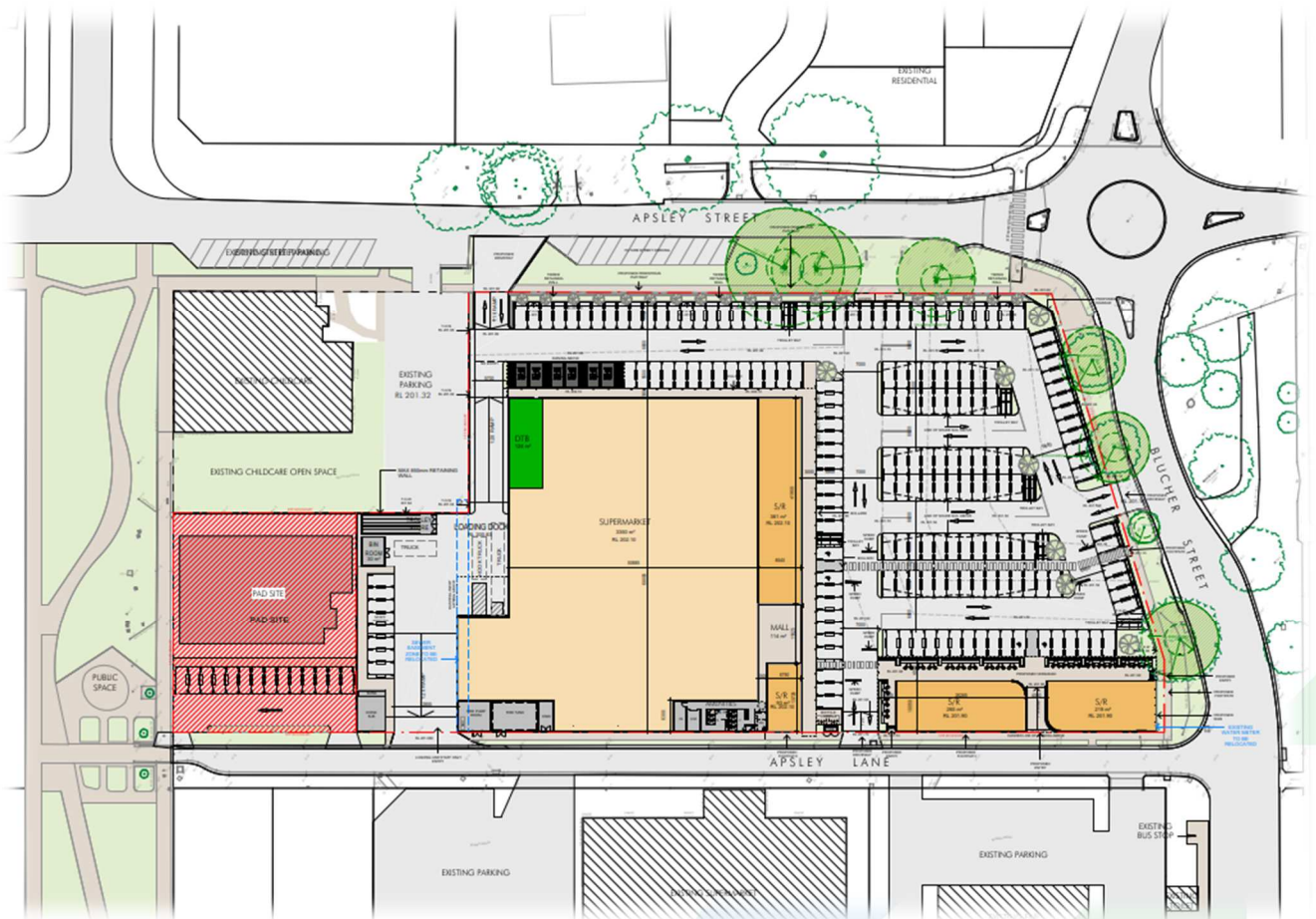




Stormwater Management Strategy

Proposed Woolworths Development

17-23 Apsley Lane & 39 Blucher Street, Strathfieldsaye VIC 3551



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PLAN**

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February 2026 – Rev 2

Klopper Dobos Pty. Ltd. trading as KD Engineering

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Prepared by:	Alex Stojanovski (PE0002219)	Director Civil Engineering
Signed:		08/09/2025
KD Job No:	19947	

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1. Introduction

KD Engineering have been engaged by Woolworths Group (Woolworths) to prepare a stormwater management strategy (SWMS) to support the planning application for the proposed Woolworth development located at 17-23 Apsley Lane & 39 Blucher Street, Strathfieldsaye VIC.

The objective of this report is to demonstrate that the site drainage strategy satisfies Clause 53.18 'Stormwater Management in Urban Development' of the Greater Bendigo Planning Scheme in meeting best practice performance objectives for the treatment of stormwater.

This report will discuss the existing stormwater infrastructure and the proposed site drainage strategy, including Council requirements regarding onsite detention and water sensitive urban design (WSUD).

1.1 Scope of Works

- Research of site, including: desktop review of (but not limited to) the site context, land titles (for easements), surveys (for slope of existing surface), planning overlays (for flooding overlays), authority requirements, dial before you dig information (for location of existing stormwater infrastructure), stormwater strategies and legal points of discharge;
- Obtain legal point of discharge advice from City of Greater Bendigo;
- Obtain flood level advice from North Central CMA;
- Follow up with relevant authorities and Councils to ascertain more detailed information;
- Compare pre-developed (existing) and post-developed peak flows to establish detention requirements and evaluate options for mitigation of peak flows, if required;
- Discuss stormwater quality issues and provide asset recommendations for stormwater treatment, if required.

1.2 Information Provided

We have been provided with the following information which we have based our assessment on:

- Town Planning Architectural Drawings (prepared by Nettleton Tribe, *Project No. 14473 Issue 2*), refer Appendix A
- Existing Feature & Levels Survey (prepared by Breese Pitt Dixon, *Reference No. 11322 Revision 1*), refer Appendix B
- Legal Point of Discharge advice from City of Greater Bendigo (*Reference No: BP1/635/2025*), refer Appendix D
- North Central CMA Floodplain Management Advice (*Reference No. NCCMA-F-2024-01074*), refer Appendix E
- Sustainability Management Plan (prepared by WRAP Engineering, *Reference No. 26042 Rev 1*)

2. Site Overview

The site is comprised of three landholdings: 39 Blucher Street and 17-23 Aspley Lane (herein known as 'the site').

The site has a total area of 1.464ha and is bound by Wellesley Street (open space reserve) and a childcare centre to the west, Aspley Lane (service road) to the south, Blucher Street to the east and Aspley Street to the north.

The site is currently zoned as "Commercial 1 Zone (C1Z)" and is located within the Strathfieldsaye Township Plan, 2010 (STP) and Strathfieldsaye Town Centre Urban Design Framework, 2017 (UDF). The site is also subject to a "Design and Development Overlay (DDO)" and is located within an area of Aboriginal Cultural Heritage Significance. There are no other significant planning overlays that may impact engineering servicing requirements for this site.

Figure 1 below shows the sites location.



Figure 1 – Site Map

2.1 Existing Features

The site is relatively flat and generally grades towards to the north. The south-western corner of the site has been identified as the highest point of the site at approximate RL 202.00m, with the lowest point of the site being the north-east corner at approximate RL 200.50m. The average grade across the site is between 1-in-50 and 1-in-100.

Based on aerial imagery, there are scattered existing trees and vegetation with the site boundary as well as some larger trees along Apsley Street and Bulcher Street which will need to be retained and protected during construction works.

Figure 1 on the previous page shows the existing site conditions.

2.2 Existing Easements

There is an existing 2.5m wide sewer easement running through the site (highlighted in pink in Figure 2 below) which contains a 150Ø sewer main which services the childcare centre. This sewer main will need to be diverted around the proposed building, and the design will need to comply with Coliban Water’s build-over consent guidelines.

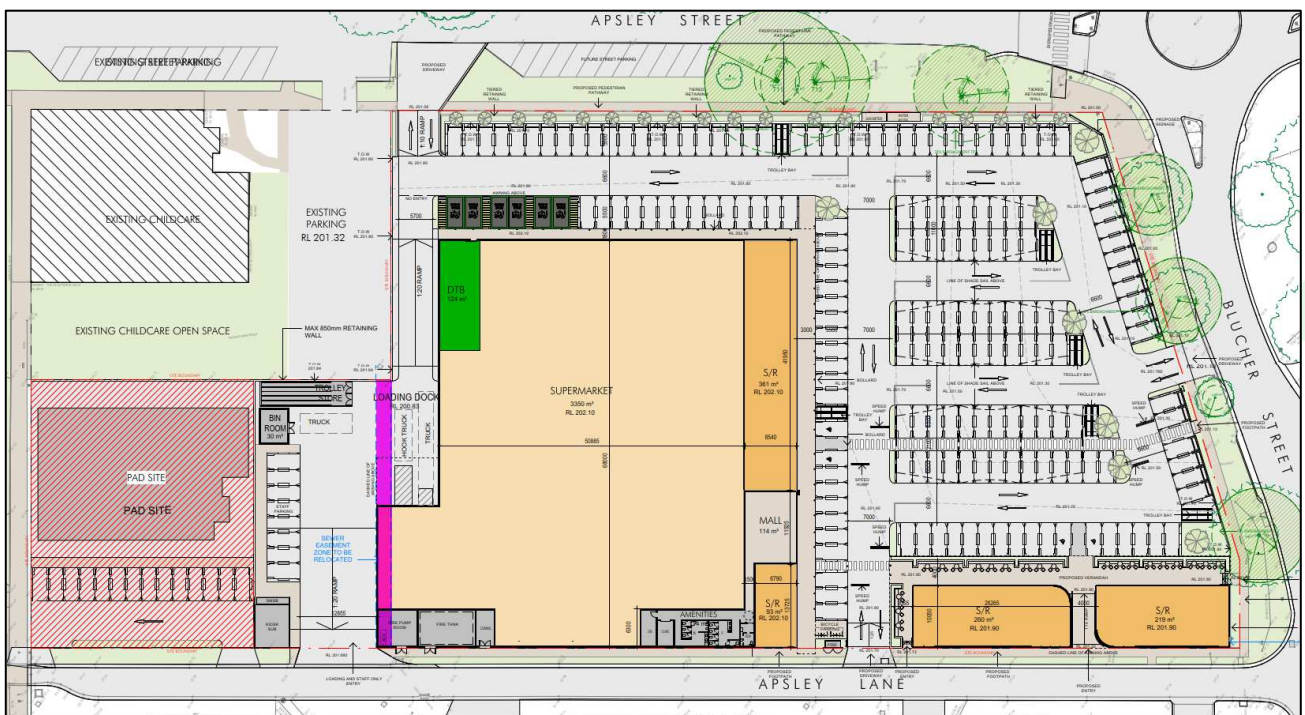


Figure 2 – Existing Sewer Easement

2.3 Proposed Development

The application proposes a commercial development including a supermarket and several retail tenancies along with associated carpark, amenities, services areas and loading dock.

Access to the carpark will be from Blucher Street and Apsley Lane while the loading dock will be accessed from Apsley Street.

Refer Appendix A for site plan of the development.



2.4 Proposed Easements

No new easements will be required as part of this development, however the existing sewer easement will need to be adjusted to suit the new sewer alignment.

3. Stormwater Management

3.1 Existing Stormwater Infrastructure

The Council drainage asset map received as part of the BYDA information indicates that there is existing stormwater drainage infrastructure around the subject site within Apsley Street, Apsley Lane and Blucher Street.

The existing 675Ø drain running west along Apsley Lane and into the existing 900Ø drain in Wellesley Street collects stormwater from the existing commercial areas to the south and is unlikely to be suitable for connection as this located along the high side of the site.

The existing 300Ø drains running east along Apsley Lane and south along Blucher Street only collect localised flows from the road and are also unlikely to be suitable for connection.

The existing 525Ø drain located at the low point in Apsley Street conveys flows north through the residential development to Sheepwash Creek and is the likely connection point for our development.

Refer to Appendix C for Council drainage asset map.

3.2 Legal Point of Discharge Advice

The advice received from the City of Greater Bendigo (refer Appendix C) confirms that our proposed development is to connect to the existing 525Ø drain across the road in Apsley Street.

3.3 Stormwater Quantity / Onsite Detention Requirements

The stormwater drainage system will be designed to convey the 10% AEP flows generated from this development and on-site detention will likely need to be provided to offset the increase in stormwater run-off created by the increase in impervious area.

The site discharge will be limited to the capacity of the existing 525Ø drain in Apsley Street and the required storage volume will be accommodated in an underground tank with the discharge being restricted via an orifice plate on the outlet pipe. Specific details and confirmation of detention volume are subject to detailed design and Council requirements.

3.4 Stormwater Treatment / Water Sensitive Urban Design Requirements

All stormwater drainage pits will be fitted with litter baskets to collect hard rubbish (or alternatively discharged through an end-of-line gross pollutant trap) before discharging through a proprietary filtration unit to treat the stormwater.

In addition, a 30kL tank collecting a minimum roof area of 1,500m² will be installed for rainwater collection and re-use for toilet flushing and landscape irrigation.

Specific details for the treatment system and rainwater tank are to be confirmed during detailed design.

3.5 Sediment Control During Construction

Appropriate erosion and sediment control measures will be implemented on site by the builder to ensure sediment generated during earthworks and construction activities does not enter the stormwater drainage system.

A Construction Environmental Management Plan (CEMP) will be submitted to the Responsible Authority prior to the commencement of works.

3.6 Flood Level Advice

Information received from North Central CMA indicates that the site is not subject to flooding from any designated waterway.

Information received from the City of Greater Bendigo via the Property Information Request also advises that the property is not in an area liable to flooding.

Furthermore, the North Central CMA has advised that they do not object in principle to the construction of the proposed supermarket development.

Refer Appendices E and F for advice.

3.7 Upstream External Catchment Consideration

The survey of the site indicates that there is a trapped low point towards the western end of Apsley Lane. Some stormwater is conveyed to Wellesley Street and Blucher Street via the existing drains mentioned in section 3.1, however in larger rain events when the drains are at full capacity, water flows across the site towards Apsley Street.

The conveyance of these flows through the site will need to be considered during detailed design.

3.8 Overland Flow Path

The below-ground stormwater drainage system will be designed to convey the 10% AEP flows generated from this development into the nominated legal points of discharge.

Gap flows from 1% AEP rainfall events will be conveyed as overland flows via the carpark and will disperse onto Apsley Lane and Blucher Street along the southern and eastern boundaries respectively. Refer to Figure 3 below for diagram of overland flow paths.

The buildings will sit at a higher level than the overland flow paths, providing a minimum freeboard of 150mm from the top of water level for any localised ponding within the carpark. The depth of all localised ponding will also be kept to a maximum of 150mm.

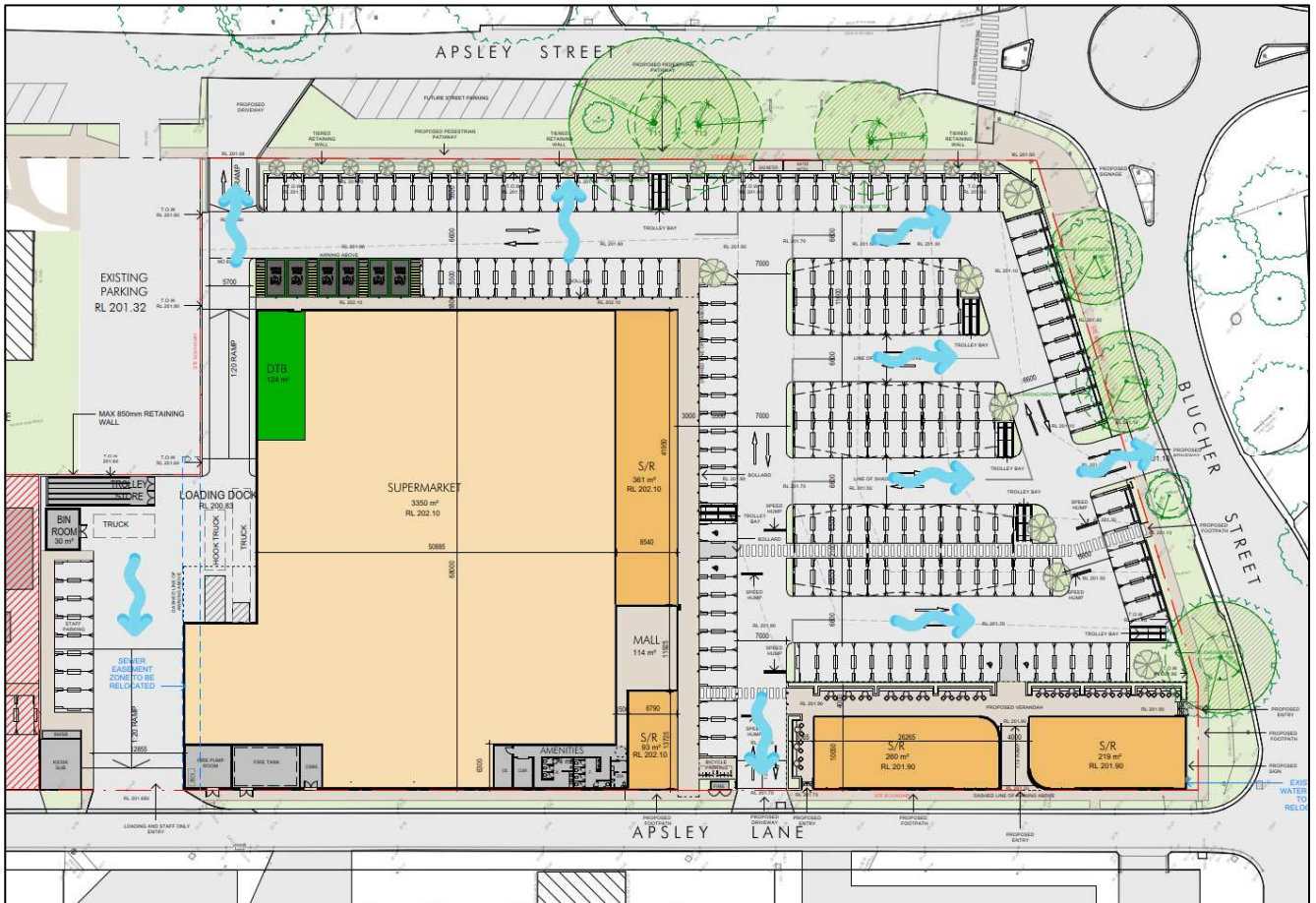


Figure 3 – Overland Flow Path

4. Conclusion

This report demonstrates that the site drainage strategy satisfies Clause 53.18 '*Stormwater Management in Urban Development*' of the Greater Bendigo in meeting best practice performance objectives for the treatment of stormwater and that there is no worsening of the existing conditions or adverse impacts on adjoining properties, Council infrastructure or the environment.



Appendices

- A. Development Site Plan
- B. Existing Feature & Levels Survey
- C. Existing Stormwater Drainage Infrastructure (Council Drainage Asset Map)
- D. Legal Point of Discharge Advice
- E. Flood Level Advice
- F. Council Property Information Request





A. Development Site Plan



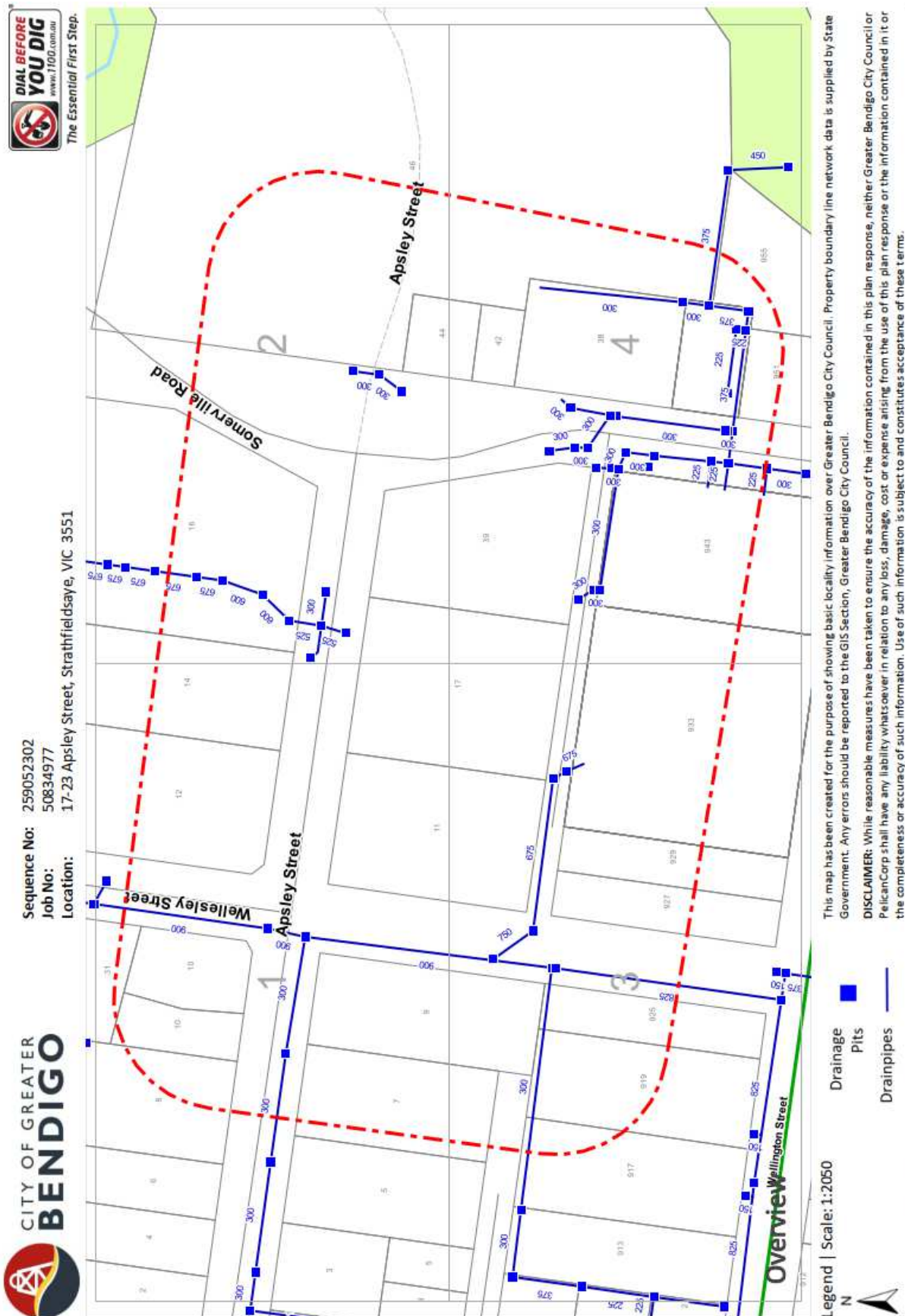


B. Existing Feature & Levels Survey





C. Existing Stormwater Drainage Infrastructure (Council Drainage Asset Map)



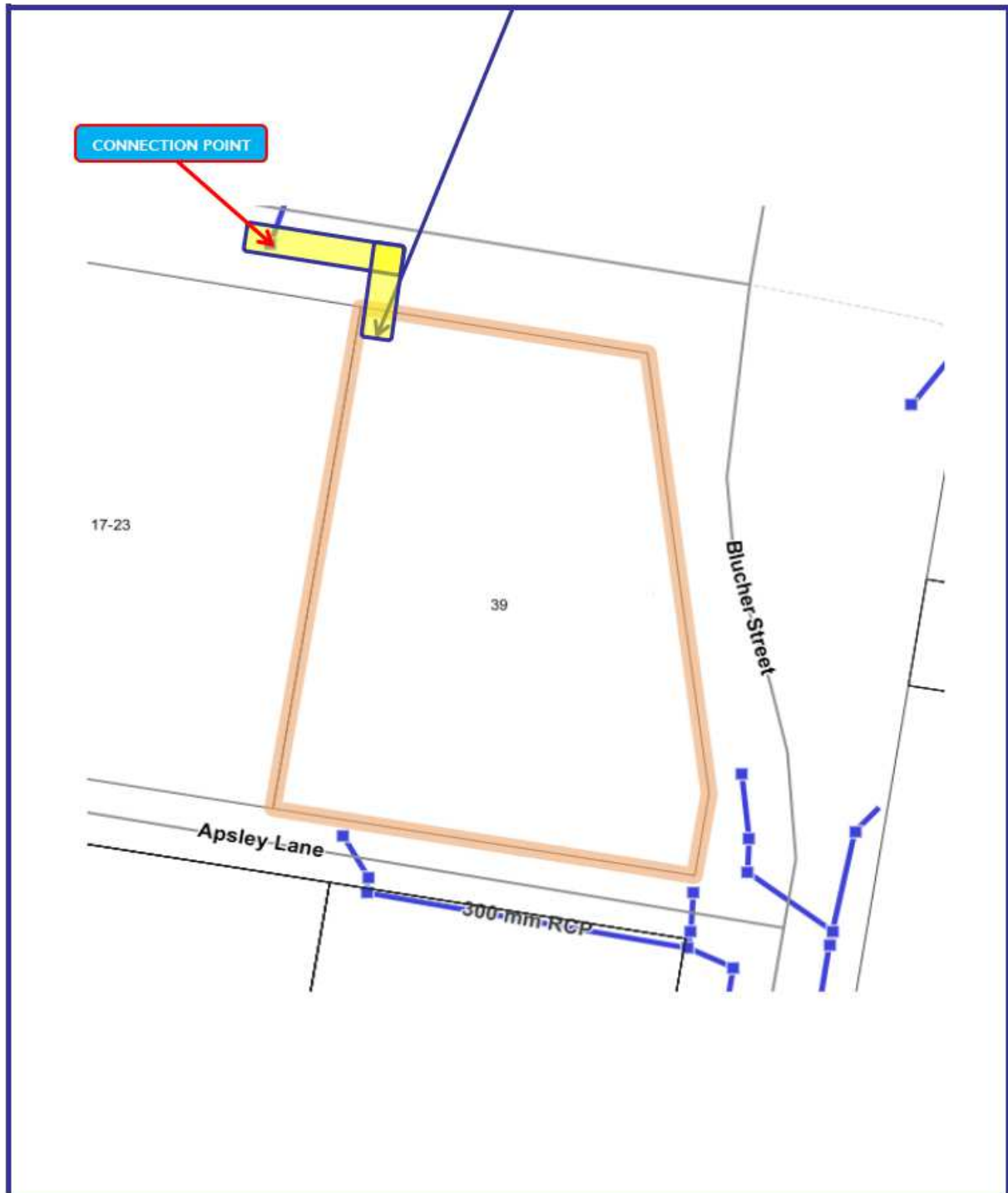


D. Legal Point of Discharge Advice

Legal Point of Discharge:



BPI/635/2025 - 39 (Lot 1) Blucher Street, STRATHFIELDSAYE



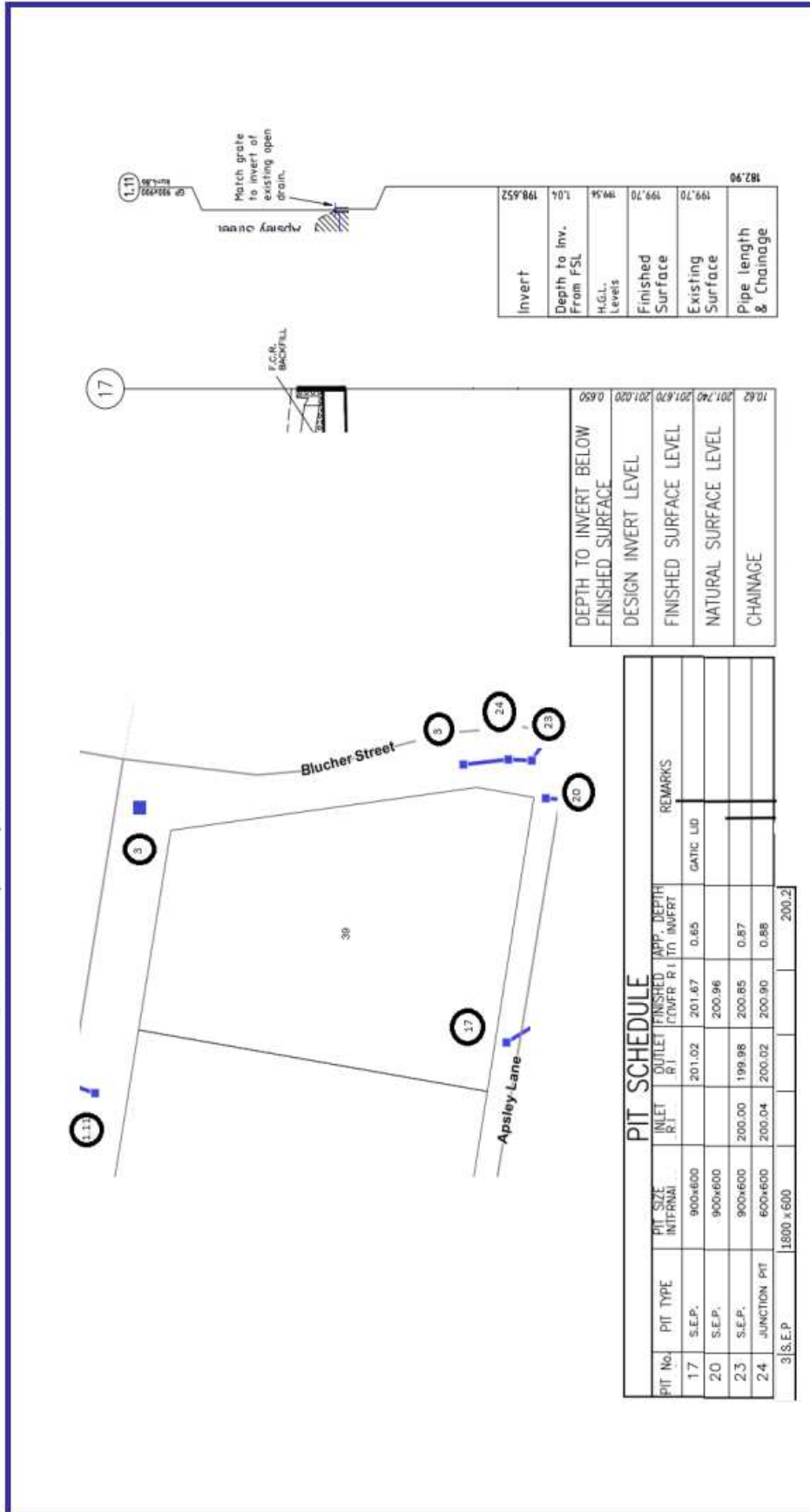
Disclaimer

- The locations of underground services have been derived from available information however accuracy cannot be guaranteed. All existing service information should therefore be treated as indicative only and service locations must be arranged prior to the commencement of any excavation. The contractor will be held responsible for any damage caused to underground services.
- Building Regulation 133(2) requires the relevant council to indicate the location of the point of discharge from an allotment either within the allotment or at the allotment boundary. The connection point is secondary information provided at no expense to the applicant. If a connection point is specified but does not exist it is the responsibility of the applicant / owner to create a connection, at their expense.



Local Drainage Information:

BPI/635/2025 - 39 (Lot 1) Blucher Street, STRATHFIELDSAYE



Disclaimer

* The locations of underground services have been derived from available information however accuracy cannot be guaranteed. All existing service information should therefore be treated as indicative only and service locations must be arranged prior to the commencement of any excavation. The contractor will be held responsible for any damage caused to underground services.

* Building Regulation 1.3(2) requires the relevant council to indicate the location of the point of discharge from an abatement either within the abatement or at the abatement boundary. The connection point is secondary information provided at no expense to the applicant. If a connection point is specified but does not exist it is the responsibility of the applicant/owner to create a connection, at their expense.



E. Flood Level Advice



NCCMA Ref: NCCMA-F-2025-01074
Date: 10 August 2025

Yoonhwa Choi
KD Engineering

Dear Yoonhwa,

Floodplain Management Advice

Development Description: Supermarket Development
Street Address: 17-23 Apsley and 39 Blucher Street, Strathfieldsaye Vic 3551
Cadastral Location: Lot 1 PS434901, Allotment 12, Section 3, Parish Of Strathfieldsaye

Thank you for your enquiry of 05 August 2025 seeking flood advice for the above property.

Flood Information

Information available at North Central CMA indicates that the location described above is not subject to flooding from any designated waterway based on a flood level that has a probability of occurrence of 1% in any one year. It would be in your best interest to contact the relevant Local Council regarding the impact of overland flows associated with the local drainage system.

Development Advice

North Central CMA does not object in principle to the construction of **the proposed supermarket development** and is unlikely to require any conditions.

Please note, this document does not constitute approval or otherwise of any development at this location.

Should you have any queries, please do not hesitate to contact me on **(03) 5440 1896**. To assist the CMA in handling any enquiries please quote **NCCMA-F-2025-01074** in your correspondence.

Yours sincerely,

Nathan Treloar
Waterways and Floodplain Officer

Information contained in this correspondence is subject to the definitions and disclaimers below.



F. Council Property Information Request



Property Information Request Regulation 51 (2) | Building Regulations 2018

6 August, 2025

KD Engineering Pty Ltd
166 Hoddle St
ABBOTSFORD VIC 3067

Application: BPI/635/2025

Dear KD Engineering Pty Ltd

RE: 39 Blucher Street, STRATHFIELDSAYE 3551

Flood-Prone Area

Property is **not** in an area liable to flooding.

Termite Designation

The property **is** in an area likely to be affected by termites.

Bushfire Attack Level (BAL)

Property **is not** in an area with Bushfire Attack Level.

Alpine Area

The property is **not** in an area subject to significant snowfall.

Designated Overland Drainage

The property is **not** in an area affected by overland designated overland drainage.

Legal Point of Discharge and / or Local Drainage Information

In progress.

Hans Tracksdorf
Municipal Building Surveyor

PLEASE NOTE

It's the owner's or builder's responsibility to check for any covenants that may limit construction.

For building works over \$10,000, an **Asset Protection Permit** is required under **Local Law 11**.

To apply, please visit: <https://www.bendigo.vic.gov.au/forms/asset-protection-permit>

City of Greater Bendigo

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on 133 677 or www.relayservice.com.au