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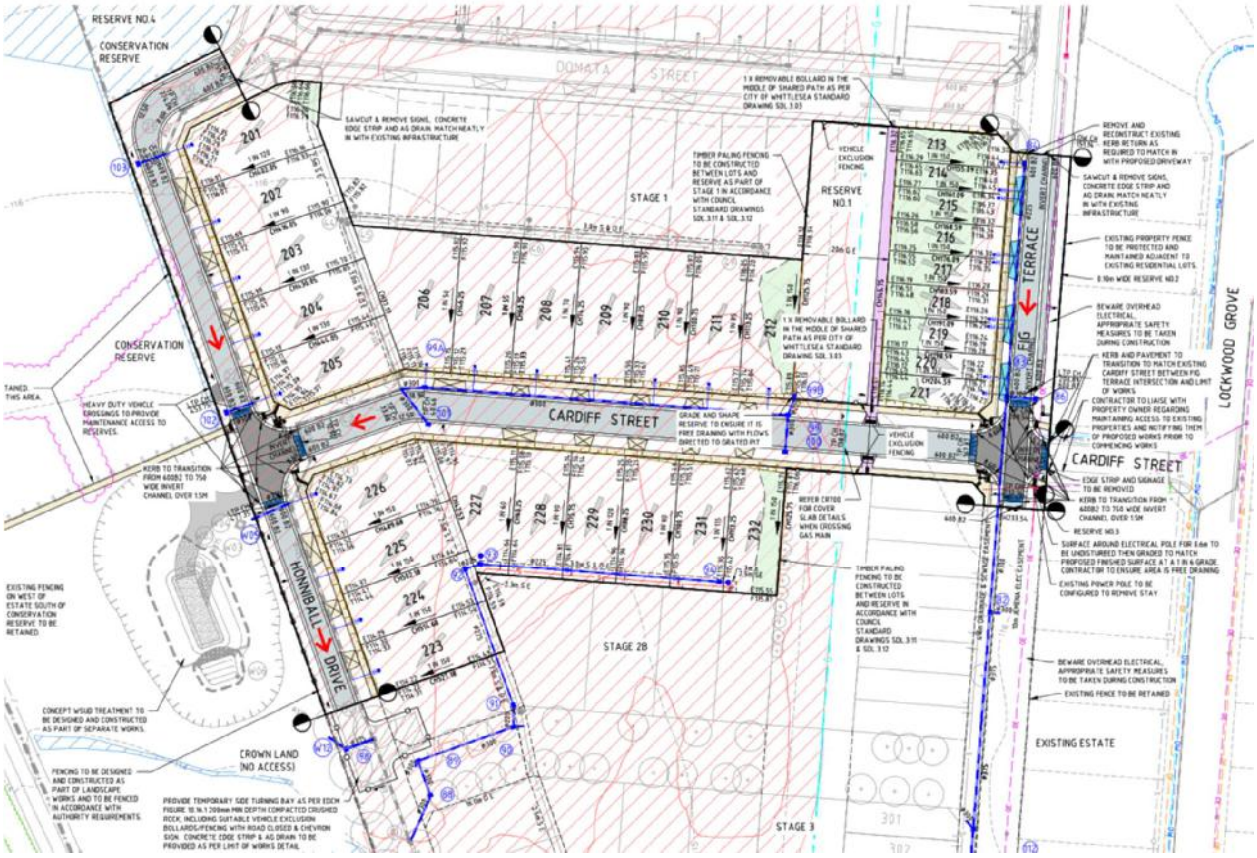
LEVEL 1 INSPECTION AND TESTING SUMMARY REPORT

Marran Run – Stage 2A, Thomastown VIC



AMG Civil Group

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Document Details

Project Number	8018 – R0	Rev 0
Project Name	Marran Run – Stage 2A	
Project Location	Thomastown VIC	
Client	AMG Civil Group	

1. INTRODUCTION

This report presents the results of Level 1 Inspection and Testing for the fill placed for the proposed residential real-estate development Marran Run – Stage 2A in Thomastown VIC.

The works were commissioned by AMG Civil Group (client) by email request on 10th March 2023.

Level 1 Inspection and Testing, as defined in AS3798 – 2007 *'Guideline on Earthworks for Commercial and Residential Development'*, provides for full time inspection of the construction of controlled fill and field laboratory testing accordance with AS1289 *'Methods of Testing Soils for Engineering Purposes'.* The compaction control testing was undertaken by experienced Geotechnician from CGS.

2. PROJECT SUMMARY

Continent Geotech Services (CGS) provided the Level 1 Inspection and Testing of fill placed within the proposed Marran Run – Stage 2A in Thomastown VIC. It is understood that a new residential subdivision is to be constructed at the location.

The earthworks were carried out by AMG Civil Group with the owned and hired equipment. CGS undertook the compaction control testing of the material as part of Level 1 Inspection and Testing process.

The areas of controlled fill were placed at the locations according to the drawings prepared by Spiire provided by client, Drawing No. 309856CR200 Rev 4 for the proposed subdivision in Thomastown. The Level 1 Inspection and testing commenced on 16th September 2025 and finished on 18th September 2025.

The Level 1 Inspection and testing was done for various dates summarised below in Table 1 of this report.

3. INSPECTION AND SUPERVISION

3.1 Fill Placement and Testing Specifications

All filling in excess of 300mm depth within the building envelope of allotments shall be undertaken to specification satisfying requirements of AS3798 – 2007 '*Guideline on Earthworks for Commercial and Residential Development*', the following specifications based generally on the requirements of AS3798:

- The fill area shall be stripped of topsoil, subsoil, soft material, and vegetation to firm based approved by superintendent.
- Suitable fill material shall be placed in loose horizontal layers not exceeding 250mm in thickness.
- The fill shall be compacted to Dry Density Ratio of at least 98% Standard and moisture content is to be within ± 3% of the standard optimum moisture content (AS1289 5.1.1, 5.4.1 or 5.7.1),
- The fill material shall not contain greater than 20% by volume, of particles size greater than 37.5mm and no particle size over 200mm in any dimension,
- The frequency of field density testing shall be accordance with AS3798 for large scale developments (Type 1), which nominates a frequency of not less than
    - 1 test per layer of 200mm per 2500mm^2

- 1 test per 500m^3 distributed reasonably evenly throughout the full depth and area: or
- 3 tests per site visit, which requires the most tests.

The technical specification of the structural fill was not provided, so the above guidelines were assumed for completed earthworks at this site.

The duration of fill placement at different location within site are summarised in Table 1 below.

Table 1: Summary of Fill placement duration

Fill Area	Dates
Lot 201, 212 to Lot 221 and Lot 232	16th September 2025 to 18th September 2025

3.2 Strip Surface Inspection

The subgrade for the fill area was prepared by removing the topsoil and vegetation layer using the scrapers. The inspection was carried out to confirm all the vegetation and topsoils are removed from the stripped surface.

Subgrade assessment was carried out by CGS following the topsoil removal and before any fill was placed. The soils exposed at the subgrade comprised natural silty clay. No soft spots were observed during the subgrade assessment.

4. EARTHWORKS AND TESTING

4.1 Fill Material

Fill material was mainly sourced from nearby construction sites, the clean fill certificates were visually looked on site while fill transportation. All the fill material was placed using compactor blade and Cat Dozer, in layers with good moisture, compacted with compactor and pad foot roller. Some oversize boulders of rock were pushed away from fill area with compactor or removed while placement of loose layers while spreading and placement of material.

The cleaned fill material was visually assessed by Geotechnician to confirm it is clean from debris/ vegetative matter and oversize rocks. It should be noted that no environmental analysis was performed by CGS on the fill material.

4.2 Fill Construction

The fill material was moisture conditioned during the placement and prior to placement while it was stockpiled.

The fill material generally placed in approximately 200m to 300mm loose layers, compacted layers achieved approximately 150mm to 250mm in thickness. The material was spread using dozer and compactor blade. The Cat 12 tonne padfoot roller was used to compact the material after placement.

CGS's level 1 Geotechnician was on site on a full-time basis during placement, compaction and testing of the fill.

4.3 Testing and Results

Field density testing was undertaken progressively on the compacted fill at the frequency of minimum tests as required for Type 1 Earthworks (large scale operations) as defined in table 8.1 of the AS3798-2007.

The field testing was undertaken by CGS, and all laboratory testing was performed in our NATA accredited laboratory in Thomastown.

The total of 9 (nine) field density and laboratory Hilf compaction tests were performed in all fill areas. The reports verify the achievement of the minimum density requirement of 95% Standard Compaction throughout the full depth area, with each layer tested accordingly. All the tests' results were provided to AMG Civil Group for inclusion within their internal quality system (refer to Appendix 1).

5. CONCLUSION

Following the completion of the earthworks and material assessment, the filling procedures conducted by AMG Civil Group satisfied the requirements of AS3798, regarding the placement of fill material on a project under Level 1 Supervision, and in accordance with specification as provided to CGS. Based on observations made by our on-site Geotechnician (Level 1 Inspector) and the results of field and laboratory tests, CGS consider that the engineered fill placed within stage 2A by AMG Civil Group. to the layers indicated in Appendix 2, as far as we have able to determine, has been placed in general accordance with intent of the specification.

This report has been prepared for benefit of our client with respect to the particular brief given to us and it may not be relied upon in other purpose without our prior review and agreement. No responsibility for this report will be taken by CGS if it is altered in any way, or not reproduced in full.

6. LIMITATION OF THIS REPORT

This report is valid for the following completion of level 1 supervision. CGS does not accept responsibility for any distortion or deviation of measurements as reported at the time given. It should be noted that even though the fill layer was moisture conditioned while compacting and meets the requirement but over the dry and wet weather it is subject to drying and cracking. The top 200-300mm of fill will deteriorate with time and should be taken into account by foundation engineer prior to construction of dwelling. The levels nominated in this report are guiding to amounts of fill placed and do not necessarily reflect accurate survey of fill levels.

It should be noted that any fill placed as part of drainage, sewer works, pavement works is not part of this level 1 supervision report

This report will be considered invalid if:

- Any works were carried/conducted on the site without supervision of CGS technician

Any other unforeseeable event any event outside of the time described above.

7. UNDERSTANDING LEVEL 1 INSPECTION AND TESTING

The purpose of performing level 1 inspection and testing is to ensure compliance of fill construction with the nominated specifications. The engagement of Geotechnical Inspection Testing Authority (GITA) allows the contractor to perform his role in the construction of the filling operation while the GITA monitors quality control of process of the fill placement. The visual observations of construction process and methodologies used by contractor allows the GITA to approve the subsequent placement of fill without having to wait to completion of testing and the extended time it takes to complete the laboratory results. The GITA will carry out random spots checks of the filling operations and complete the compaction control test for day's work. Level 1 inspection and testing requires full time inspection and testing of the fill placement undertaken on site. CGS are notified daily by project foreman where subsequent days of fill placement under level 1 to occur. Generally, projects rely on importation of a fill source, there can be delays in receipt of sufficient material to start placing which may result the periods where GITA representative not required on site. It is contractor's responsibility to notify the GITA prior to start any fill placement. A GITA relies on the contractor to advise when the site attendance required and makes all reasonable visual attempts to assess if the works were the same as pervious day of attendance.

Prepared By

J Gan – Senior Geotechnical Engineer

Reviewed by

S Kang – Project Manager

APPENDIX 1 – TESTING SUMMARY

Sample No.	Test No.	Location	Layer	Material Type	Date Tested	Density Ratio (%)	Moisture Variation of OMC (%)	Adjusted Moisture Variation (%)	Pass/Fail
25-2889A	1	Refer to Plan	Layer 1	Silty Clay	16-Sep-25	102.5	2.5% Dry	-	Pass
25-2889B	2	Refer to Plan	Layer 1	Silty Clay	16-Sep-25	100.5	2.5% Dry	-	Pass
25-2889C	3	Refer to Plan	Layer 1	Silty Clay	16-Sep-25	102.0	2.5% Dry	-	Pass
25-2950A	4	Refer to Plan	FSL	Silty Clay	18-Sep-25	98.5	2.5% Dry	-	Pass
25-2950B	5	Refer to Plan	FSL	Silty Clay	18-Sep-25	98.5	2.0% Dry	-	Pass
25-2950C	6	Refer to Plan	FSL	Silty Clay	18-Sep-25	98.0	2.0% Dry	-	Pass
25-2950D	7	Refer to Plan	FSL	Silty Clay	18-Sep-25	98.0	2.5% Dry	-	Pass
25-2950E	8	Refer to Plan	FSL	Silty Clay	18-Sep-25	98.5	2.0% Dry	-	Pass

25-2950F	9	Refer to Plan	FSL	Silty Clay	18-Sep-25	98.0	2.5% Dry	-	Pass

APPENDIX 2 – NATA LAB RESULTS

Material Test Report

Report Number: 8018-15
Issue Number: 1
Date Issued: 05/11/2025
Client: AMG Civil Group
20 Graystone Court, Epping VIC 3076
Contact: Mark Russo
Project Number: 8018
Project Name: Marran Run Stage 2A
Project Location: 1 Cardiff St, Thomastown VIC 3074
Work Request: 2889
Date Sampled: 16/09/2025
Dates Tested: 16/09/2025 - 24/10/2025
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 98% Standard Maximum Dry Density, +/- 3% of OMC
Location: Thomastown, VIC 3074
Material: Silty CLAY
Material Source: Onsite

Continent Geotech Services
Continent Geotech Services Pty Ltd
Main Laboratory
14/337 Settlement Road Thomastown Victoria 3074
Phone: (03) 9465 9813
Email: admin@continentgeotech.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Arveendra Gounder
Laboratory Manager
Laboratory Accreditation Number: 19945

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	25-2889A	25-2889B	25-2889C
Date Tested	16/09/2025	16/09/2025	16/09/2025
Time Tested	13:00	13:20	13:22
Test Request #/Location	Refer to plan	Refer to plan	Refer to plan
Layer / Reduced Level	1	1	1
Thickness of Layer (mm)	300	300	300
Soil Description	Silty CLAY	Silty CLAY	Silty CLAY
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m^3	2.00	1.96	1.99
Field Moisture Content %	12.1	12.6	12.7
Field Dry Density (FDD) t/m^3	1.79	1.74	1.77
Peak Converted Wet Density t/m^3	1.96	1.95	1.95
Adjusted Peak Converted Wet Density t/m^3	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	**
Adj. Field Moisture Content % (AS1289.5.4.1)	12.1	12.6	12.7
Moisture Ratio % (AS1289.5.4.1)	82.5	84.0	84.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	2.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	**102.5**	**100.5**	**102.0**
Compaction Method	**Standard**	**Standard**	**Standard**
Remarks	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

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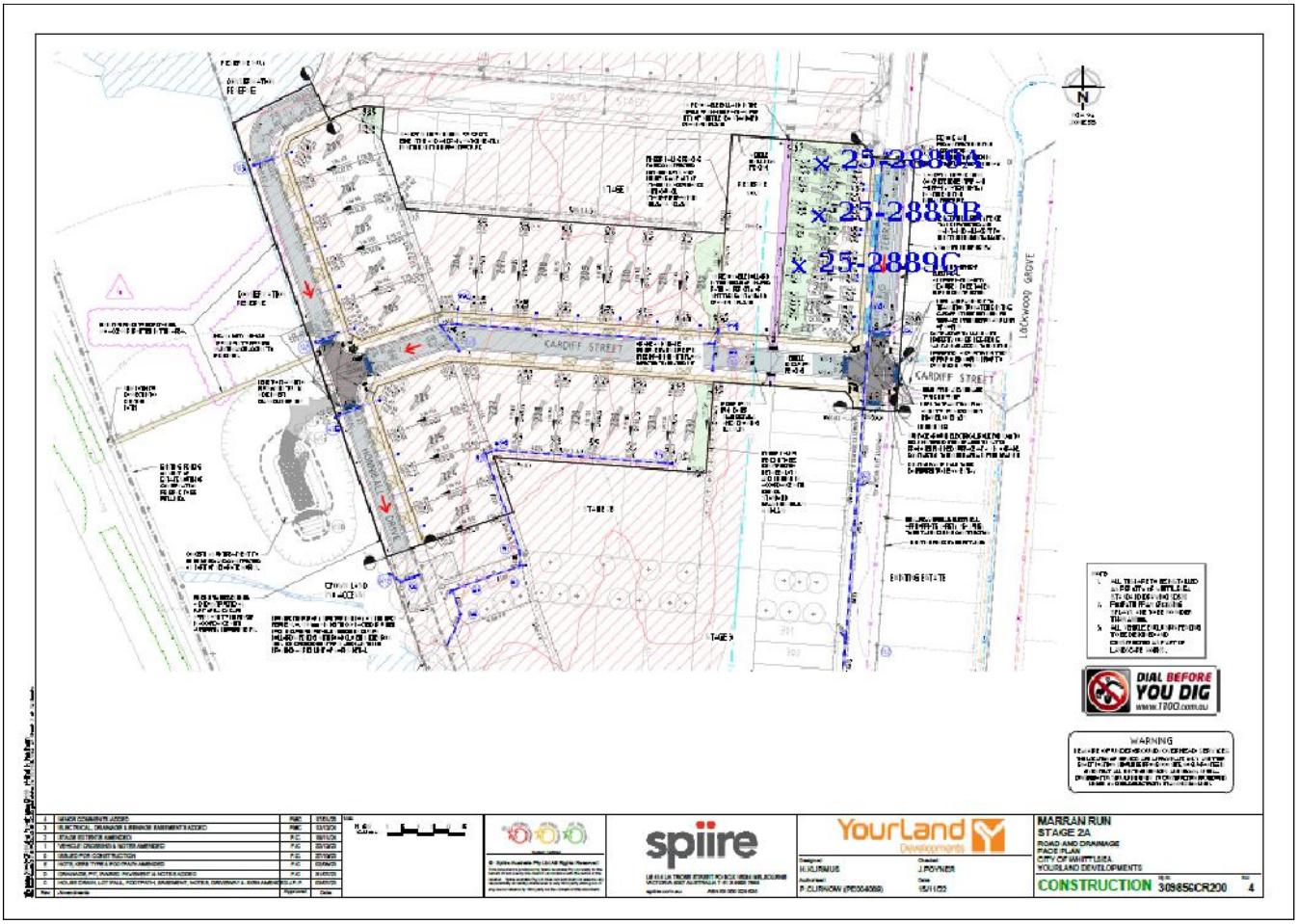

Material Test Report

Report Number: 8018-16
Issue Number: 1
Date Issued: 05/11/2025
Client: AMG Civil Group
20 Graystone Court, Epping VIC 3076
Contact: Mark Russo
Project Number: 8018
Project Name: Marran Run Stage 2A
Project Location: 1 Cardiff St, Thomastown VIC 3074
Work Request: 2950
Date Sampled: 18/09/2025 8:00
Dates Tested: 18/09/2025 - 30/10/2025
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 98% Standard Maximum Dry Density
Site Selection: Selected by Client
Location: Thomastown Vic 3074
Lot Number: 201, 232, 212 & 213-221
Material: Silty CLAY
Material Source: on site

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Approved Signatory: Arveendra Gounder
Laboratory Manager
Laboratory Accreditation Number: 19945

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	25-2950A	25-2950B	25-2950C	25-2950D	25-2950E	25-2950F
Date Tested	18/09/2025	18/09/2025	18/09/2025	18/09/2025	18/09/2025	18/09/2025
Time Tested	11:46	11:59	12:06	12:21	12:36	12:49
Test Request #/Location	lot 201, 232, 212 & 213-221	lot 201, 232, 212 & 213-221	lot 201, 232, 212 & 213-221	lot 201, 232, 212 & 213-221	lot 201, 232, 212 & 213-221	lot 201, 232, 212 & 213-221
Chainage (m)	LOT 201	LOT 232	LOT 212	LOT 213-221	LOT 213-221	LOT 213-221
Location Offset (m)	**	**	**	**	**	**
Layer / Reduced Level	FSL	FSL	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty CLAY	Silty CLAY	Silty CLAY	Silty CLAY	Silty CLAY	Silty CLAY
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	5	5	5	5	5	6
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**	**	**	**
Field Wet Density (FWD) t/m^3	1.94	1.96	1.97	1.95	1.95	1.97
Field Moisture Content %	12.3	13.4	**	11.7	11.1	11.3
Field Dry Density (FDD) t/m^3	1.74	1.73	**	1.76	1.77	1.78
Peak Converted Wet Density t/m^3	**	**	**	**	**	**
Adjusted Peak Converted Wet Density t/m^3	1.98	1.99	2.01	1.99	1.98	2.01
Adj. Optimum Moisture Content % (AS1289.5.4.1)	14.2	15.0	**	13.4	12.7	12.9
Adj. Field Moisture Content % (AS1289.5.4.1)	11.7	12.8	**	11.1	10.5	10.6
Moisture Ratio % (AS1289.5.4.1)	**	**	**	**	**	**
Adjusted Moisture Ratio % (AS1289.5.4.1)	82.5	85.0	**	83.0	83.0	82.5
Moisture Variation (Wv) %	**	**	**	**	**	**
Adjusted Moisture Variation %	2.5	2.0	2.0	2.5	2.0	2.5
Hilf Density Ratio (%)	**98.5**	**98.5**	**98.0**	**98.0**	**98.5**	**98.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**
Remarks	**	**	**	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

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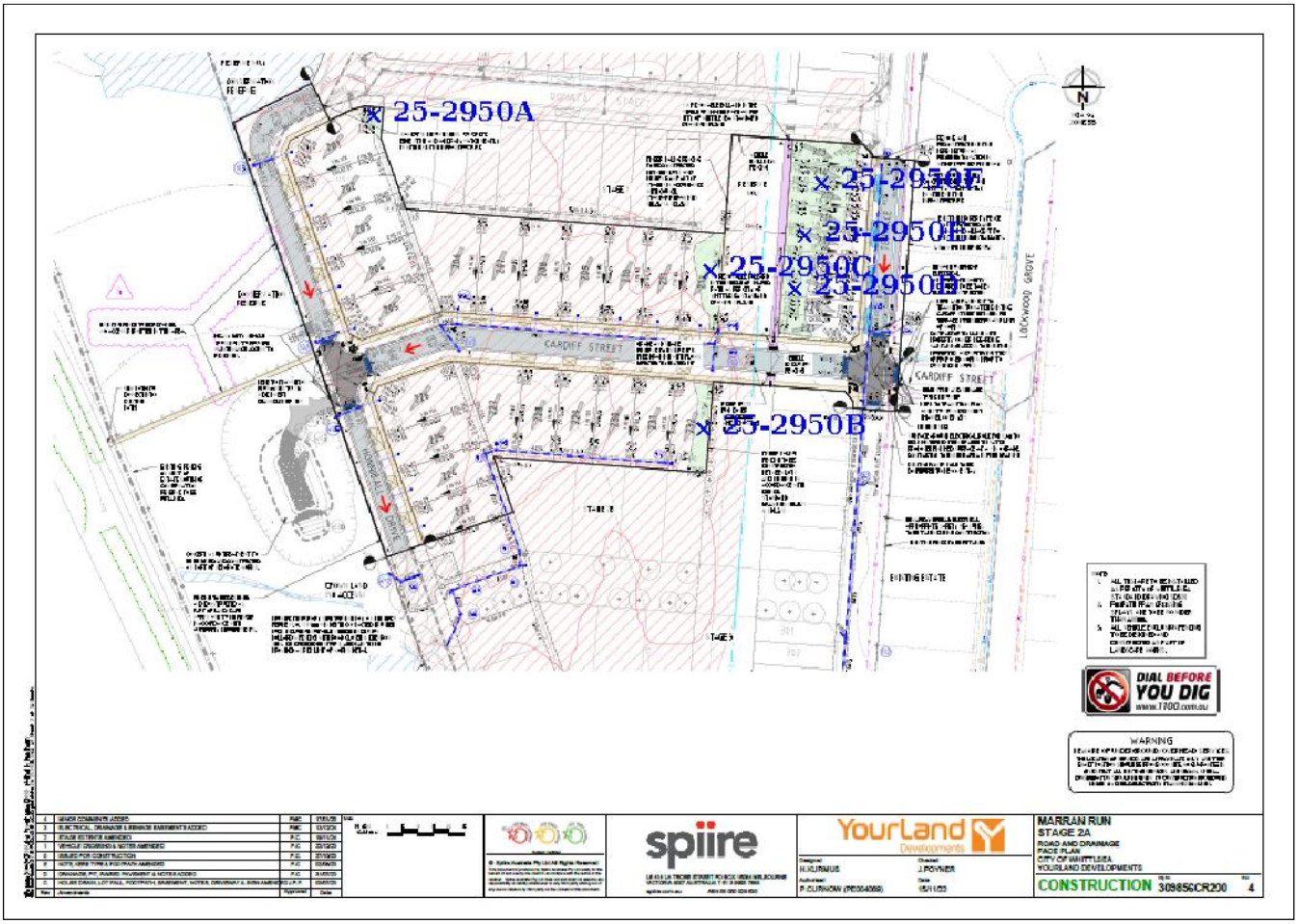

Material Test Report

Report Number: PREVIEW
Issue Number:
Date Issued:
Client: AMG Civil Group
20 Graystone Court, Epping VIC 3076
Contact: Mark Russo
Project Number: 8018
Project Name: Marran Run Stage 2A
Project Location: 1 Cardiff St, Thomastown VIC 3074
Work Request: 2889
Date Sampled: 16/09/2025
Dates Tested: 16/09/2025 - 16/09/2025
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 98% Standard Maximum Dry Density, +/- 3% of OMC
Location: Thomastown, VIC 3074
Material: Silty CLAY
Material Source: Onsite

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Daily Checks (AS 3798)	
Have you undertaken a safety check?	Yes
Have you discussed daily works program with Clients site foreman?	Yes
Has a stripped survey been done for the area?	Yes
Does the fill area look as it was when you were last here?	Yes
Has unsuitable material been removed?	Yes
Does the material meet specifications and is it fit for purpose?	Yes
Have you noted the source of the material?	Yes
Is the material at a suitable moisture content for placement?	Yes
Have you marked on the plan where the material is being placed today?	Yes
Have you done required testing for the day?	Yes
Have you got accurate and useful locations for tests taken?	Yes
Have you noted on a plan of the job the approximate locations of tests taken?	Yes
Have you filled out the summary sheet including hours onsite and lots worked on?	Yes
Have you filled out Daily Monitoring Sheet with actions taken for the day?	Yes
Have you noted construction methods and machinery used for the day?	Yes
Have you made notes of any significant conversations had with the client or contractors ?	Yes
Estimated quantity of fill?	
Estimated thickness of layer placed?	
Weather observations	Fine

Potential Contaminations / Environmental Indications							
Odorous Material	No	Stained Material	No	Deleterious Material	No	Potential Petroleum Contamination	No
Hazardous Building Materials	No	General Waste Material	No				
Remarks							

Machinery / Plant									
Compactor		Size ?		Grader	1			Highway Truck	
Roller- Padfoot	1	Weight ?		Bulldozer		Size ?		Moxy	
Roller- Smoothdrum		Weight ?		Excavator		Size ?		Scraper	
Water Cart									
Other									

Remarks	
Time	Remarks
8:57	Chat with supervisor, get required information
9:59	Proof roller have been started, No surface deflection, Rutting
11:50	Fill placement has been started with the help of grader, compaction done simultaneously
13:45	Done 3xcompaction test.

Sample Locations Plan

x - approximate test location

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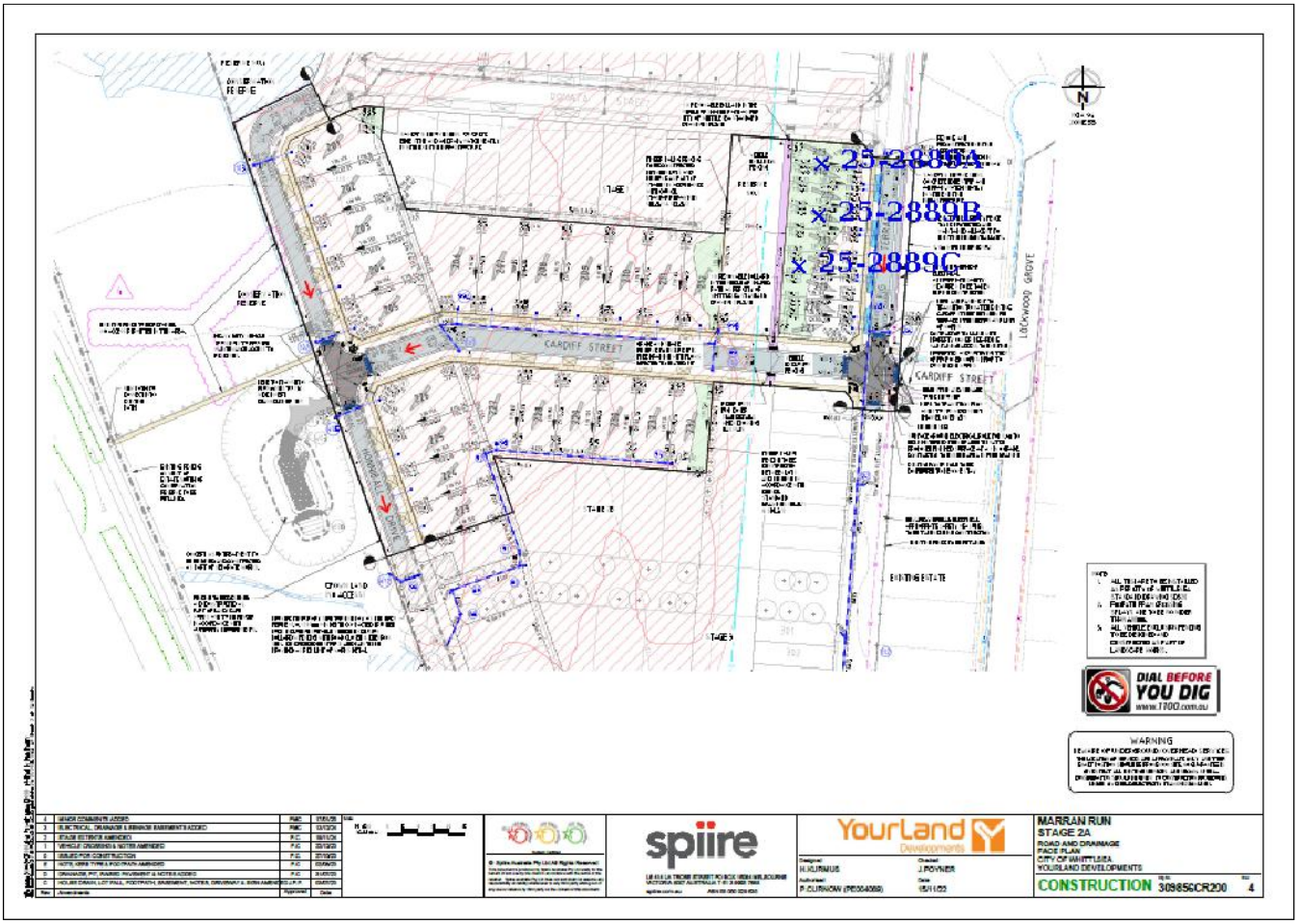

Material Test Report

Report Number:	**PREVIEW**
Issue Number:	
Date Issued:	05/11/2025
Client:	AMG Civil Group
	20 Graystone Court, Epping VIC 3076
Contact:	Mark Russo
Project Number:	8018
Project Name:	Marran Run Stage 2A
Project Location:	1 Cardiff St, Thomastown VIC 3074
Work Request:	2950
Date Sampled:	18/09/2025 8:00
Dates Tested:	18/09/2025 - 18/09/2025
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	98% Standard Maximum Dry Density
Site Selection:	Selected by Client
Location:	Thomastown Vic 3074
Lot Number:	201, 232, 212 & 213-221
Material:	Silty CLAY
Material Source:	on site

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Daily Checks (AS 3798)	
Have you undertaken a safety check?	Yes
Have you discussed daily works program with Clients site foreman?	Yes
Has a stripped survey been done for the area?	Yes
Does the fill area look as it was when you were last here?	Yes
Has unsuitable material been removed?	Yes
Does the material meet specifications and is it fit for purpose?	Yes
Have you noted the source of the material?	Yes
Is the material at a suitable moisture content for placement?	Yes
Have you marked on the plan where the material is being placed today?	Yes
Have you done required testing for the day?	Yes
Have you got accurate and useful locations for tests taken?	Yes
Have you noted on a plan of the job the approximate locations of tests taken?	Yes
Have you filled out the summary sheet including hours onsite and lots worked on?	Yes
Have you filled out Daily Monitoring Sheet with actions taken for the day?	Yes
Have you noted construction methods and machinery used for the day?	Yes
Have you made notes of any significant conversations had with the client or contractors ?	Yes
Estimated quantity of fill?	
Estimated thickness of layer placed?	200
Weather observations	Fine

Potential Contaminations / Environmental Indications							
Odorous Material	No	Stained Material	No	Deleterious Material	No	Potential Petroleum Contamination	No
Hazardous Building Materials	No	General Waste Material	No				
Remarks							

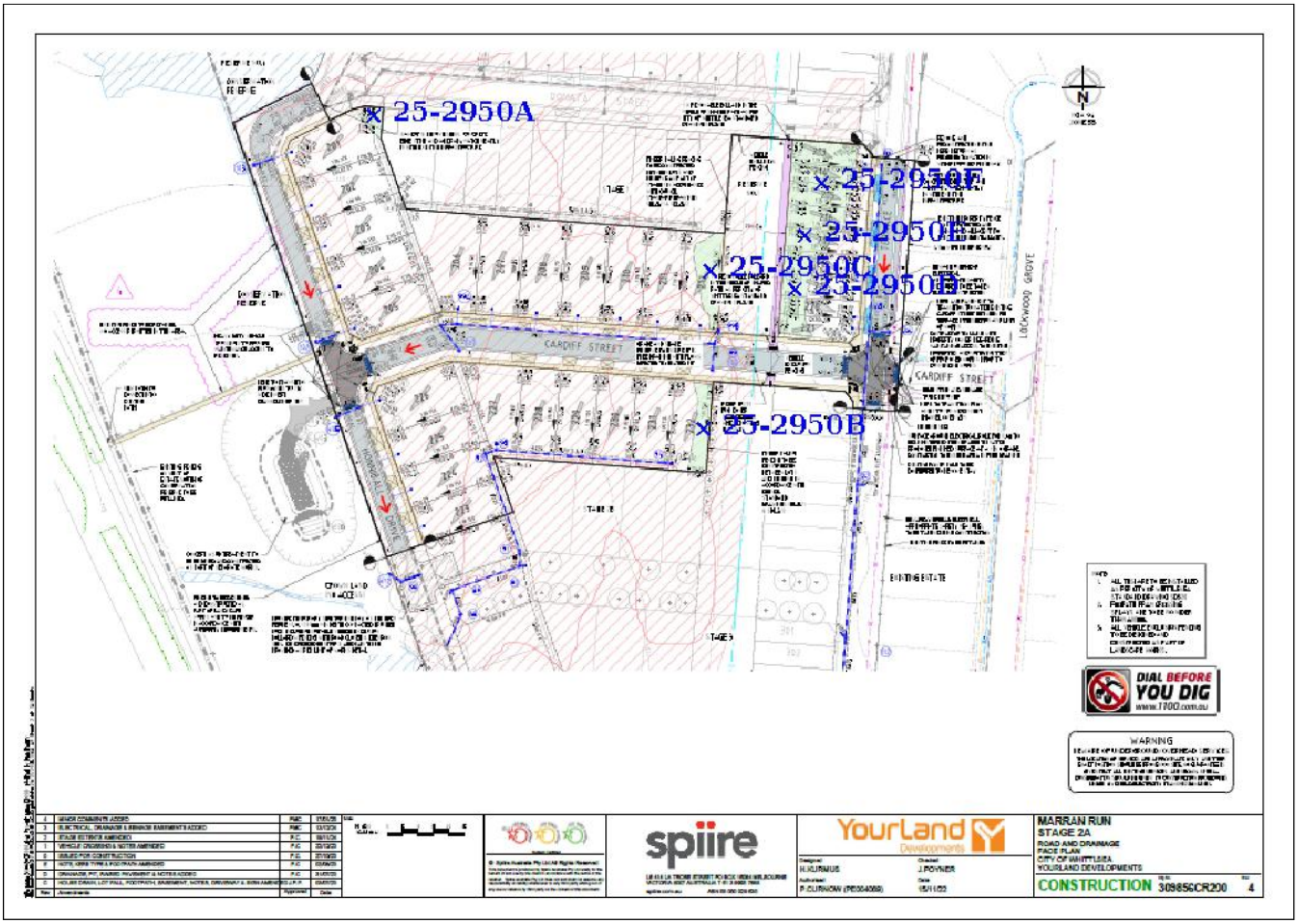
Machinery / Plant									
Compactor	1	Size ?		Grader	1			Highway Truck	
Roller- Padfoot	1	Weight ?		Bulldozer		Size ?		Moxy	2
Roller- Smoothdrum		Weight ?		Excavator	3	Size ?		Scraper	
Water Cart	1								
Other									

Remarks	
Time	Remarks
8:00	Arrived at the site and observed the filling area. The material was in good condition and fit for the purpose
8:30	Moxy started unloading material and excavator started to place layer on lot 201.
09:30	The water cart added moisture to the for the layer and pad foot roller compacted layer on lot 201.
09:45	Moxy started unloading material and excavator started to place layer on lot 232.
10:50	The water cart added moisture to the for the layer and pad foot roller compacted layer on Lot 232.
11:00	Moxy started unloading material and excavator started to place layer on lot 212.
11:55	The water cart added moisture to the for the layer and pad foot roller compacted layer on Lot 212.
12:30	Moxy started unloading material and excavator started to place layer on lot 213 -221.
3:30	The water cart added moisture to the for the layer and pad foot roller compacted layer on Lot 213 - 221.
4:00	Finished work of the day and level 1 supervision completed

Sample Locations Plan

x - approximate test location

Continent Geotech Services



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