



Stormwater Management Strategy

Proposed Coles Redevelopment

158-162 High Street, Belmont VIC

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July 2023 – Rev 0



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KD Job No:	19002	

DOCUMENT ISSUE REGISTER:

Revision No.	Description of Revision	Issue Date	Issued By:
0	Issued for Council endorsement	24/07/2023	AS

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1. Introduction

KD Engineering have been engaged to prepare a stormwater management strategy (SWMS) for the proposed Coles redevelopment located at 158-162 High Street, Belmont 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 Geelong 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 Geelong;
- Obtain flood level information from Corangamite Catchment Management Authority;
- Follow up with relevant authorities and Councils in order to ascertain more detailed information;
- Prepare concept drainage layout plan;
- 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 Clarke Hopkins Clarke, *Project No. 20220074 Drawing TP200*), refer Appendix A
- Existing Feature & Levels Survey (prepared by Taylors, *Reference No. 23643/S1-D1 Version 02*), refer Appendix B
- Legal Point of Discharge advice from City of Greater Geelong (*Reference No. 1664-2023-SRFI*), refer Appendix C
- Council Drainage Asset Map received from Before-You-Dig-Australia (BYDA) information, refer Appendix D
- Corangamite CMA flood level advice (*Reference No. CCMA-F-2023-00667*), refer Appendix E

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2. Site Overview

The proposed site has a total area of 0.735ha and is located at 158-162 High Street, Belmont and is bound by commercial and retail properties to the east and west, Church Street along the north and High Street along the south.

158-162 High Street is currently occupied by an existing Coles supermarket and carpark, and the proposal is to redevelop the site for a new Coles supermarket along with a liquor store, ground floor carpark, underground basement carpark and a loading dock. Refer Appendix A for site plan of the development.



Figure 1 – Existing Site

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2.1 Existing Features

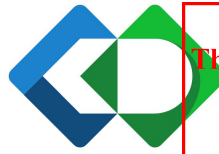
As mentioned in section 2 above, the site is currently occupied by an existing Coles supermarket and carpark. The existing building and carpark will be demolished to facilitate the construction of the new basement, building and carpark. Refer existing feature and levels survey in Appendix B.

2.2 Existing Easements

There is an existing sewer easement running east-west through the middle of the site, and an existing electrical easement running along the eastern boundary of the site. The project team is currently liaising with the relevant Authorities to ascertain the conditions to build over these easements.

2.3 Proposed Easements

No new easements will be required as part of this development.



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3. Stormwater Management

3.1 Existing Stormwater Infrastructure

The Council drainage asset map received as part of the BYDA information indicates that there is an existing 225mm dia. drain running north along Discovery Lane in the north-eastern corner of the site, as well as an existing 300mm dia. drain running along the eastern boundary of the site which discharges to the drainage network within High Street.

Refer Appendix D for map of existing stormwater drainage infrastructure, and Figure 2 below for extract of the asset map.

The survey indicates that there are numerous other drainage pits within the site throughout the carpark, however it is assumed that these pits are part of the private drainage network and will be demolished as part of the proposed development.

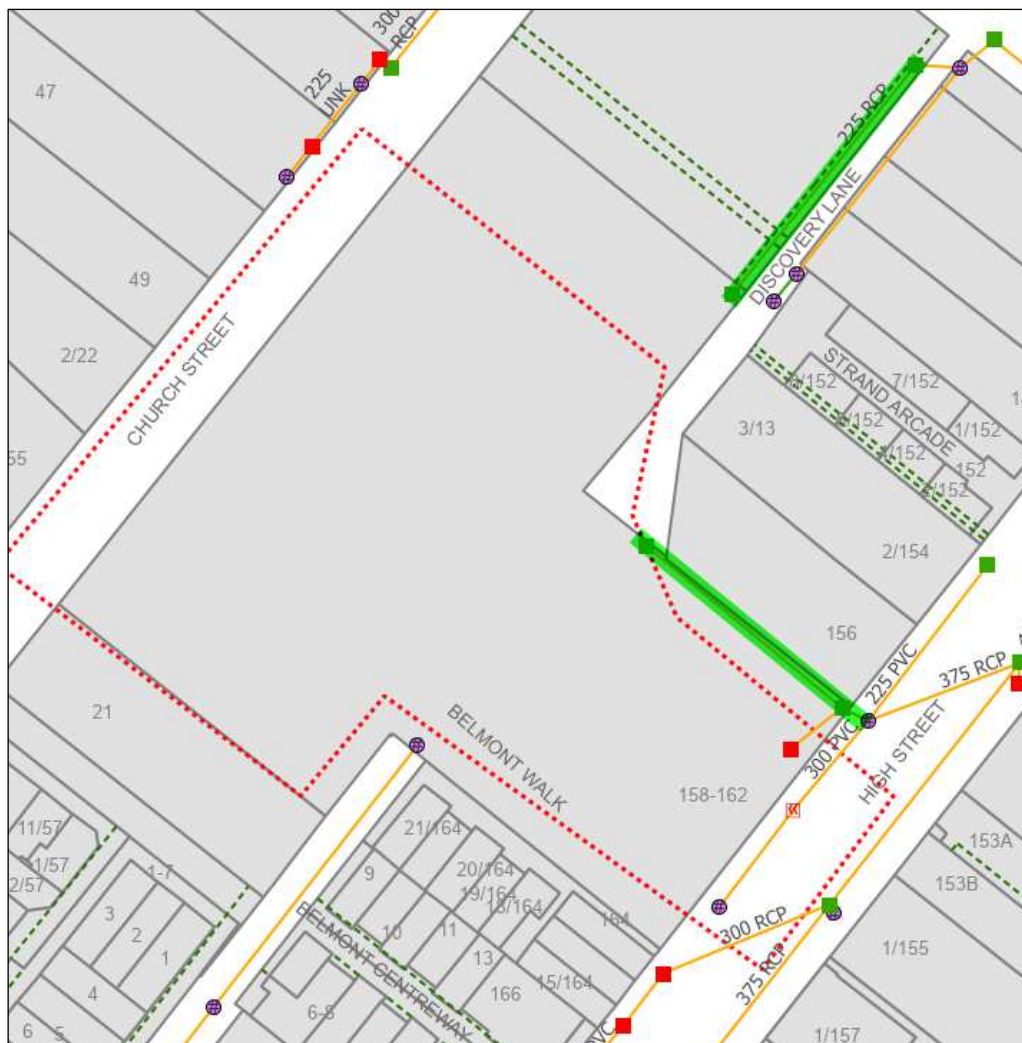


Figure 2 – Council Drainage Asset Map

3.2 Legal Point of Discharge Advice

The advice received from City of Greater Geelong (refer Appendix C) advises that the Legal Point of Discharge (LPD) is the existing 300mm dia. drain at the end of Discovery Lane.

We are proposing to utilise 2 LPD connection points, subject to Council approval; (1) the existing pit in the south-eastern corner in High Street, to collect carpark drainage, and (2) the existing pit in the north-eastern corner in Discovery Lane to collect the building roof drainage.

The existing 300mm dia. drain running along the eastern boundary is proposed to be demolished, subject to Council approval. The pit in Discovery Lane has a gatic cover and can therefore be concluded that it does not collect run-off from the road, which might also suggest that it no longer appears to serve any purpose.

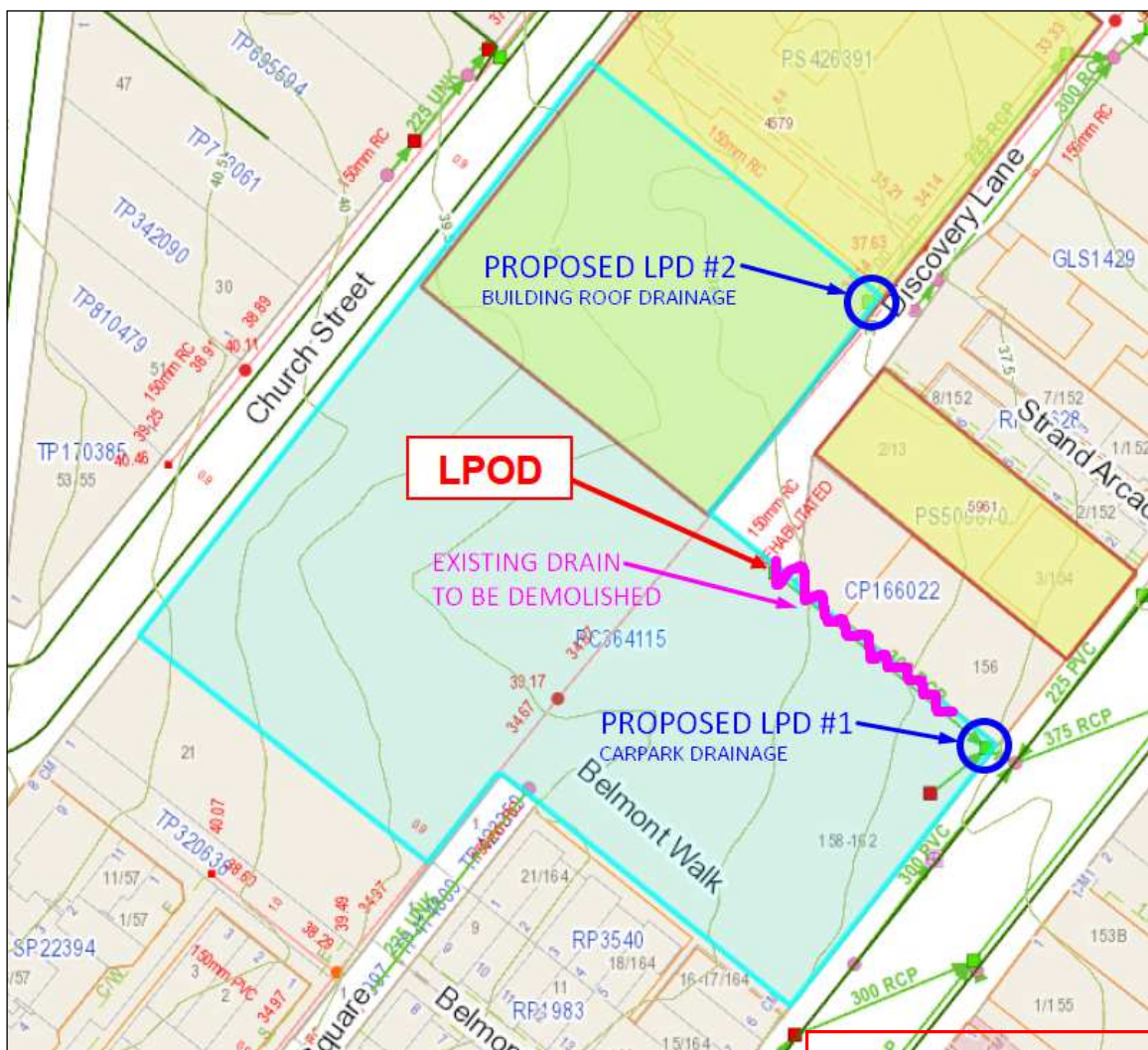


Figure 3 – Proposed LPD Connection Points

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Figure 4 – Google Street View of Existing Pit in Discovery Lane

3.3 Stormwater Quantity / Onsite Detention Requirements

The stormwater drainage system will be designed to convey the 10-year ARI flows generated from this development, and since 100% of the site is impervious (building and carpark pavement, with negligible landscaping) in its existing condition, we do not propose to restrict the site discharge.

As such, there is no requirement for onsite detention as part of this development.

3.4 Stormwater Treatment / Water Sensitive Urban Design Requirements

Currently no water sensitive urban design (WSUD) initiatives have been proposed as part of this development, however these requirements are currently being assessed as part of the Sustainable Design Assessment / Environmental Sustainable Design.

3.5 Flood Level Advice

The Corangamite CMA have advised that they do not have any flood data for this property but have indicated that this site is located at the top of the catchment, which we interpret to mean the risk of flooding of the property is low.

Refer appendix E for extract of flood level advice.

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3.6 Overland Flow Path

As discussed in section 3.3 above, the drainage system will be designed to convey the 10-year ARI flows generated from this development into the nominated legal points of discharge (i.e., the below-ground stormwater drainage system).

Gap flows from 100-year ARI rainfall events will be conveyed as overland flows via the carpark and hardstand area and onto the existing roads (High Street, Discovery Lane, and Church Street). Gap flows will surcharge through the crossovers to disperse the flows onto the receiving roads.

The building 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. The depth of all localised ponding will also be kept to a maximum of 150mm.

Refer to concept drainage layout plan in Appendix F.

4. Conclusion

This report demonstrates that the site drainage strategy satisfies Clause 53.18 '*Stormwater Management in Urban Development*' of the Greater Geelong planning scheme in meeting best practice performance objectives for the treatment of stormwater and that there is no worsening of the existing conditions by utilising the existing drainage network to achieve the most practical outcome.

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Appendices

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

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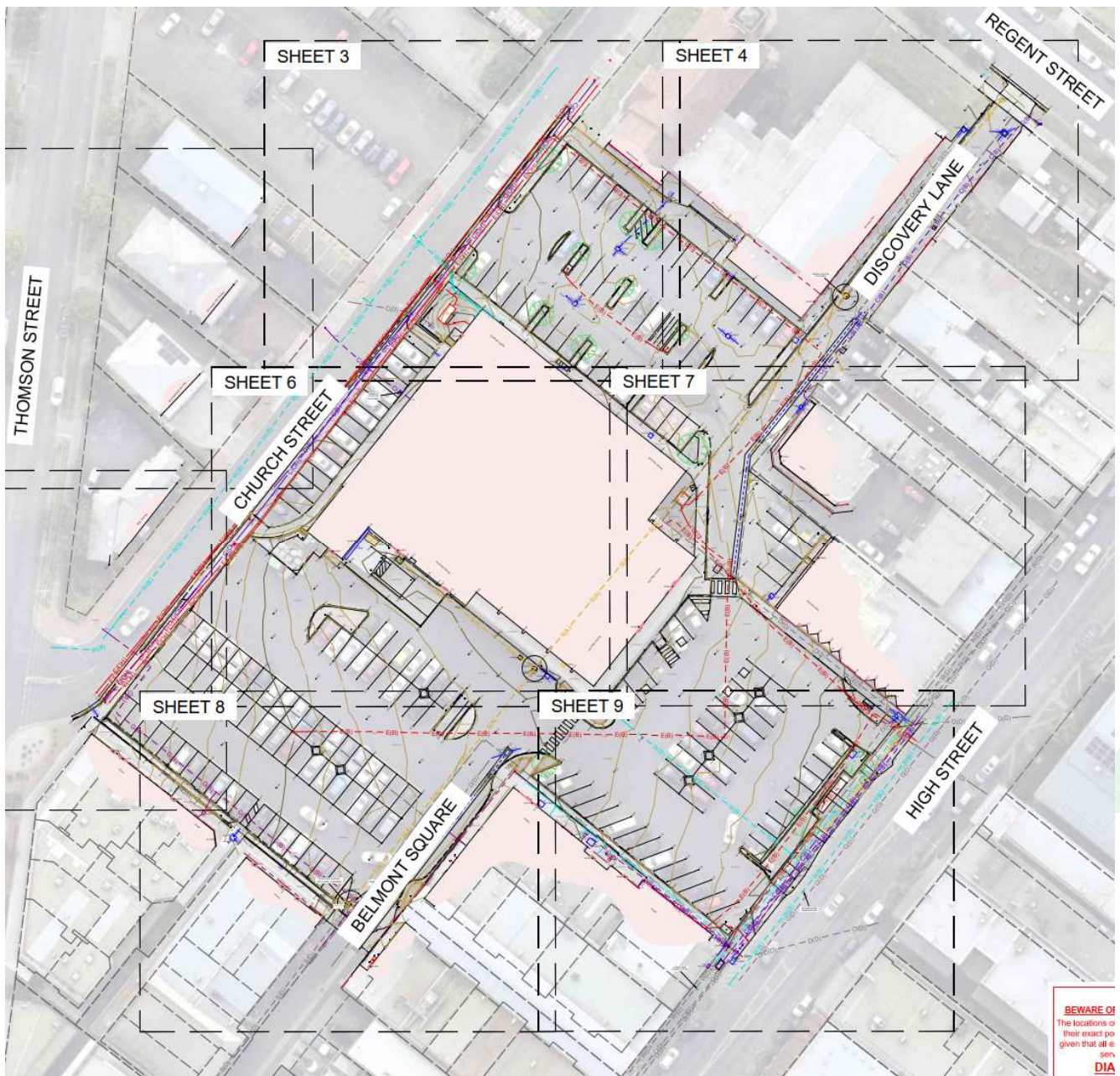
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A. Development Site Plan





B. Existing Feature & Levels Survey



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C. Legal Point of Discharge Advice

POINT OF DISCHARGE REPORT

Stormwater Drainage, Easement, and Allotment Information



A. APPLICANT:

Kd Engineering
Physical Address Unknown

APPLICATION NO. 1664-2023-SRFI

Reference: AP:

APP Ref: Reference No

CONTACT NAME: Sam Yang
CONTACT NUMBER: 0415254788
CONTACT EMAIL: samy@kd.engineering

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B. PROPERTY DETAILS

Proposed Development
• Commerical/Industrial

Property Address: **158-162 High Street, BELMONT VIC 3216**
7350m2 PC 364115

C. STORMWATER DRAINAGE, EASEMENT AND ALLOTMENT INFORMATION

- (i) **LOCATION OF STORMWATER DISCHARGE (REGULATION 133 (2)) - Refer Note 1 & 3**
 - Underground road drainage via house connection as shown (to Pit) (current site conditions)
 - Refer to Planning Permit PP-470-2023 when issued for proposed works Lpod connection condition
- (ii) **ALLOTMENT BOUNDARY DIMENSIONS - Refer Note 3**
 - Refer to Plan of Subdivision
- (iii) **DRAINAGE EASEMENTS ON ALLOTMENT - Refer Note 2 & 3**
 - Refer to Plan of Subdivision
- (iv) **SIZE, DEPTH AND OFFSET OF STORMWATER DRAINAGE PIPES WITHIN EASEMENTS - Refer to No. 3**
 - Stormwater not applicable
 - Sewer on-site
- (v) **DETAILS OF FILL ON ALLOTMENT [IF KNOWN] – Refer to Note 3**
 - Unknown

Notes: 1. The information in relation to the location of stormwater discharge is provided as consent and a report of Council pursuant to the provisions of Regulation 133(2) of the Building Regulations 2018.

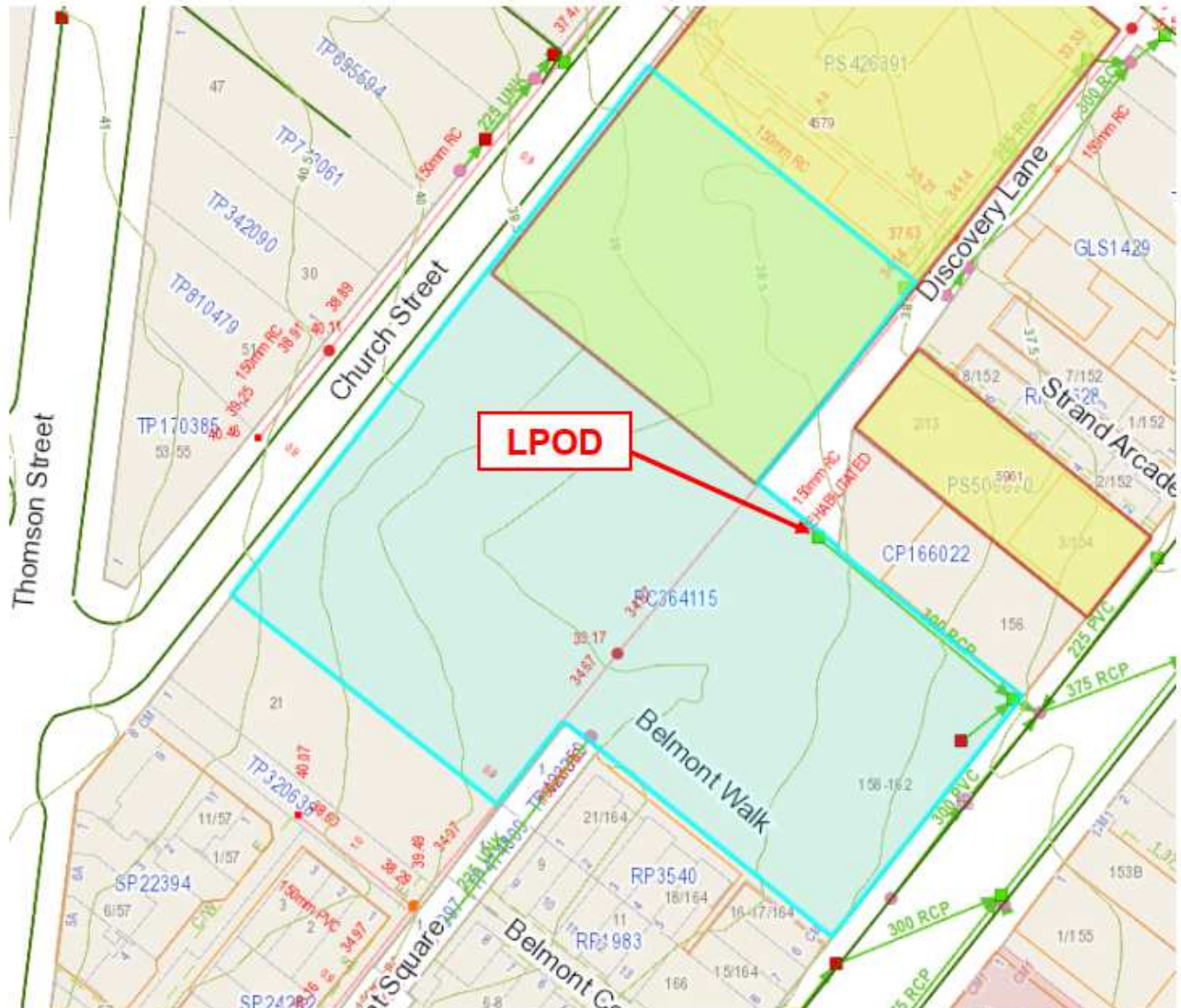
ENGL-059



2. If it is proposed to carry out any building works over any drainage easement the consent and report of Council pursuant to Regulation 130 of the Building Regulations – 2018 is required.
3. The information provided has been drawn from records held by the City of Greater Geelong. It is believed that the information is correct but if you intend relying on it, you should make on-site investigations and enquiries of all other sources to verify accuracy. The City of Greater Geelong accepts no liability if this information is subsequently found to be in error or incomplete.

Authorised Officer: **Alana Purton**

Issued: **14-Jul-2023**



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



Legend

- BYDA Enquiry
- Junction Pit
- No Pit
- Side Entry Pit
- Grated Pit
- Grated Side Entry Pit
- Type Unknown
- Open Drain
- Easement
- Property Parcel

Spatial data shown is copyright to the City of Greater Geelong and is not warranted for accuracy or completeness of the data provided, and accepts no responsibility or liability for any errors, faults or omissions.

Disclaimer: The plan is provided in response to a Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of City of Greater Geelong's infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation are recommended before commencement of any project based on this data.

Job # 33314044
Seq # 219420913
Provided by City of Greater Geelong



Scale 1:1,000

In an emergency contact City of Greater Geelong on 03 5272 5272
16/12/22 (valid for 30 days)
Plans generated by SmarterWX™ Automate



E. Flood Level Advice



Sam Yang
KD Engineering

CMA Reference No: CCMA-F-2023-00667
Document No: 1
Date: 05 July 2023

samy@kd.engineering

Dear Sam,

CMA Reference Number: CCMA-F-2023-00667
Re: FIR - Flood Information Request
Location **Street** 158-162 High Street Belmont VIC 3216
 Cadastral PC364115, Parish of Barrarbool

I refer to your **flood advice request** dated 30 June 2023, received at the Corangamite Catchment Management Authority on 30 June 2023.

Below is the authority's understanding of the application:

The applicant(s) propose the following;

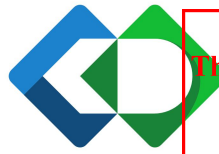
Proposed Development Type: Business/Commercial Building(s) Only
Proposed Development Description: Supermarket redevelopment including basement parking

on the abovementioned proposed development location.

The authority's assessment indicates that the property is covered by the following Zones and Overlays in the Greater Geelong City Council Planning Scheme:

Zone(s): Commercial 1 Zone (C1Z)

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The Authority has assessed this application in accordance with its functions as the Floodplain Management Authority for the Corangamite Waterway Management District pursuant to Sections 201 to 212 of the Water Act 1989.

The Floodplain Management functions of the authority are described in Section 202 of the Water Act 1989:

- *to find out how far floodwaters are likely to extend and how high they are likely to rise.*
- *to control developments that have occurred or that may be proposed for land adjoining waterways.*
- *to develop and implement plans and to take any action necessary to minimise flooding and flood damage.*
- *to provide advice about flooding and controls on development to local councils, the Secretary to the Department and the community.*

Applications are assessed on their merits considering the flooding characteristics of each site. Applications are not assessed in comparison with other development applications within the area and existing precedence should not be used as an argument to allow new development to occur.

The Guidelines for development in flood affected areas (DELWP, February 2019) and Floodplain Development Guidelines, guidelines for development in flood prone areas (Corangamite CMA, 2022) outline the key principles used to assess development in floodplains.

The Corangamite CMA (the authority) understands this application relates to a **supermarket redevelopment including basement parking** at 158-162 High Street Belmont VIC 3216.

Flood/Waterway Advice:

The Authority does not have any flood data or record of *riverine* flooding for the property described above on which to base its assessment. This does not mean the property will never flood. The subject site is located at the top of the catchment, however, may be subject to overland flow or stormwater flooding.

Please note that the 1% AEP flood is not the maximum possible flood. There is always a possibility that a flood larger in height and extent, than the 1% AEP flood, may occur in the future.

Development Advice:

In light of the above information the Authority **would not object** in principle to the proposed supermarket and underground carpark as part of a future planning application and would not require any minimum conditions.

Please note: The City of Greater Geelong as the drainage authority is the responsible authority for managing stormwater flood risk, including overland flows. As of 3 October 2016, Corangamite CMA no longer provides advice in relation to stormwater flooding including areas identified by a Special Building Overlay (SBO) in the City of Greater Geelong's Planning Scheme. ***Please contact the City of Greater Geelong directly for any stormwater/SBO related advice or enquiries.***

The Authority has not assessed this application in relation to stormwater management or impacts on the capacity of stormwater drainage infrastructure in the area. Council, as the drainage authority, is the responsible authority for managing stormwater flood risk, including applying the planning requirements of Clause 56 of the Victorian Planning Provisions' Practice Note 39 to ensure that new developments do not have significant third-party impacts due to increased runoff from impervious surfaces.

The Authority holds no information in relation to the arrangement and capacity of stormwater drainage infrastructure in the area and no information on the potential for flooding from local runoff or surcharge of drainage systems. To determine whether the property is affected by flooding from the local drainage system, please consult your local Council.

The Authority has provided this advice as preliminary information only and has been based on the information you have provided. Any flood level advice provided is based on the most accurate information currently available and may change if new information becomes available.



The Authority can provide further information regarding any proposed development of the property in response to a planning permit application referred by the Greater Geelong City Council in accordance with the Planning and Environment Act 1987.

This document contains flood level **advice only** and does not constitute approval or otherwise of any development at this location. The authority recommends you seek further advice from the Greater Geelong City Council.

Should you have any queries, please do not hesitate to contact our office at floodinfo@cma.vic.gov.au. To assist the Authority in handling any enquiries please quote **CCMA-F-2023-00667** in your correspondence with us.

Yours sincerely,



Dr Geoff Taylor
Manager, Floodplains

cc: samy@kd.engineering

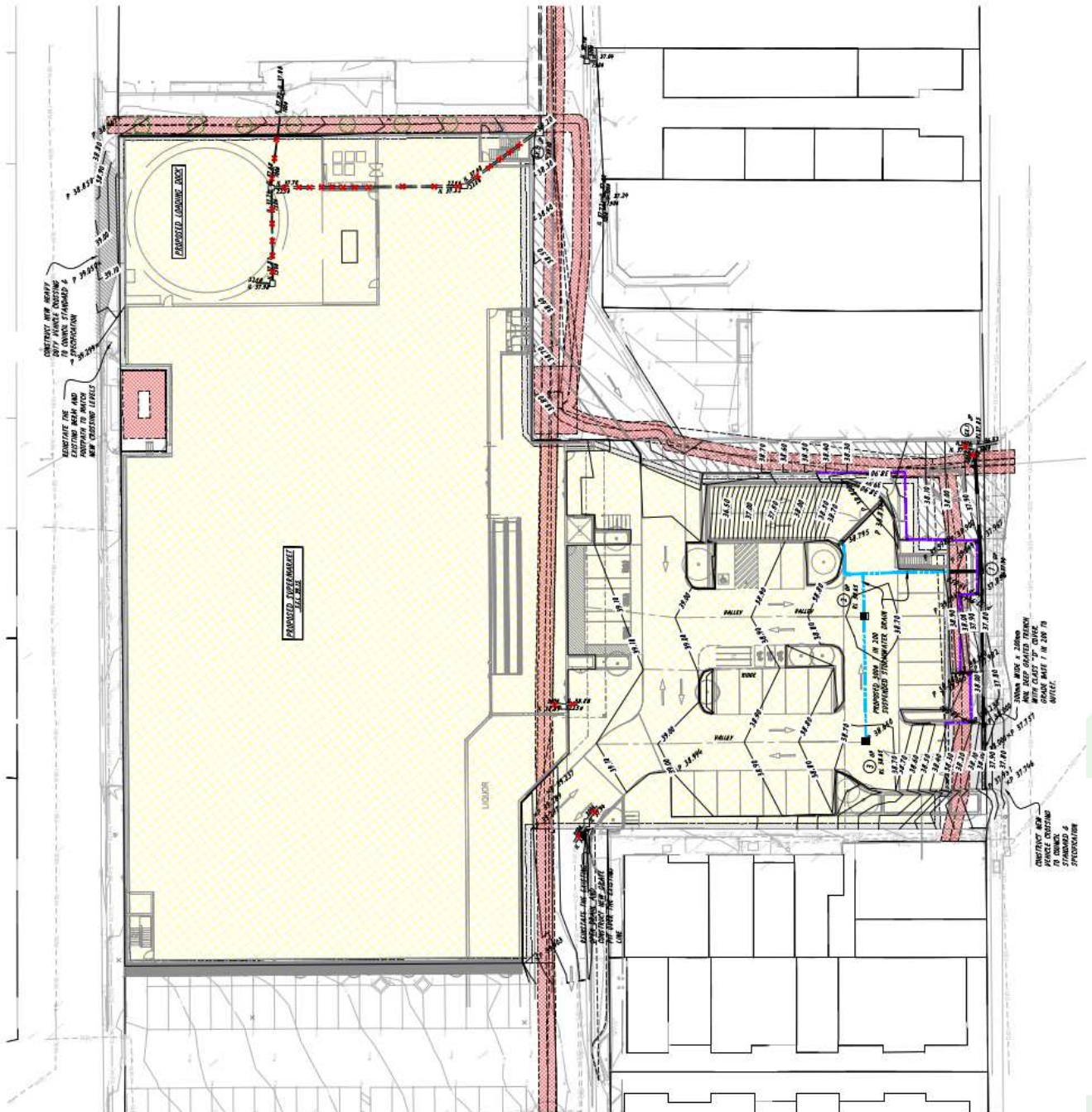
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Figure 1. Subject property (green outline)



F. Concept Drainage Layout Plan



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