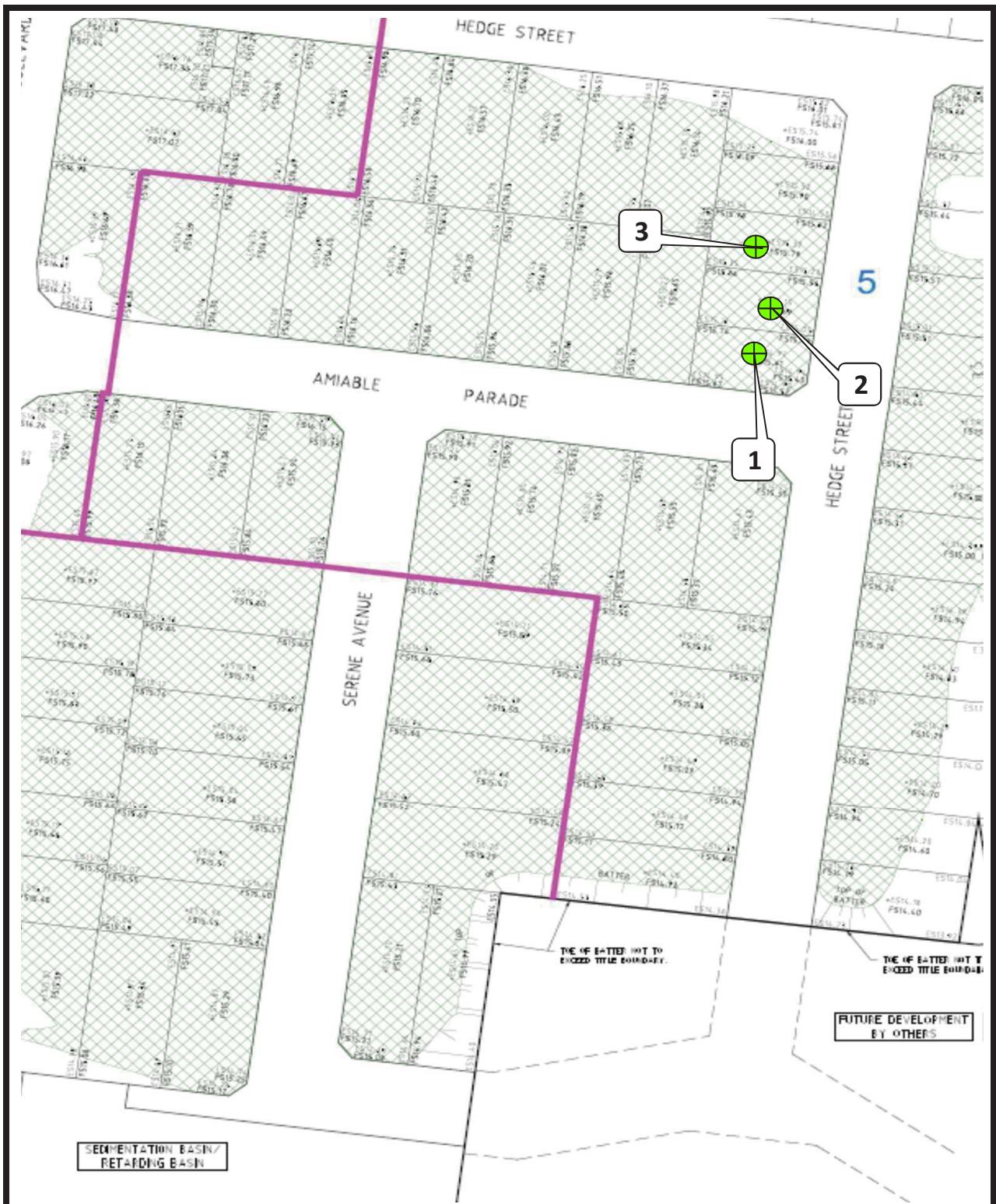
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SAM LOZA

(Approved Signatory)

Issue Date: 19/2/2018





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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 15/2/18**

**OPERATOR: NM**

**SCALE: NTS**

**JOB No.: 1897/656**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/657

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
16/02/18	1	<i>Refer to #1897/658 for approx. test site locations.</i>	2.04	13.0	104.0	1.96	16.0	175	3.0 Drier	81.5	0	0	0
16/02/18	2		1.93	21.0	97.5	1.98	20.5	175	0.0 Wetter	101.0	0	0	200
16/02/18	3		2.01	20.5	99.0	2.02	20.5	175	0.0 Drier	100.0	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12.17pm Finish Time: 12.40pm

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.

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)



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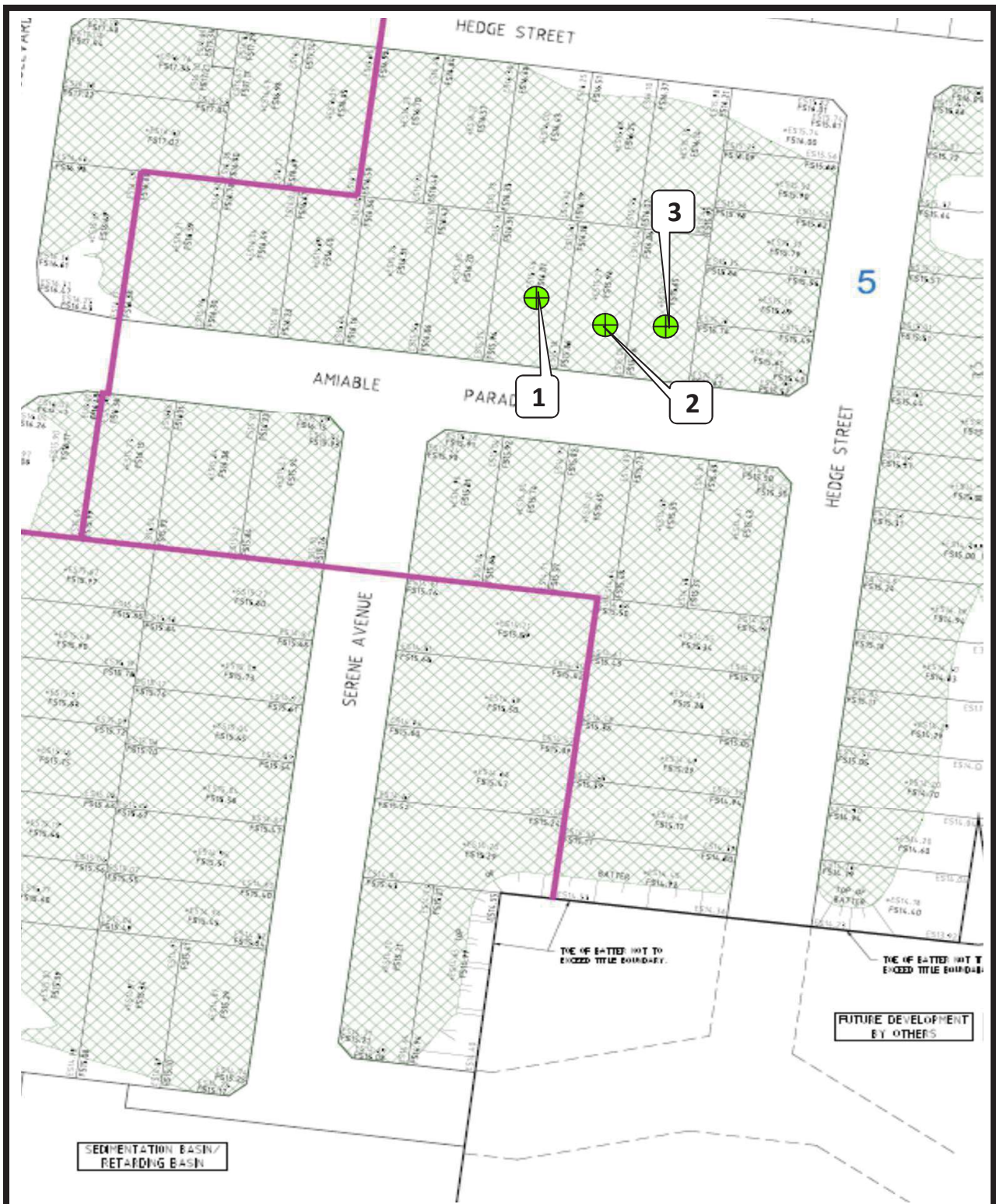
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SAM LOZA

(Approved Signatory)

Issue Date: 20/2/2018





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**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 16/2/18**

**OPERATOR: DR**

**SCALE: NTS**

**JOB No.: 1897/658**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/704

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5,6

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)
29/03/18	7	<i>Refer to #1897/705 for approx. test site locations.</i>	1.90	19.5	98.0	1.94	22.0	175	2.5 Drier	88.0	0	0	200
29/03/18	8		1.92	25.5	105.5	1.82	28.0	175	3.0 Drier	90.0	0	0	200
29/03/18	9		1.93	19.0	102.0	1.90	23.0	175	4.0 Drier	82.5	0	0	200
29/03/18	10		1.95	18.0	101.0	1.93	21.5	175	3.5 Drier	84.5	0	0	200
29/03/18	11		1.93	19.0	98.5	1.96	22.0	175	3.0 Drier	87.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.3.

Compaction specimens sampled after compaction.

Start Time: 9.45am Finish Time: 10.15am

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.

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)

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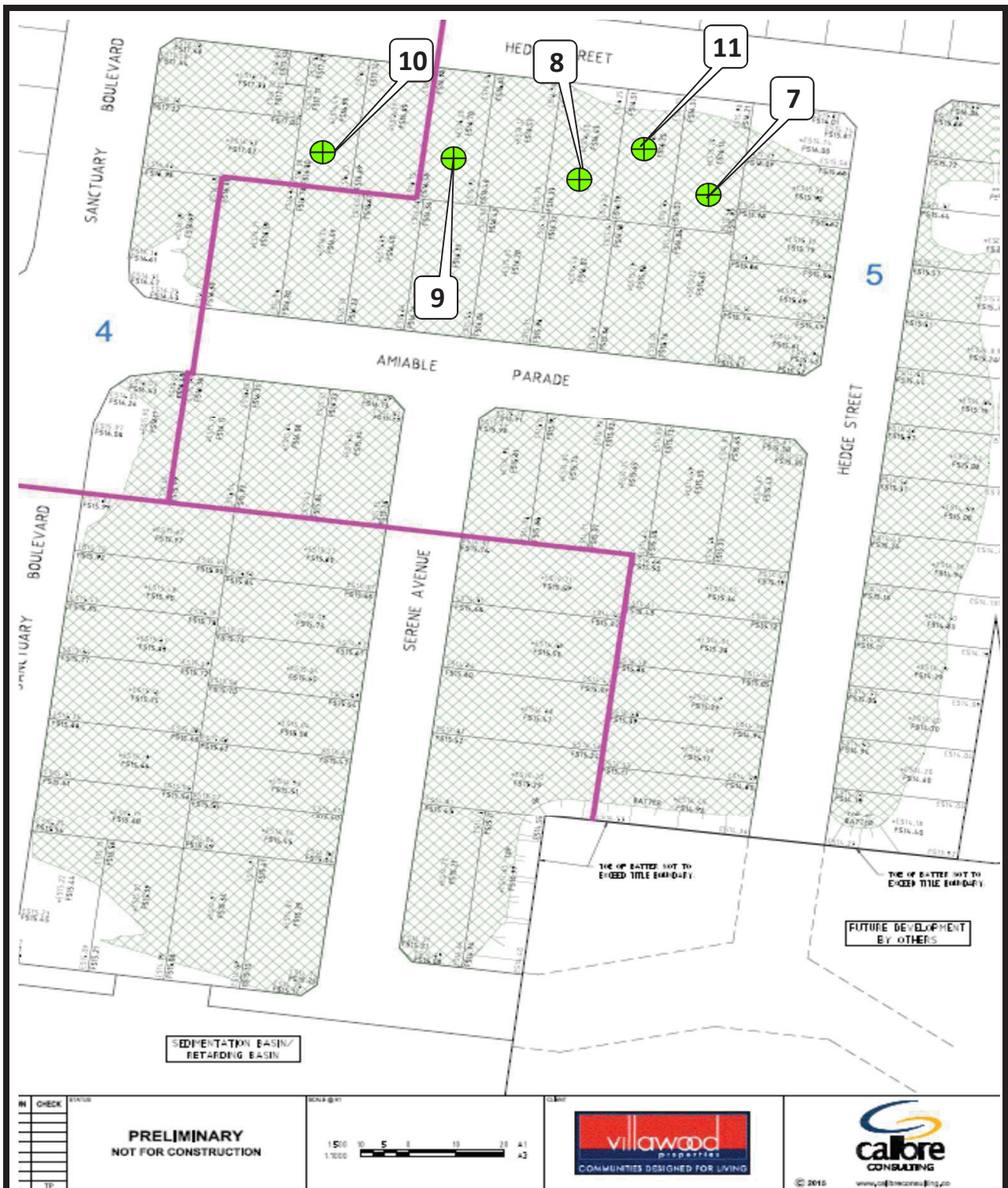
NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 5/4/2018





**GEOTECHNICAL  
LABORATORIES**

**GEOTECHNICAL LABORATORIES**  
ACN 102 571 077  
Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043  
PO Box 184 Keilor VIC 3036  
PH: (03) 9335 1225 Fax: (03) 9335 1775

**CLIENT: DRAPERS**

**LOCATION: Sanctuary Estate Stage 4, 5, 6**

**Sketch indicating compaction test locations**

**DATE: 29/3/18**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1897/705**

**CHECKED: EG**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/706

LOCATION: DRAPERS - Sanctuary Estate Stage 4,5

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)
4/04/18	1	<i>Refer to #1897/707 for approx. test site locations.</i>	1.90	12.0	97.5	1.94	15.5	175	3.5 Drier	77.0	0	0	0
4/04/18	2		1.94	12.0	102.5	1.90	16.5	175	4.5 Drier	73.0	0	0	0
4/04/18	3		1.91	12.0	101.0	1.89	17.0	175	5.0 Drier	71.0	0	0	0
4/04/18	4		1.95	12.5	103.5	1.88	17.0	175	4.5 Drier	73.5	0	0	0
4/04/18	5		1.89	14.0	99.0	1.91	18.0	175	4.5 Drier	76.0	0	0	0
4/04/18	6		1.98	14.0	105.5	1.88	18.0	175	4.0 Drier	77.5	0	0	0

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.3.

Compaction specimens sampled after compaction.

Start Time: 12.00pm 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.

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)

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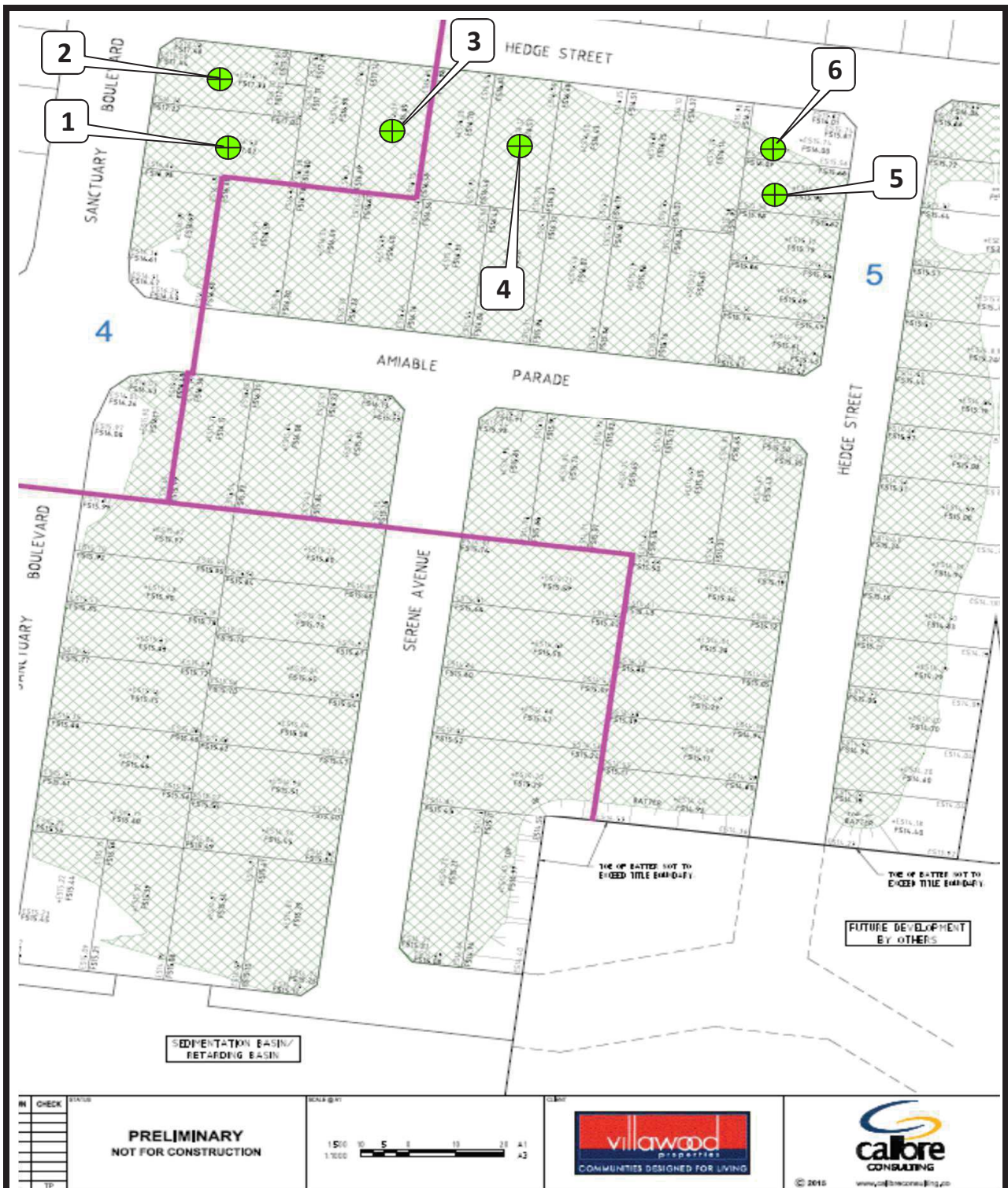
NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 6/4/2018





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CLIENT: DRAPERS

LOCATION: Sanctuary Estate Stage 4,5

Sketch indicating compaction test locations

DATE: 4/4/18

OPERATOR: JC

SCALE: NTS

JOB No.: 1897/707

CHECKED: EG



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1897/825

LOCATION: DRAPERS - Sanctuary Estate Stage 5

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)
1/11/18	1	<i>Refer to #1897/826 for approx. test site locations.</i>	2.06	10.5	101.0	2.03	15.0	175	5.0 Drier	68.0	0	0	0
1/11/18	2		1.99	11.0	100.0	1.99	16.0	175	5.0 Drier	69.5	0	0	0
1/11/18	3		2.06	10.5	103.0	2.00	15.0	175	5.0 Drier	68.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1.03pm Finish Time: 1.26pm

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: 7/11/2018





**FIGURE No: -**