

APPENDIX D

Site Based Stormwater Management Report

Prepared by:

Leroy Palmer Consulting Engineers

24th June 2026

REF: 19909-L01-2

DETAILED SITE-BASED STORMWATER MANAGEMENT REPORT



LEROY PALMER
CONSULTING ENGINEERS

celebrating
more than
25 years

PROPOSED GLENVALE HEALTH HUB GYM
LOT 3 ON SP346114 SITUATED AT
3/535 SOUTH STREET, GLENVALE, QLD 4350

Prepared for: Weymouth Investments QLD Pty Ltd

Project No. 19909

lpce.com.au





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1. INTRODUCTION

We refer to the proposed development at the above-mentioned address. Leroy Palmer Consulting Engineers (LPCE) have been engaged to prepare a Detailed Site Based Stormwater Management Report to accompany a town planning development approval.

This Detailed Site Based Stormwater Management report and accompanying Stormwater Management plan and details have been provided to demonstrate how we propose to manage the stormwater runoff coming to and leaving the subject site. It also provides a detailed design and detailed layout for the proposed stormwater drainage system.

2. PREDEVELOPMENT CONDITIONS

The 3,700m² subject area is currently vacant and discharges runoff as overland sheet flow to the north-western property boundary and into the existing stormwater infrastructure in the north-western corner of the subject area. The stormwater is then discharged via a headwall outlet to a local tributary of Spring Creek under the control of the local authority Toowoomba Regional Council. The entirety of the site is considered to be currently pervious.

There is no upstream catchment contributing to runoff with the site.

An aerial photograph and street view is provided in Figures 1 and 2.



Figure 1: Aerial photograph



Figure 2: Street View

3. POST DEVELOPMENT CONDITIONS

The stormwater drainage design proposes to collect all stormwater runoff from the proposed new concrete pavements, roof drainage and landscaped areas. All stormwater will be discharged to the existing drainage infrastructure in the North-West corner of the subject area. The existing stormwater pit in the North-West corner of the subject area ultimately discharges to the Spring Creek tributary to the North.

The total impervious area within the 3,700 m² subject catchment is proposed to increase from approximately 0m² (0% impervious) to 2,450 m² (66% impervious). This represents an increase in impervious coverage of approximately 66% relative to the existing condition across the site.

The existing infrastructure has already been designed to cater for the development and was approved as part of the assessment of the Operational Works application for the subdivision (OW/2023/390 & OW/2023/350), and the Material Change of Use application (MCUI/2021/4232/A). Refer to Burchills Engineering Solutions drawings BE220024-C300 to BE220024-C405 inclusive and Burchills Engineering Solutions "Conceptual Stormwater Management Plan BE220024-02-RP-CSMP-01" dated June 2024.

All stormwater infrastructure required for the total development has been constructed under the previous approvals and accepted by council.

The stormwater drainage design is specified on LPCE drawings included as Appendix A.

4. STORMWATER QUANTITY

As mentioned previously all stormwater infrastructure required for the total development has been constructed under previous approvals and accepted by council. A stormwater quantity check has been carried out to ensure the proposed upstream stormwater system and the existing downstream stormwater infrastructure still achieves compliance.

Post-development hydrological calculations for the development have been modelled in DRAINS, using the Extended Rational Method, the development site plan and the following data.

Post-development catchment:

- Catchment Area: 3,700 m²
- Fraction impervious: 66% (developed)
- Impervious C10 (QUDM): 0.9
- Pervious C10 (QUDM): 0.46
- Time of concentration: 5 mins

The results of the calculations are demonstrated in Table 1.

AEP (%)		10	1
Peak Discharge (cumecs)	Post-development	0.133	0.221

Table 1: Stormwater Discharge from Development

These calculations have been adopted in the design of the stormwater drainage system shown in Appendix A.

Screenshots of the rainfall intensity data used in the DRAINS model have been included in Appendix B of this report. DRAINS screenshots have been included in Appendix C.

The DRAINS model included the full downstream infrastructure which was found to have sufficient capacity to accept all developed flows up to the 1% AEP event from the proposed development with no on-site stormwater detention being provided.

5. STORMWATER QUALITY

5.1 STORMWATER QUALITY – OPERATIONAL PHASE

The area to be developed is considered to be Lot 2A as per the Material Change of Use application (MCUI/2021/4232/A). Lot 2A stormwater infrastructure has been considered as part of the assessment of the Operational Works application for the subdivision (OW/2023/390 and OW/2023/350). All stormwater infrastructure required for the total development (including Lot 2A) has been constructed under the previous approvals and accepted by council. Therefore, no further stormwater quality infrastructure is considered necessary.

5.2 STORMWATER QUALITY – CONSTRUCTION PHASE

To demonstrate that the release of sediment laden stormwater is avoided during construction activities and any adverse impacts on stormwater quality are minimised during this time it is proposed that an erosion and sediment control management plan be provided to the contractor and implemented prior to the commencement of construction.

6. SUMMARY AND CONCLUSIONS

In summary, this report has demonstrated that the proposed development will have a non-worsening effect on stormwater drainage to adjacent and nearby allotments. It is considered that the proposed stormwater quality control for the proposed development area has already been satisfied through earlier approvals.

Should you have any queries or require further information please don't hesitate to contact me.

Yours sincerely,



Jayden Karaka MIEAust CPEng RPEQ 37110
Senior Civil Engineer

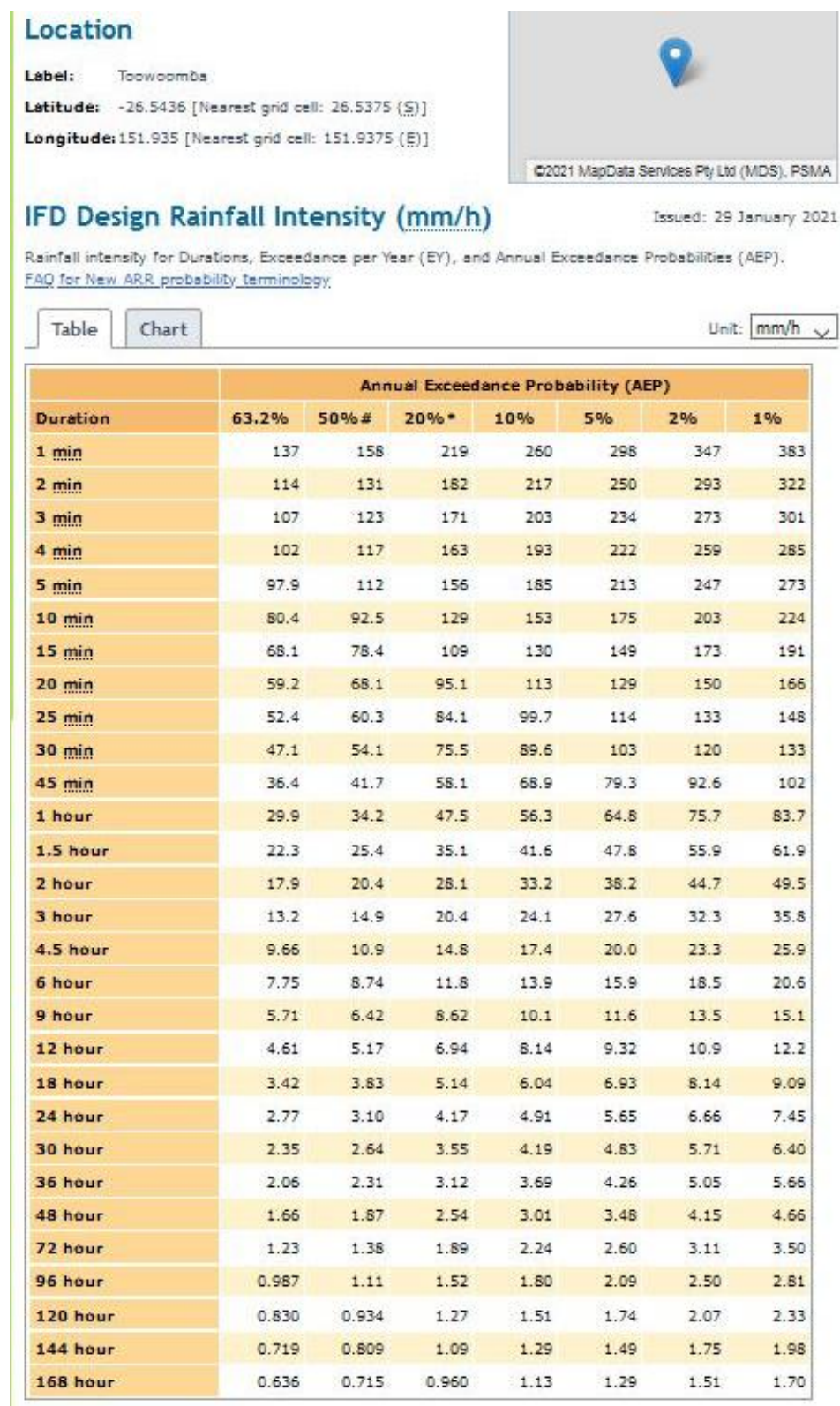


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Director

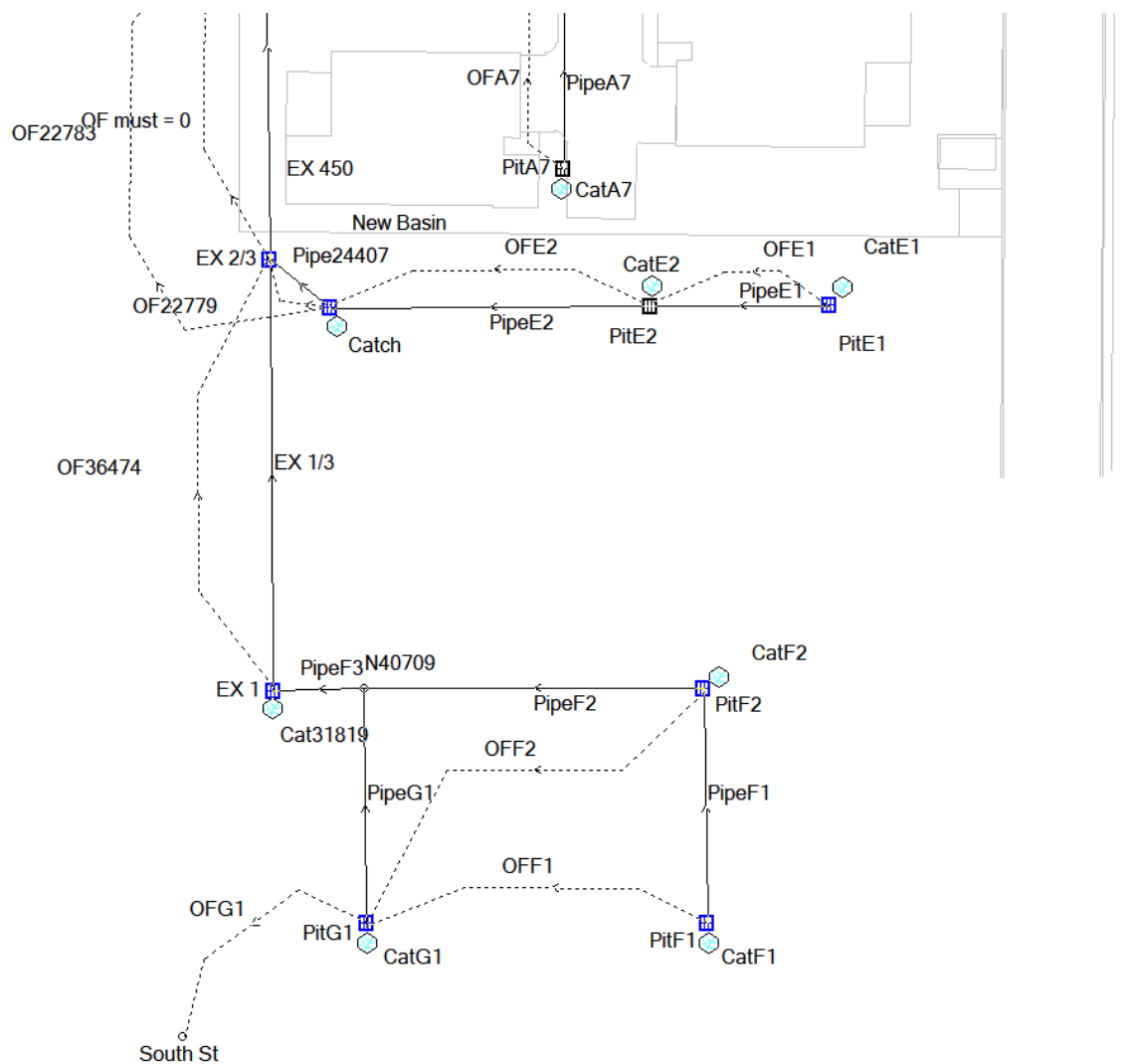
APPENDIX A: STORMWATER MANAGEMENT PLANS AND DETAILS

Drawing Register			Approval	
Drawing no.	Revision	Date	Name	Signature
19909-DA01	1	04/06/26	Jayden Karaka RPEQ 37110	
19909-DA02	1	04/06/26		

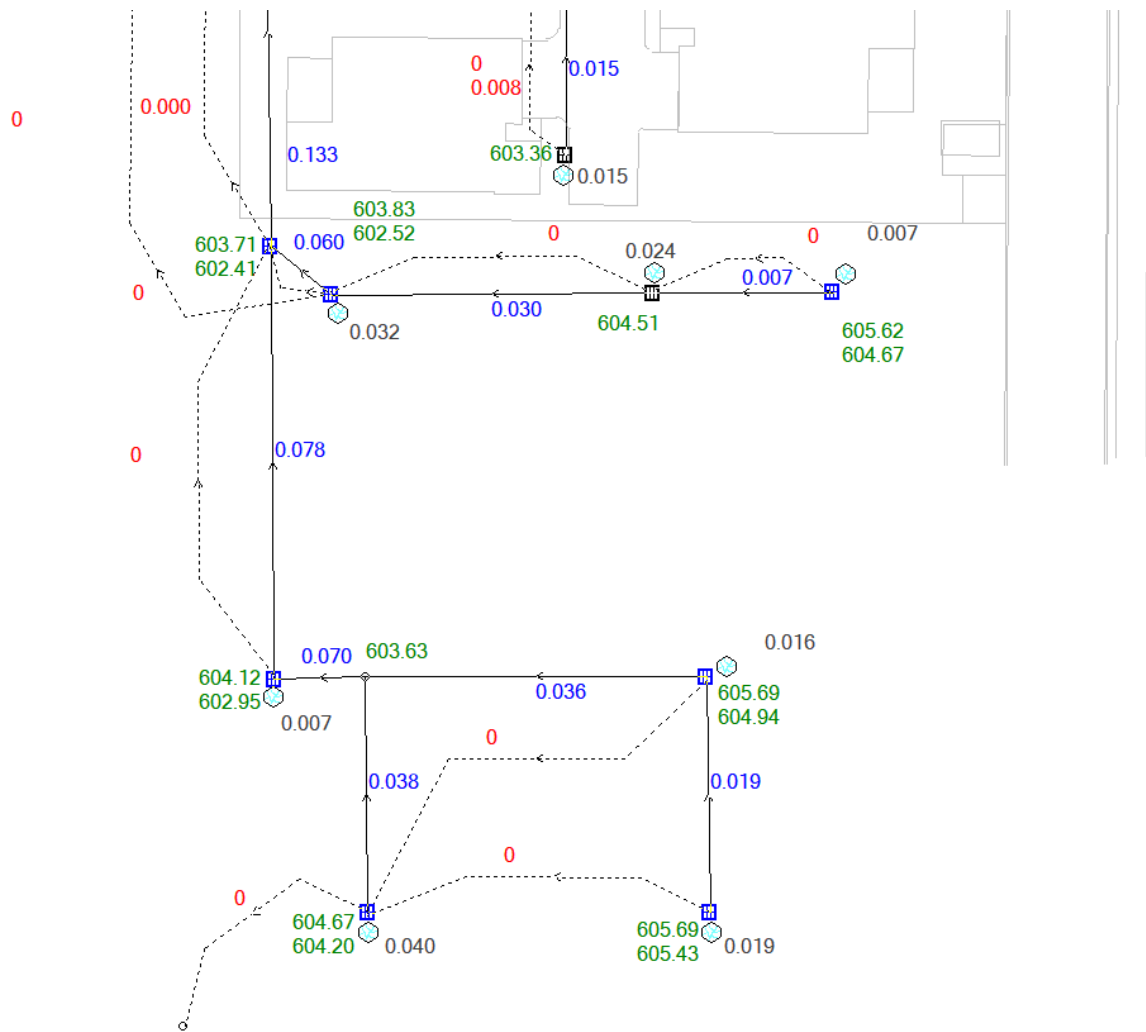
APPENDIX B: DRAINS RAINFALL INTENSITY INPUT DATA



APPENDIX C: DRAINS SCREENSHOTS



POST-DEV DRAINS MODEL



10% AEP POST-DEV RESULT

