

Cox Architecture c/- Bega

National Circularity Centre

DA Water and Sewer Services Report

Reference: ARP-HY-REP-001

V3 | 4 October 2024



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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 297035

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1. Introduction

Arup has been engaged by Cox Architecture on behalf of Bega Cheese to provide Hydraulic Services advice to inform the application for a Water Management Act certificate of compliance for the proposed National Circularity Centre Bega (the Proposal) in support of the Development Application to Bega Valley Shire Council.

The existing site currently operates a dairy processing facility and the Bega Cheese Heritage Centre and is required to comply with NSW Environment Protection Authority's (EPA) Environment Protection Licence (EPL) 1511.

1.1 Project Description

The site is located along Lagoon Street, Bega. Bega Cheese is currently operating a dairy processing facility (identified in Figure 1-1) and is proposing a new multi-purpose tourism centre comprising the following:

- Museum
- Restaurant
- Gift shop
- Offices
- Auditorium
- Plant rooms
- Parking spaces including caravan spaces and coach parking spaces.

The Proposal site is presented in Figure 1-1.

Entry to the site will be from Lagoon Street, with parking bays at the north and south of the building (refer to Figure 1-2). Water and sewer connections will be required for the kitchen, amenities, and firefighting purposes.



Figure 1-1 Proposed Site Location

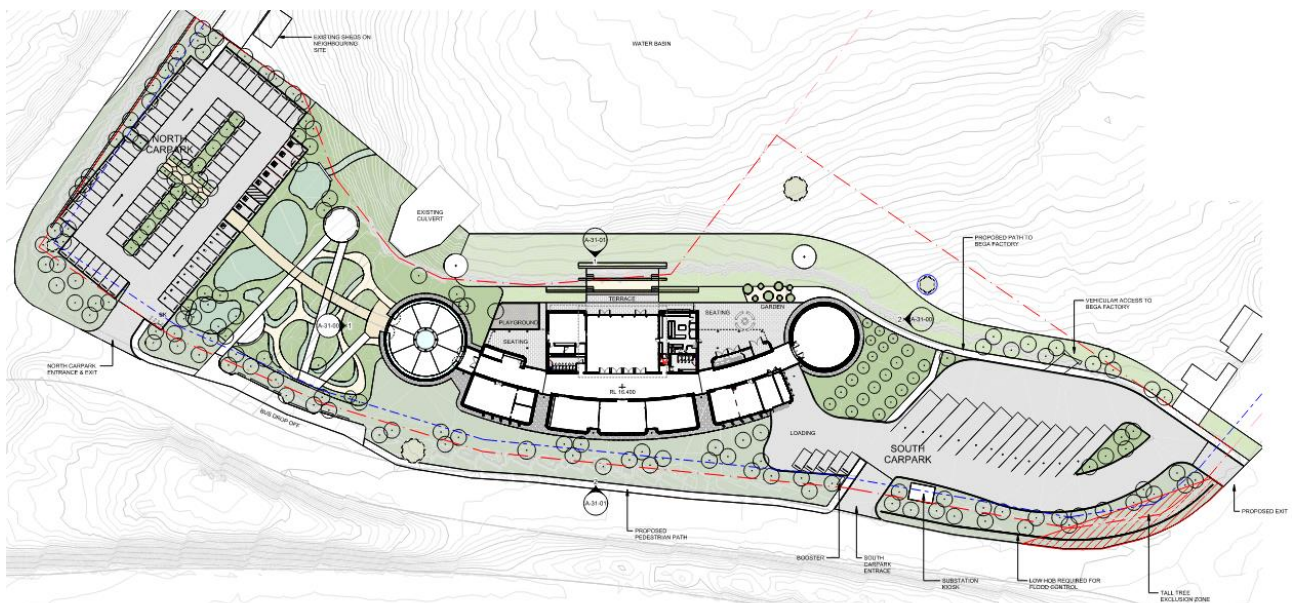


Figure 1-2 Proposed Architectural Layout

1.2 Hours of operation

It is understood the existing Bega Cheese facility operates at all times.

The proposed hours of operation for the National Circularity Centre is as follows:

- Monday to Sunday: 7am to 10pm.

1.3 Architectural drawings

This Water and Sewer Services Report has been based on the following architectural drawings prepared by Cox Architecture as detailed in Table 1.

Table 1: Architectural drawings (Cox Architecture, Project No. 222111.01)

Drawing number	Revision	Date	Drawing title
A-00-10	2	30/09/2024	Cover Sheet – Drawing Index
A-11-01	4	30/09/2024	Site Plan
A-20-01	5	30/09/2024	Ground Floor Plan - Zone B
A-20-03	4	30/09/2024	Roof Plan – Zone B

1.4 Limitations of Report

This report outlines the water and sewer requirements for the proposed Bega National Circularity Centre, to inform the application for a Water Management Act certificate of compliance.

This report outlines the proposed site plan and details the existing water and sewer infrastructure within the vicinity of the proposed project, including proposed connection points and sizing of infrastructure.

This report should not be relied upon as providing detailed information for construction purposes. This report has been produced based on the following available information:

- Supply Authority response to "Dial Before You Dig"
- Supply Authority response to Pressure and Flow Application
- Supply Authority responses to informal enquiries

It is likely that some services remain undocumented, and this report should not be used as a guarantee of all in-ground services in the vicinity.

2. Existing Services

Detailed ‘Dial Before You Dig’ drawings have been received, identifying the existing water and sewer services in and adjacent to the development site. The water and sewer mains available for connection have been outlined below.

2.1 Water

The existing water services available, shown in Figures 2-1 to 2-3, are summarised as follows:

- Bridge Street (North) – DN100 UPVC water main
- Anderson St – Size DN100 UPVC water main
- Ridge Street (South)- Bega Group Private water main. Size not available on the diagram- not available for connection based on Bega Operations Team advice.
- Bega Group Bore water supply- not available for connection based on Bega Operations Team advice.
- Lagoon Street – Size DN 200 water main serving factory fire water supply. Investigated and confirmed by Rob Nestorovic of Network Fire Solutions

2.2 Sewer

The existing sewer services, shown in Figure 2-3, are described as follows:

- Anderson St (shown a Lagoon Street (West) in Figure 2-3) – DN150 PVC-O Sewer main running north to south



Figure 2-1 Existing Bega Valley Shire Council Services Surrounding the Site (1)



Figure 2-2 Existing Bega Valley Shire Council Services Surrounding the Site (2)



Figure 2-3 Existing Bega Valley Shire Council Services Surrounding the Site (3)

3. Proposed Utility Connections

3.1 Water

A new water main connection will be required for the proposed site. A new connection from the Anderson Street main is proposed with a new utility site meter located on corner of Bridge St and Anderson St subject to council approvals and coordination with surrounding utilities.

The project is investigating water harvesting options for supply of both potable and non-potable water uses. This will be confirmed during the detail design stages.

We do not believe there is a need for amplification of the council water network as the mains appears to be adequately sized to serve the site's demand.

The total peak potable water demand using the Institute of Plumbing Design Guide loading unit method is not expected to exceed 0.8L/s.

3.1.1 Anticipated Fire Demand

Currently the maximum fire compartment size within the building exceeds 1000m². This will require two hydrants to flow simultaneously. According to AS2419.1 2021, the total hydrant flow requirement is 20 L/s.

No sprinklers are assumed to be required for the building based on building classification and size.

It is proposed to extend the existing 200mm water main along Lagoon St currently serving the Bega factory to furnish the fire flows for the NCC. The extension of the main to the site boundary will be completed by others. The feasibility of the connection is being investigated and is subject to validation of pressure and flow by on site testing.

3.2 Sewer

At this stage it is envisaged that sewerage from the development can discharge to the existing 150mm Sewer Main on Lagoon St. The sewer mains appears to be adequately sized to serve the site's demand and no amplification works is anticipated.

A new connection shall be made to serve the development.

The total peak sewer demand using the Institute of Plumbing Design Guide discharge unit method for a public building is not expected to exceed 5.12L/s.

Any grease trade waste generated on site shall be pre-treated in a grease arrestor prior to connecting to the site sewer system.

The grease arrestor shall be located in-ground local to the carpark to allow for access and maintenance.