



# Application for Planning Approval

## *Land Use Planning and Approvals Act 1993*

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APPLICATION NO.

**DA2024/226**

LOCATION OF AFFECTED AREA

**1 DYLAN STREET, BRIGHTON**

DESCRIPTION OF DEVELOPMENT PROPOSAL

**CHILDCARE CENTRE**

A COPY OF THE DEVELOPMENT APPLICATION MAY BE VIEWED AT [www.brighton.tas.gov.au](http://www.brighton.tas.gov.au) AND AT THE COUNCIL OFFICES, 1 TIVOLI ROAD, OLD BEACH, BETWEEN 8:15 A.M. AND 4:45 P.M, MONDAY TO FRIDAY OR VIA THE QR CODE BELOW. ANY PERSON MAY MAKE WRITTEN REPRESENTATIONS IN ACCORDANCE WITH S.57(5) OF THE LAND USE PLANNING AND APPROVALS ACT 1993 CONCERNING THIS APPLICATION UNTIL 4:45 P.M. ON **08/01/2026**. ADDRESSED TO THE CHIEF EXECUTIVE OFFICER AT 1 TIVOLI ROAD, OLD BEACH, 7017 OR BY EMAIL AT [development@brighton.tas.gov.au](mailto:development@brighton.tas.gov.au). REPRESENTATIONS SHOULD INCLUDE A DAYTIME TELEPHONE NUMBER TO ALLOW COUNCIL OFFICERS TO DISCUSS, IF NECESSARY, ANY MATTERS RAISED.

**JAMES DRYBURGH**  
**Chief Executive Officer**



**Brighton**  
going places

# BRIGHTON CHILDCARE

## DEVELOPMENT APPLICATION

1 DYLAN STREET BRIGHTON TAS 7030

FOR **Dourias MGH Pty Ltd**



ARTIST IMPRESSION ONLY

### DRAWING LIST

SHEET	DRAWING NAME
23114_DA-000...	COVERPAGE
23114_DA-010...	DESIGN INTENT
23114_DA-040...	SITE CONTEXT & ANALYSIS
23114_DA-041...	SITE PLAN
23114_DA-100...	SITE WORK
23114_DA-101...	CUT AND FILL PLAN
23114_DA-130...	FLOOR PLAN
23114_DA-200...	ELEVATIONS - 1
23114_DA-210...	ELEVATIONS - 2
23114_DA-220...	ELEVATIONS - 3
23114_DA-300...	SECTIONS
23114_DA-301...	SECTIONS
23114_DA-400...	BUILDING ENVELOPE
23114_DA-900...	MATERIALS & SIGNAGE
23114_DA-910...	PERSPECTIVES
23117_DA-920...	PERSPECTIVES

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**BRIGHTON CHILDCARE**  
1 DYLAN STREET BRIGHTON TAS 7030  
For **Dourias MGH Pty Ltd**

DA ISSUE

NOT FOR CONSTRUCTION

**COVERPAGE**

Project	Date	Scale	Page	Revision
23114	21/11/2025	NTS	23114_DA-000_H	



CONTEMPORARY DESIGN

NEUTRAL COLOUR AND VARIED TEXTURES



ENGAGING OUTDOOR PLAYSAPES



INDOOR AND OUTDOOR CONNECTION



DEEP VERANDAH TO PROVIDE SHADE



FEATURE SCREEN TO PROVIDE SHADE



LANDSCAPE BUFFER



**RPD**

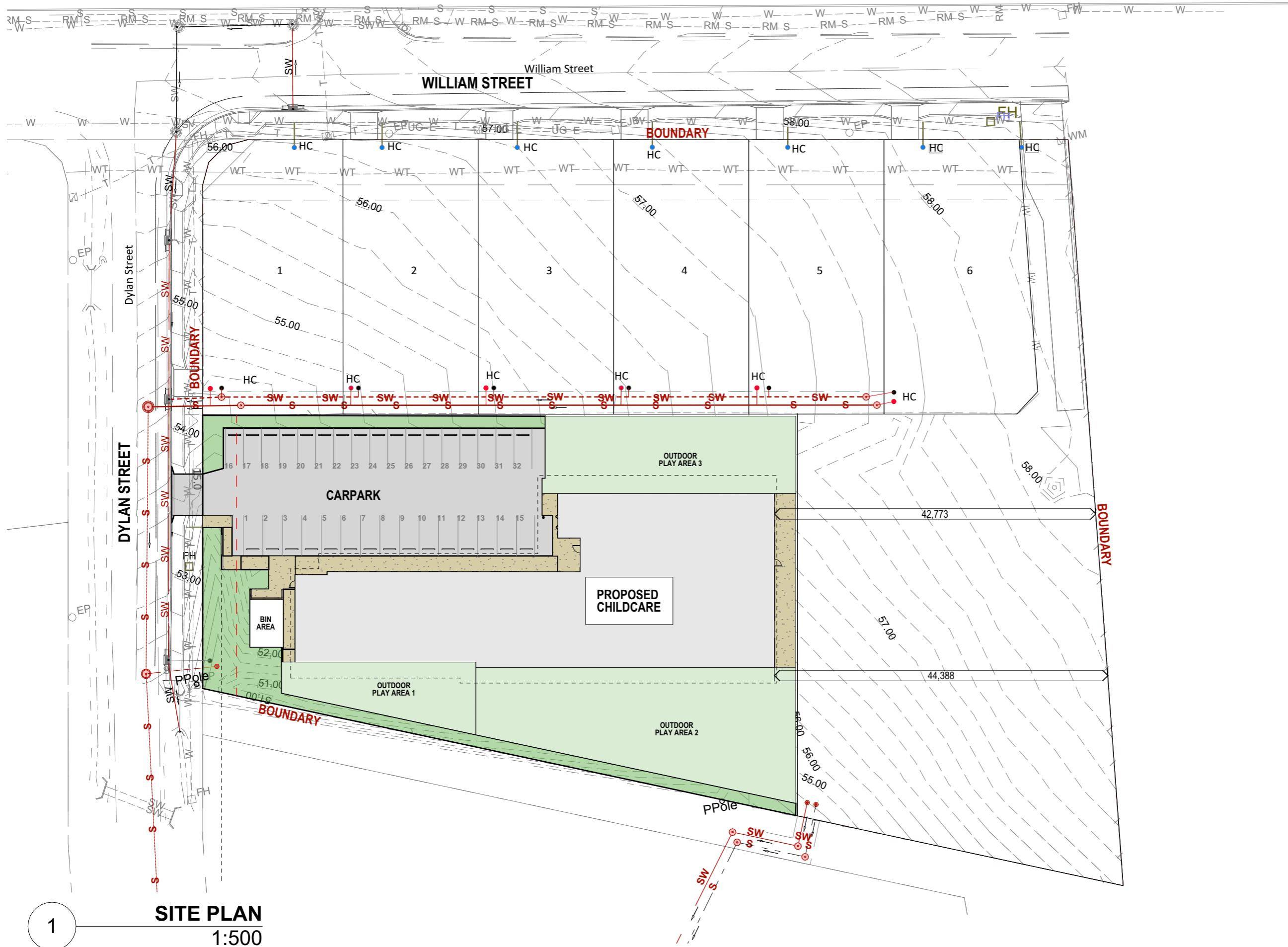
**LOT PLAN:**  
 LOT 1/143361  
 RP/SP2598990

**LOCAL AUTHORITY:**  
 Brighton

**SITE ADDRESS:**  
 1 DYLAN STREET BRIGHTON  
 TAS 7030

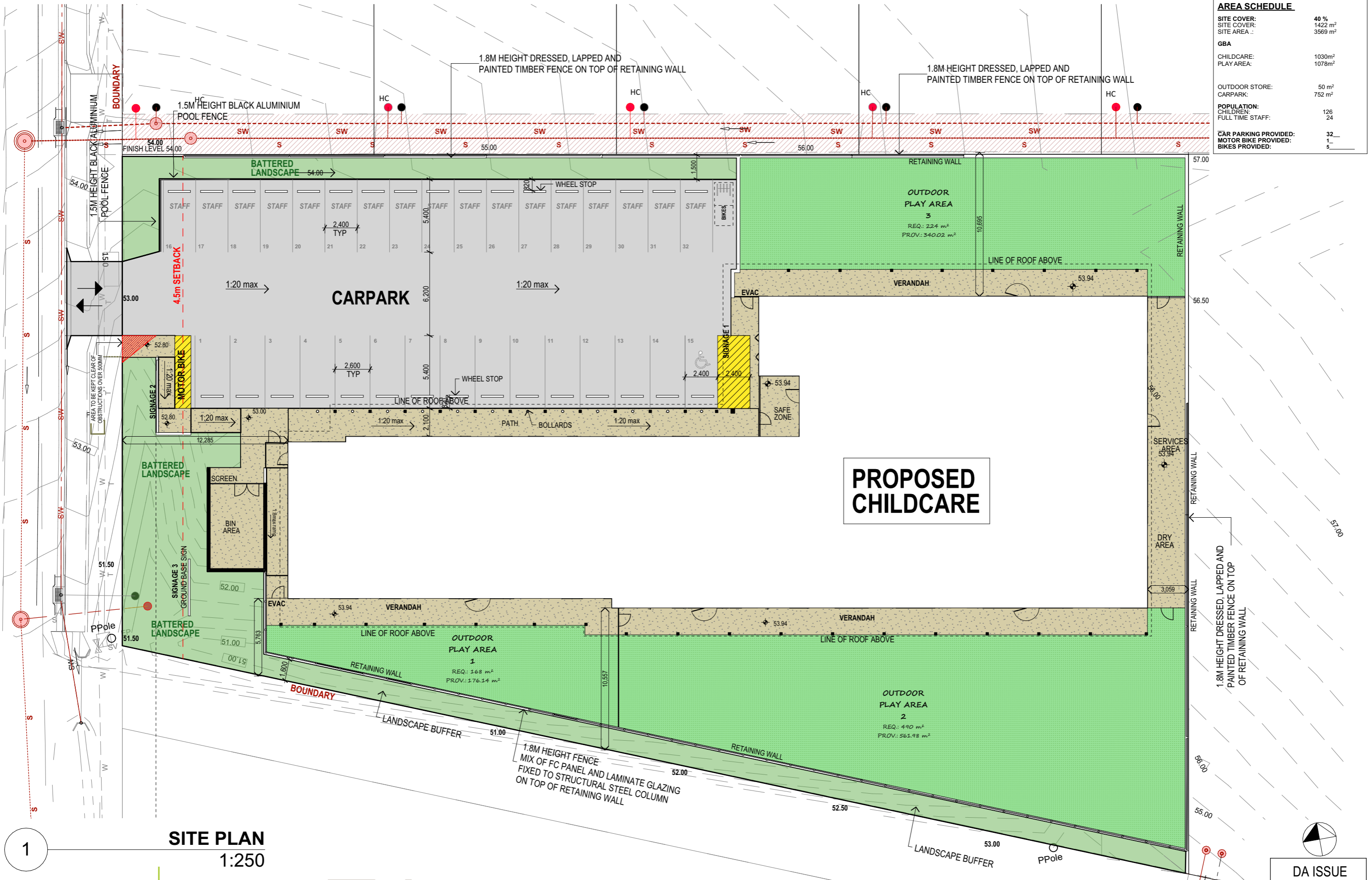
**1. SITE**  
 2. BRIGHTON CHILDCARE &  
 EARLY LEARNING CENTRE  
 3. BRIGHTON SWIM CENTRE  
 4. JORDAN RIVER LEARNING  
 FEDERATION SCHOOL FARM  
 5. BRIGHTON JUNIOR  
 SOCCER CLUB  
 6. BRIGHTON HIGH SCHOOL  
 7. RACECOURSE  
 8. BRIGHTON REGIONAL  
 DOCTORS  
 9. BRIGHTON HOTEL





1 **SITE PLAN**  
1:500

AREA SCHEDULE	
SITE COVER:	40 %
SITE COVER:	1422 m <sup>2</sup>
SITE AREA :	3569 m <sup>2</sup>
GBA	
CHILDCARE:	1030m <sup>2</sup>
PLAY AREA:	1078m <sup>2</sup>
OUTDOOR STORE:	
CARPARK:	50 m <sup>2</sup>
CARPARK:	752 m <sup>2</sup>
POPULATION:	
CHILDREN:	126
FULL TIME STAFF:	24
CAR PARKING PROVIDED:	
MOTOR BIKE PROVIDED:	32
BIKES PROVIDED:	1



**1** SITE PLAN  
1:250

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**FRANK RAUNIK**  
QLD 2843 NSW 11433 WA 3214 VIC 18521 TAS 1176 NZ 5972

Member  
Australian  
Institute of  
Architects

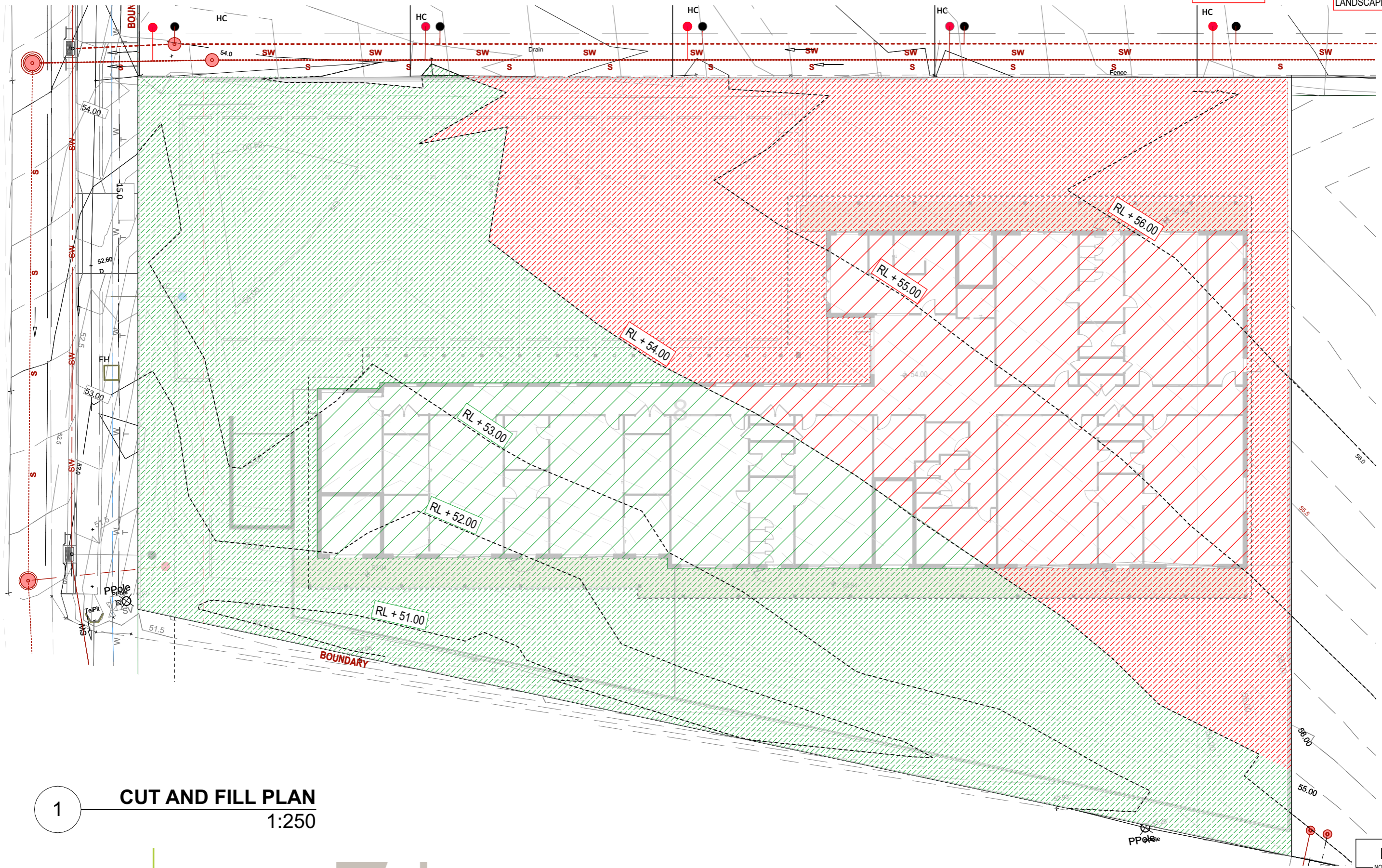
**BRIGHTON CHILDCARE**  
1 DYLAN STREET BRIGHTON TAS 7030  
For **Dourias MGH Pty Ltd**

BUILDING PAD  
FILL

FOOTPATHS, DRIVEWAY,  
CARPARK, PLAY AREAS &  
LANDSCAPE FILL

BUILDING PAD  
CUT

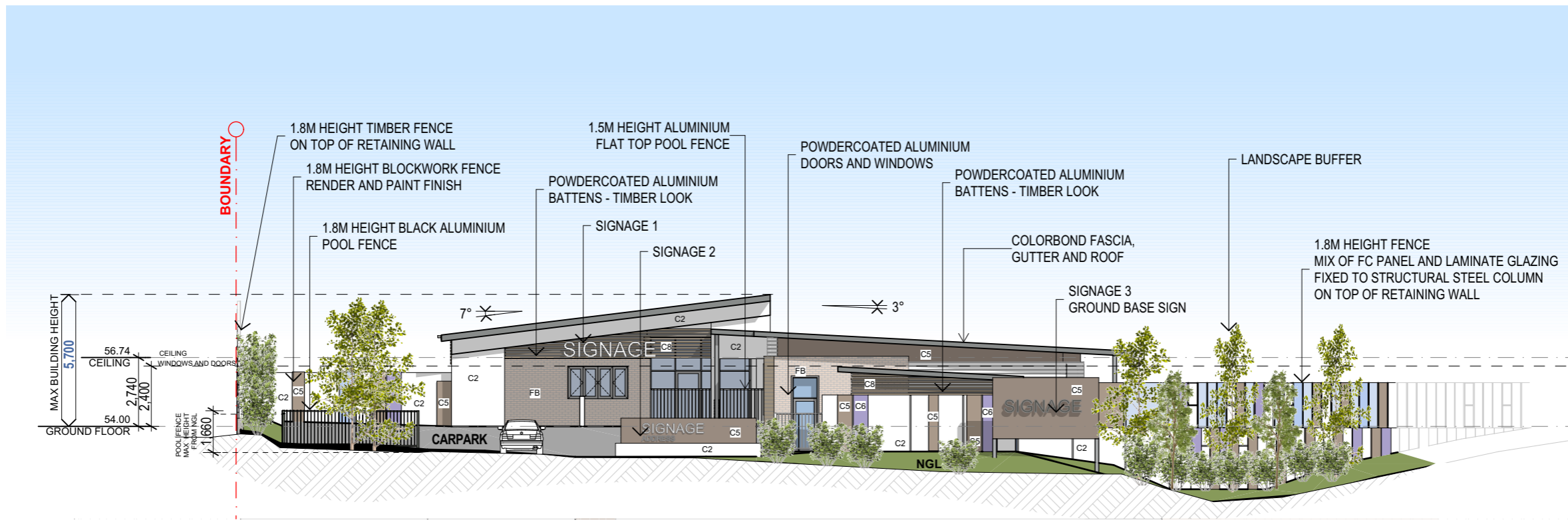
FOOTPATHS, DRIVEWAY,  
CARPARK, PLAY AREAS &  
LANDSCAPE CUT



1 CUT AND FILL PLAN  
1:250

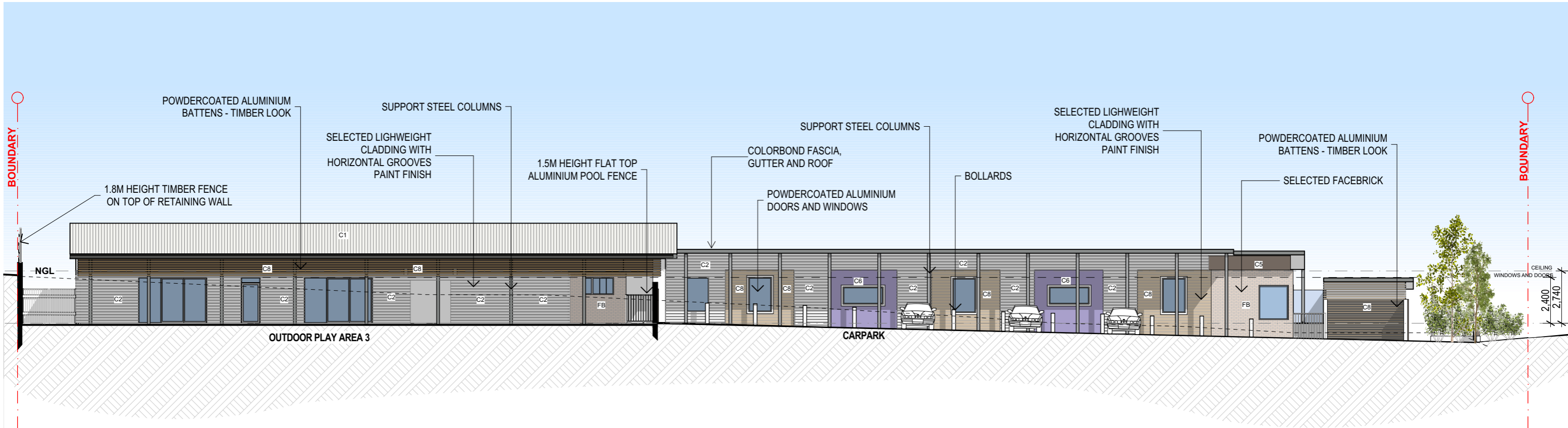


**1** **GROUND FLOOR**  
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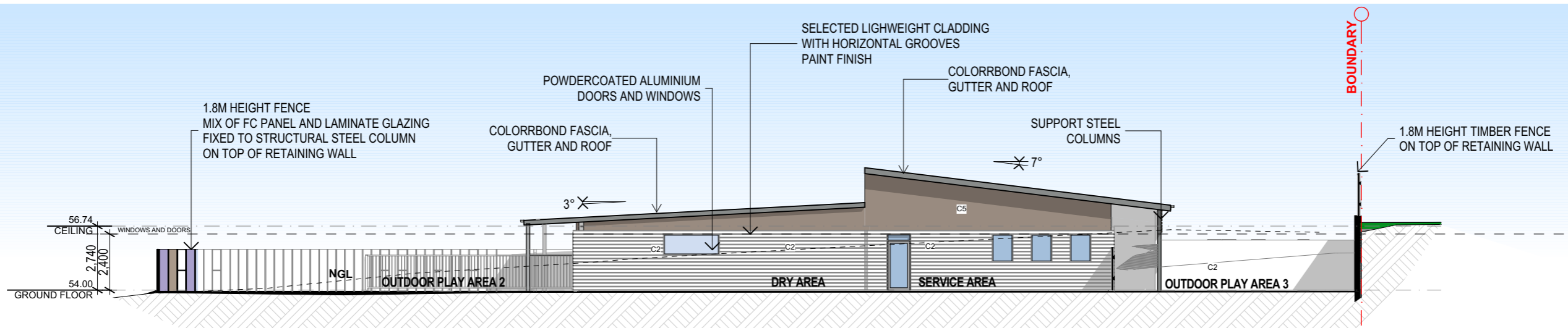
**WEST ELEVATION**  
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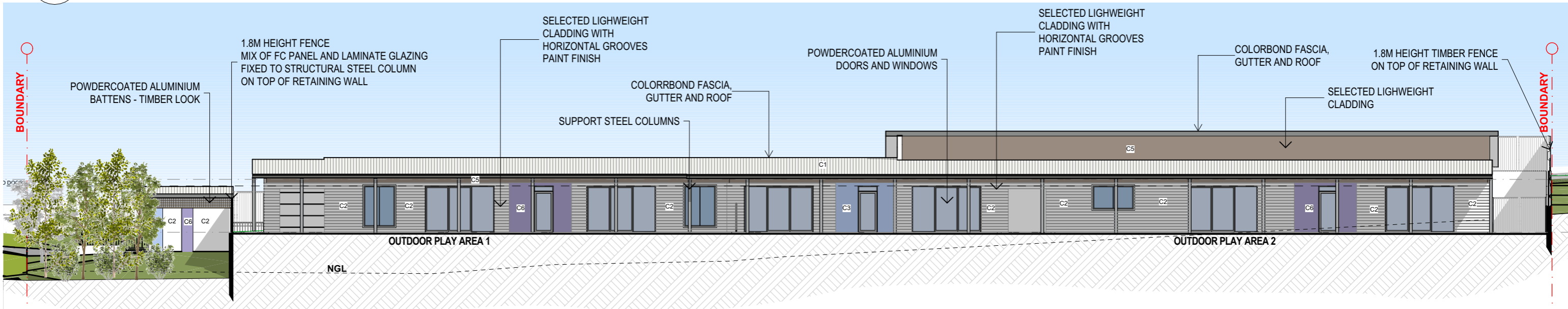
**NORTH ELEVATION**  
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2



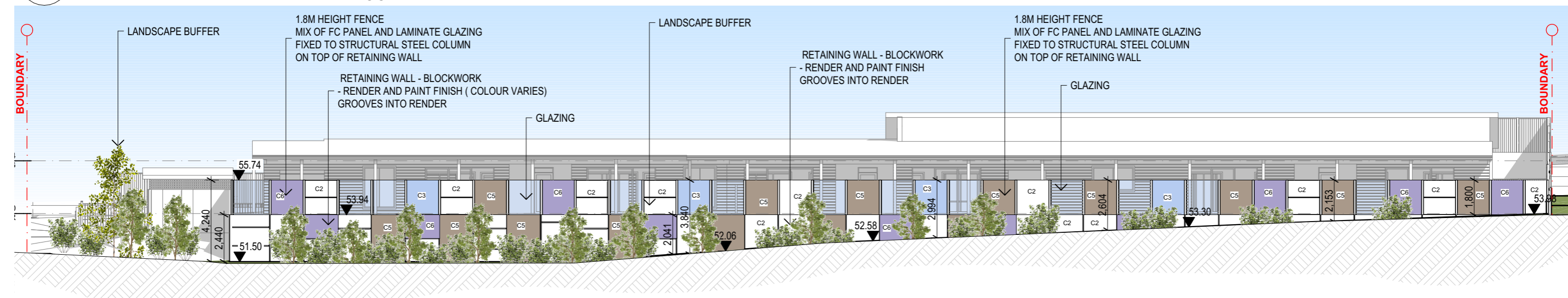
**EAST ELEVATION**  
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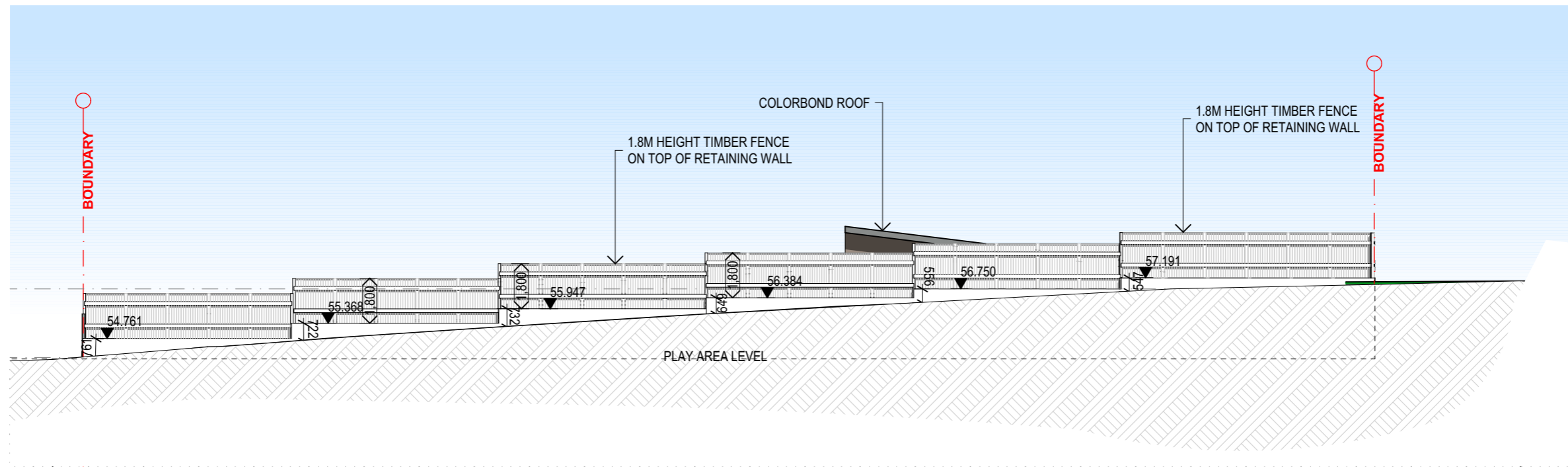
**SOUTH ELEVATION**  
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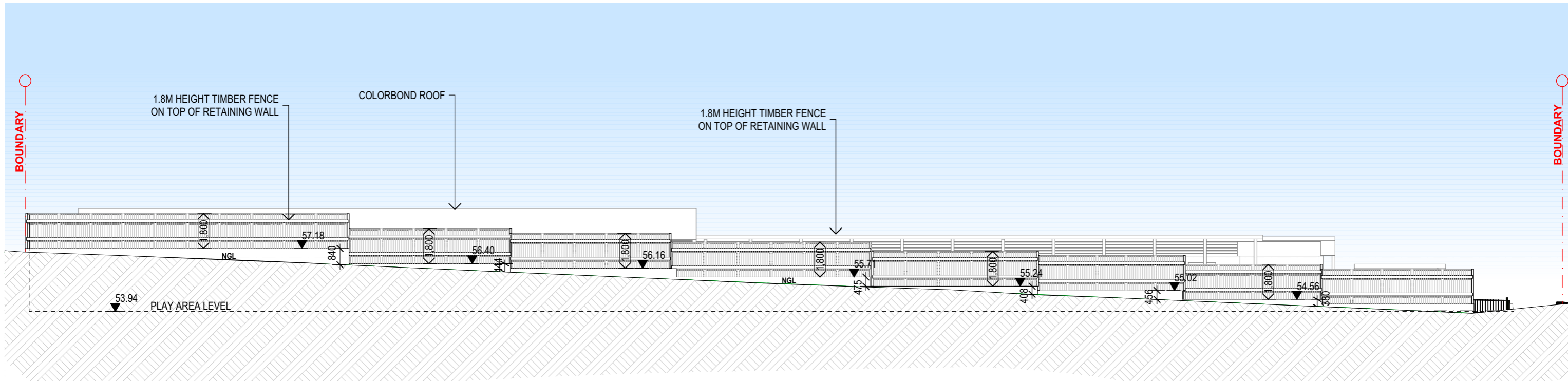
**SOUTH ELEVATION - FENCE**  
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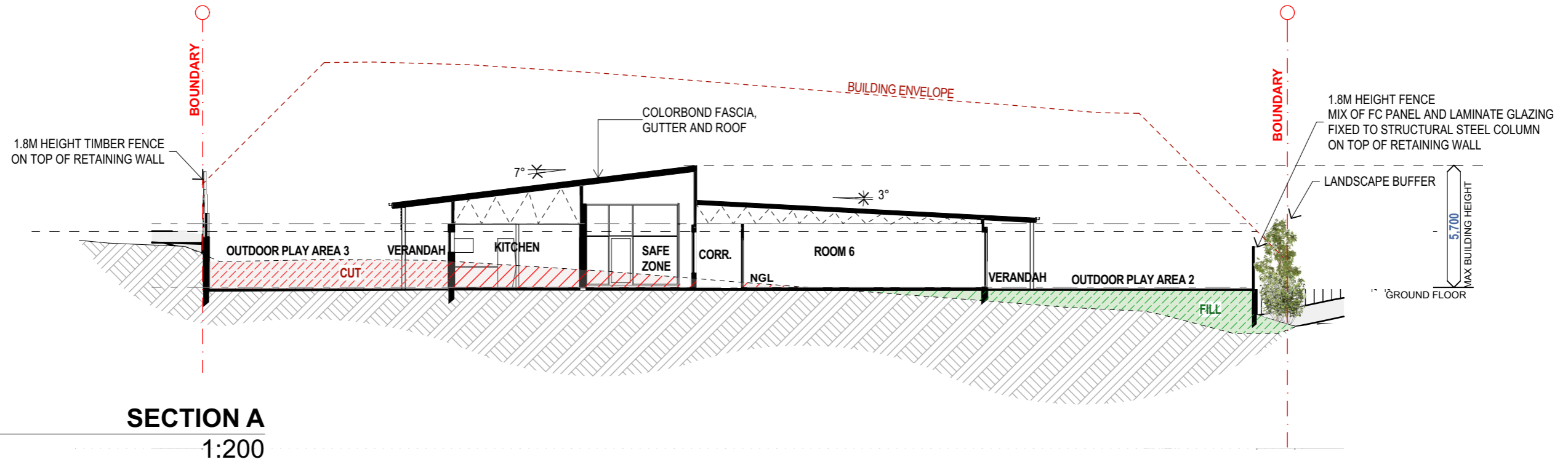
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**EAST ELEVATION -FENCE**  
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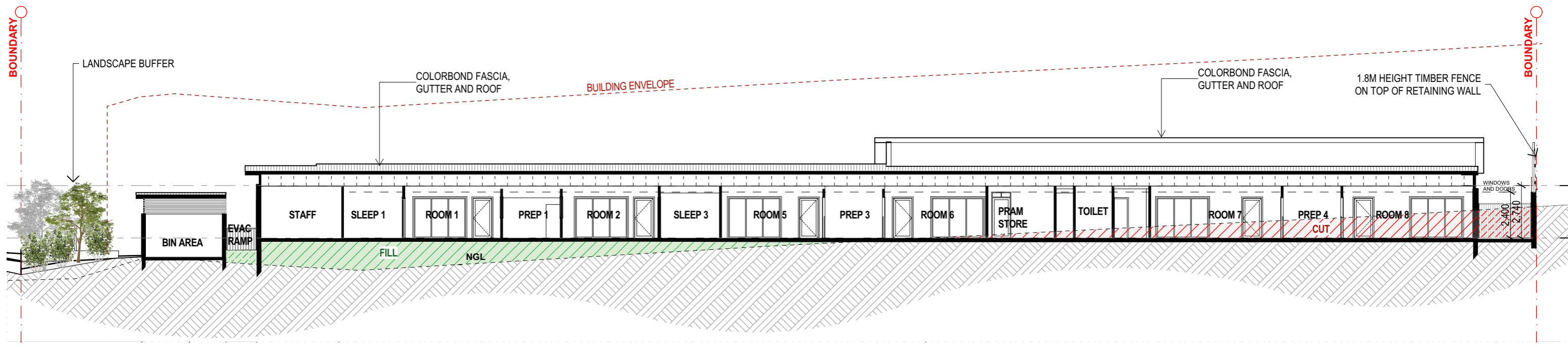


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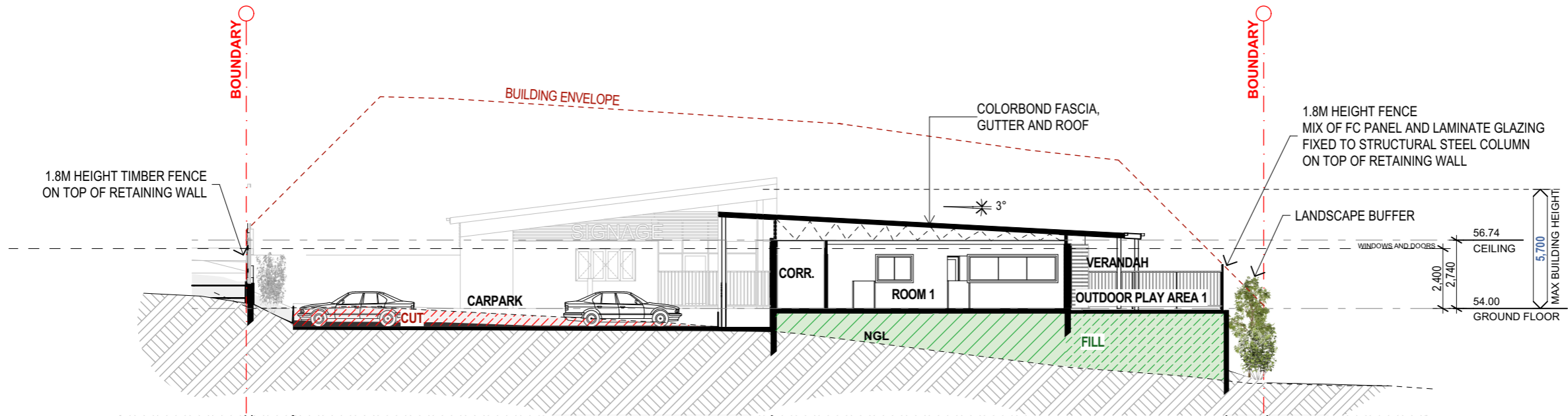
**NORTH ELEVATION -FENCE**  
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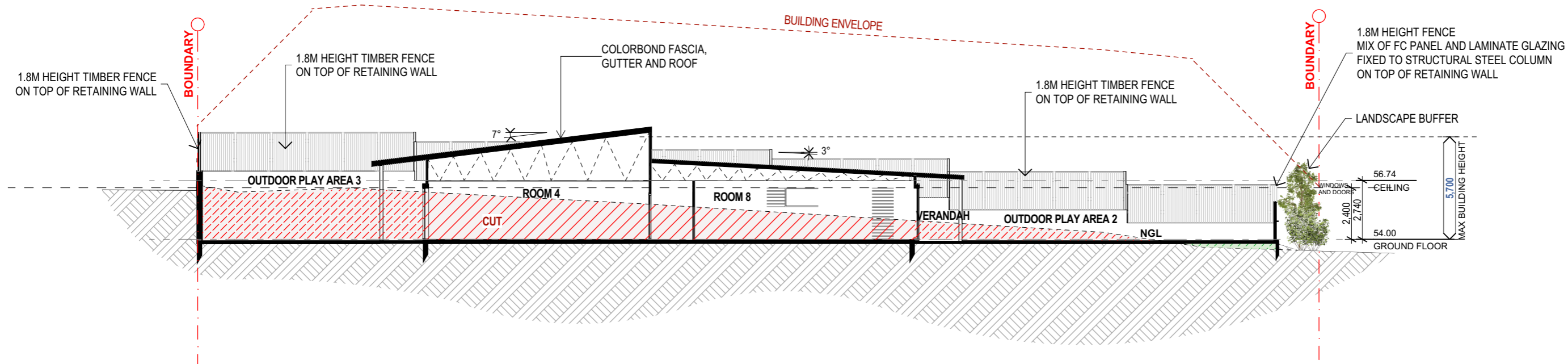
1 SECTION A  
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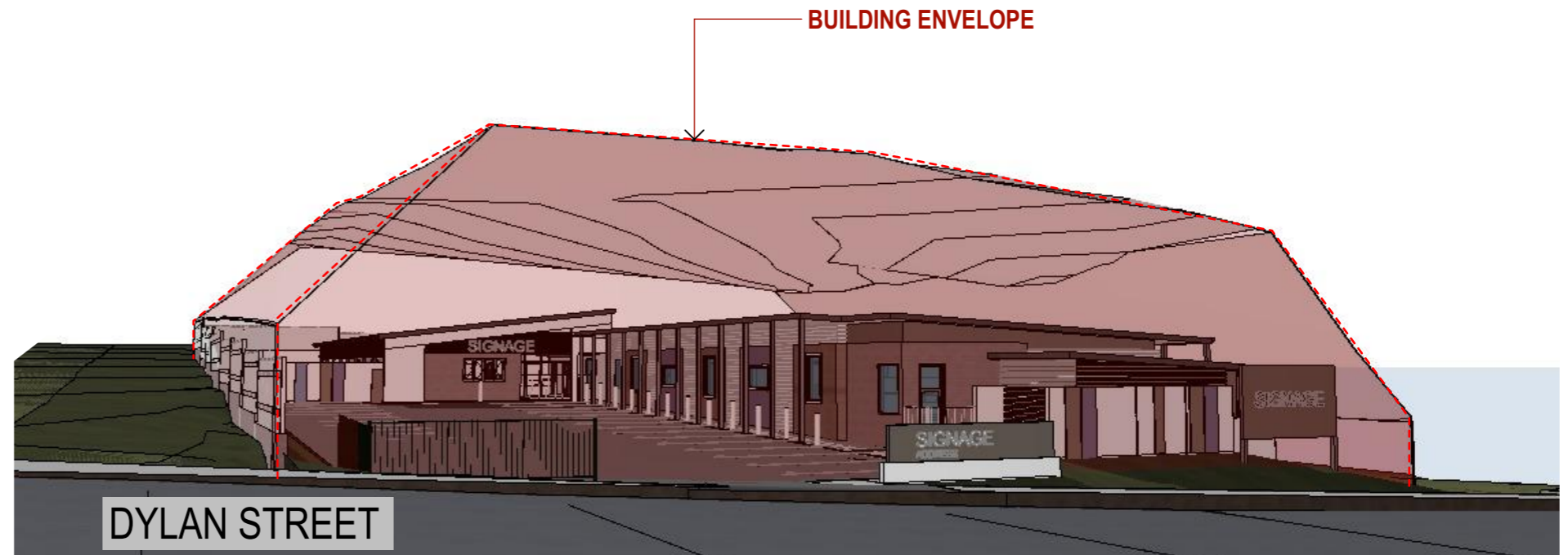
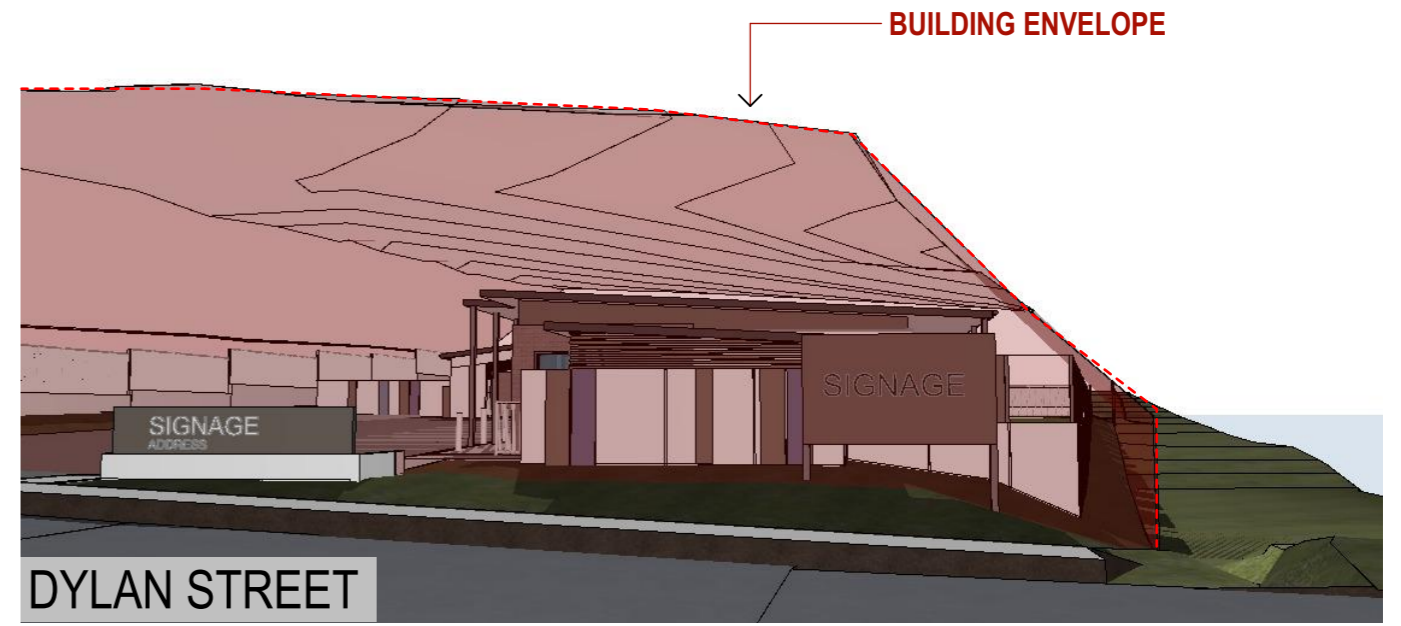
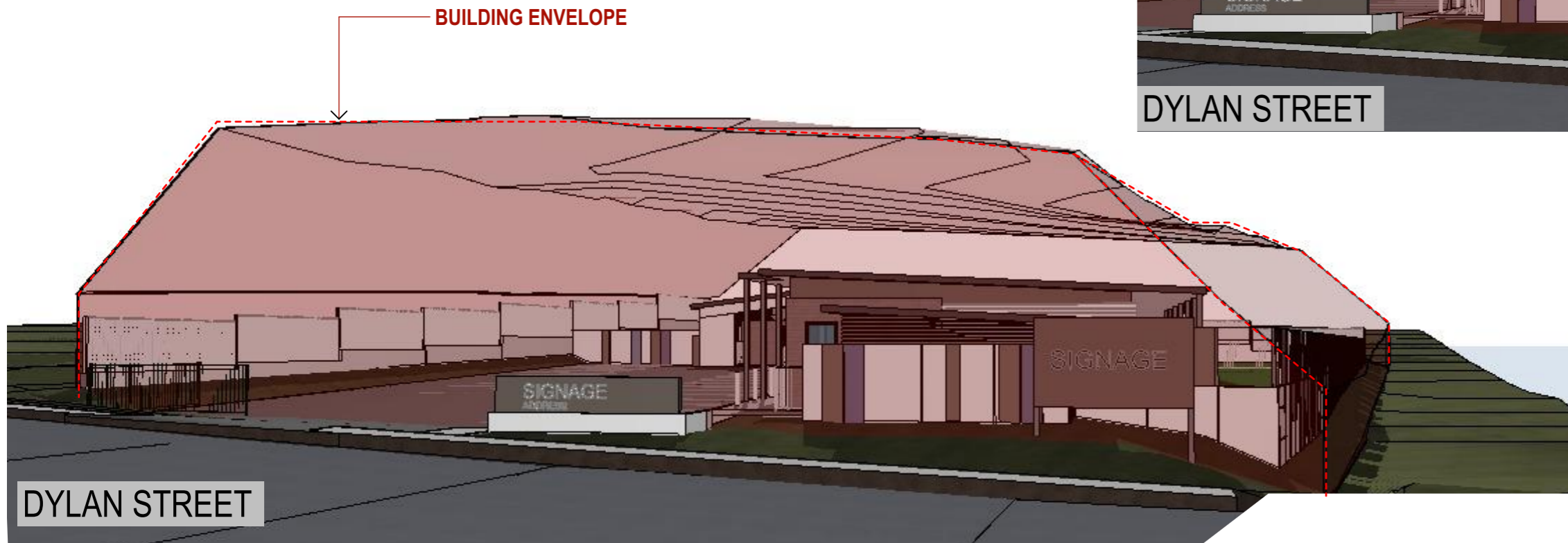
2 SECTION B  
1:200



1 SECTION C  
1:200



2 SECTION D  
1:200





**CHILDCARE ENTRY**  
ARTIST IMPRESSION ONLY



**PATH TO CHILDCARE ENTRY**  
ARTIST IMPRESSION ONLY



**VIEW FROM DYLAN STREET**  
ARTIST IMPRESSION ONLY



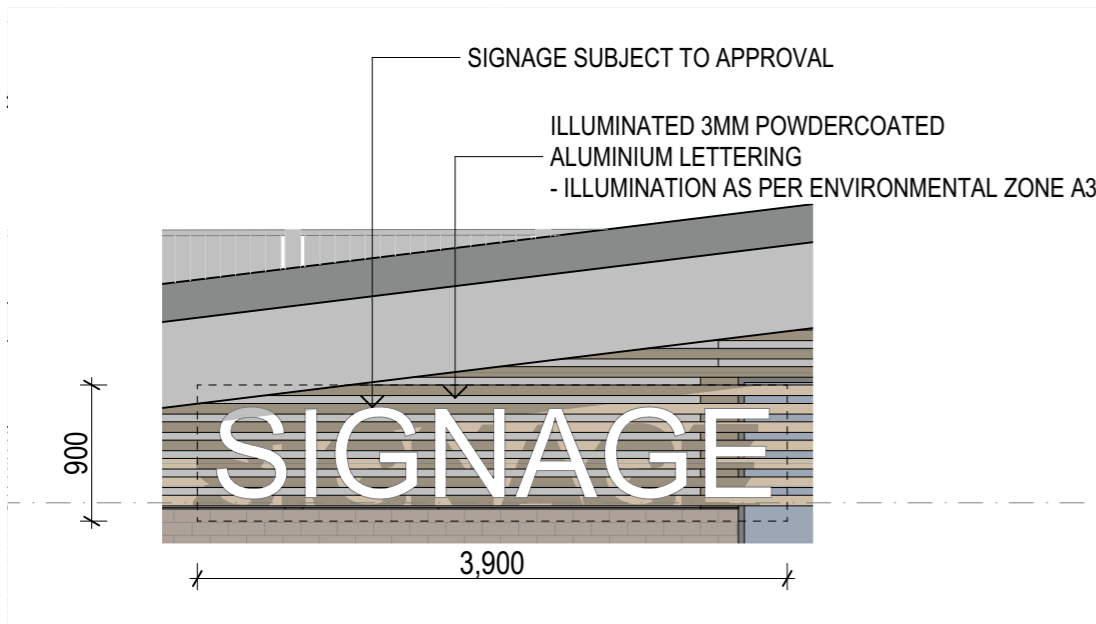
VIEW FROM DYLAN STREET  
ARTIST IMPRESSION ONLY



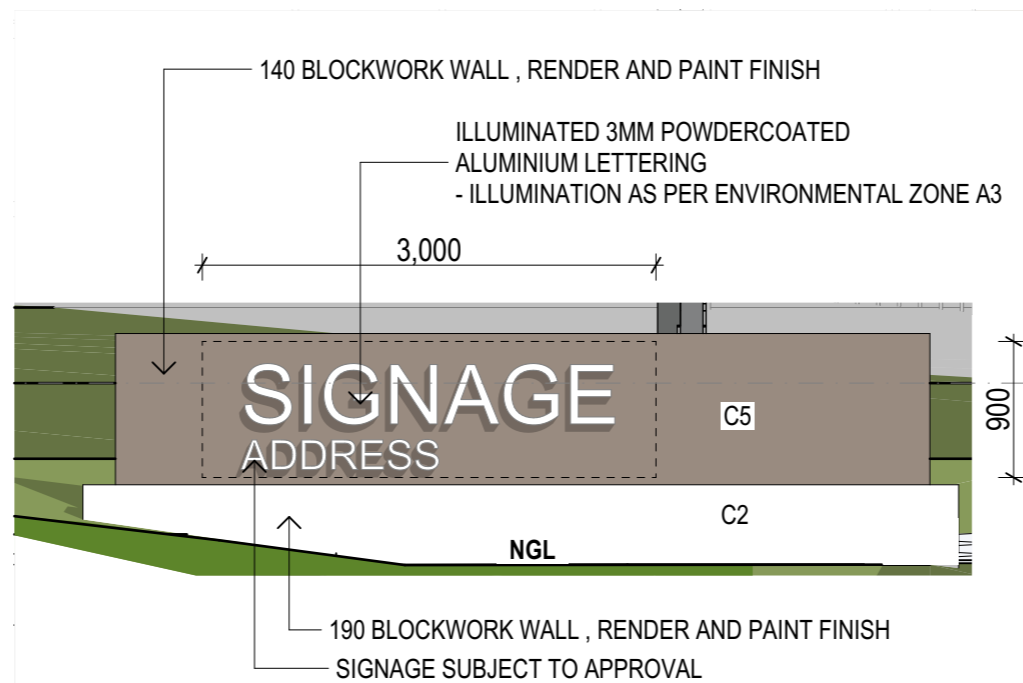
VIEW FROM DYLAN STREET  
ARTIST IMPRESSION ONLY



VIEW TO SOUTH BOUNDARY  
ARTIST IMPRESSION ONLY



1 **SIGNAGE 1**  
1:50

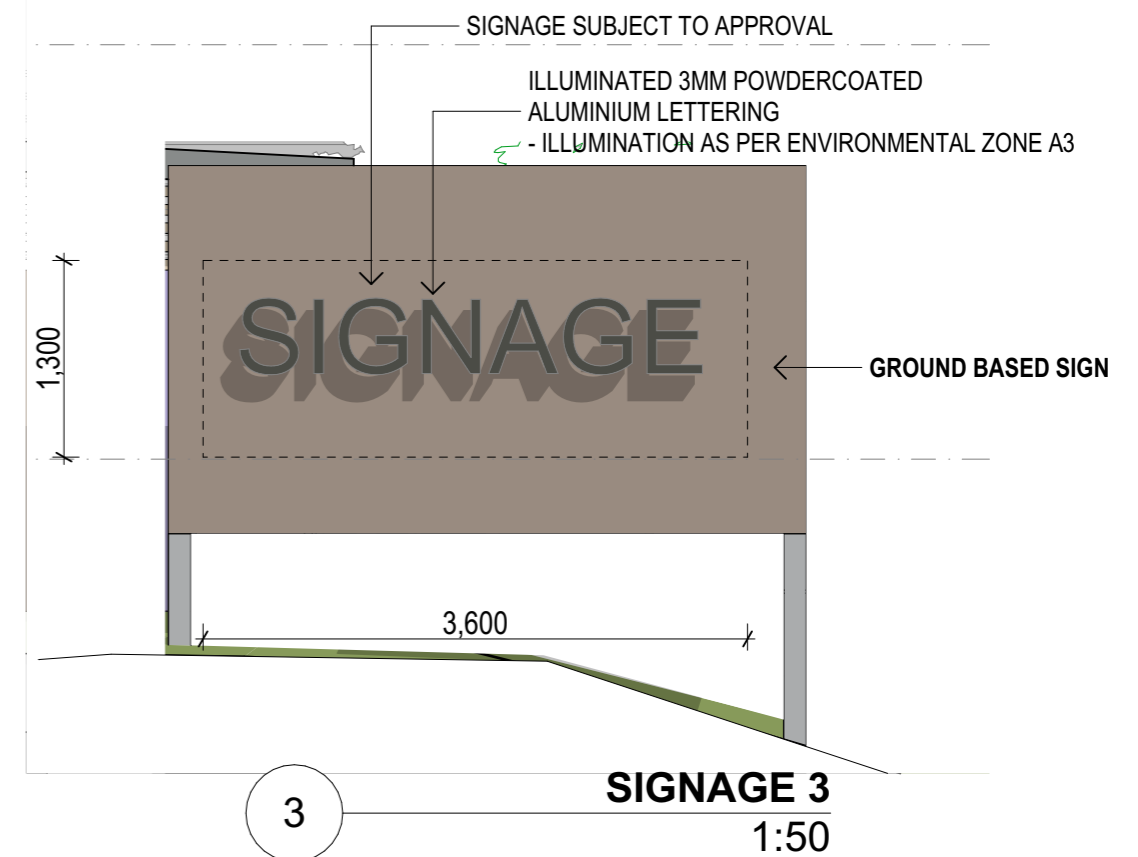
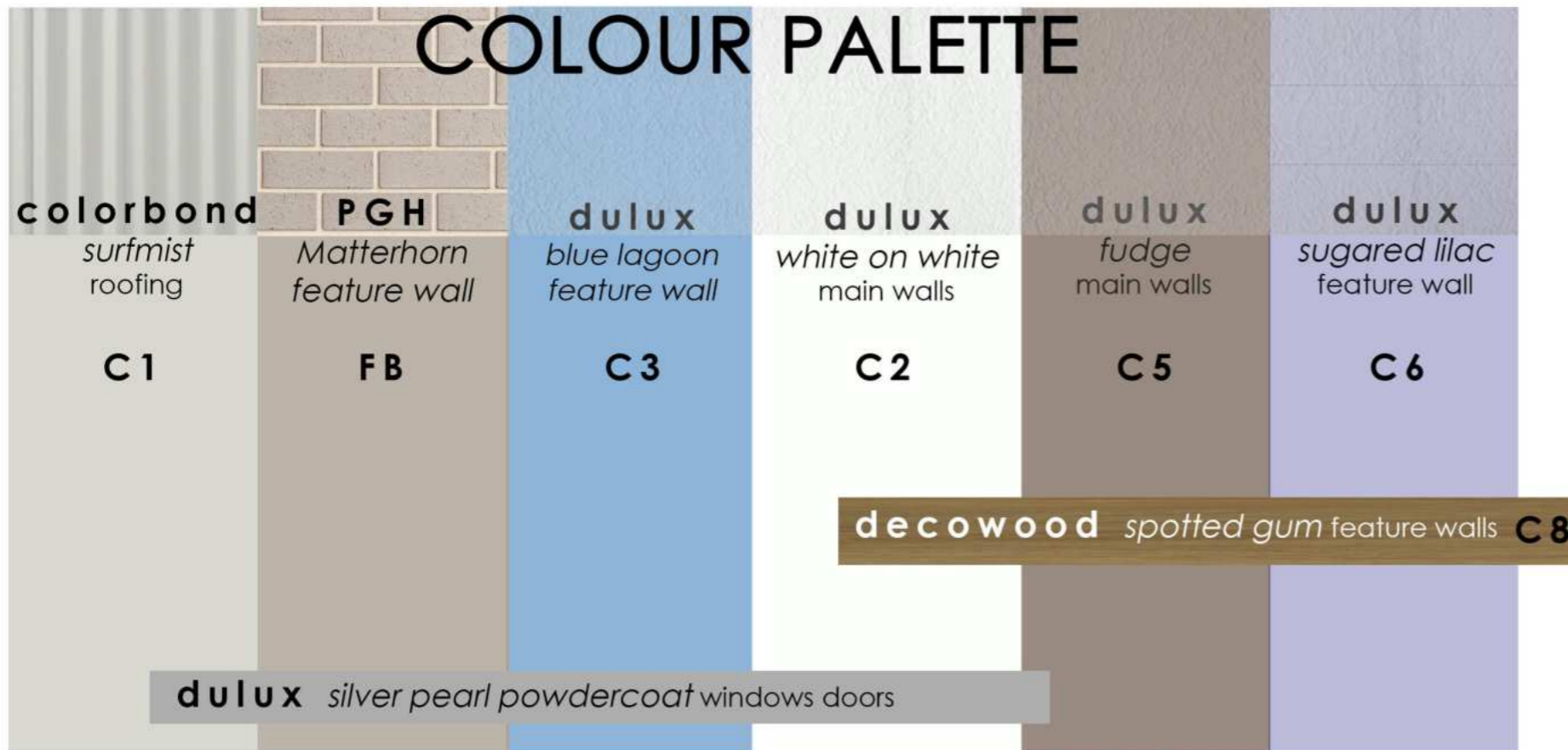


2 **SIGNAGE 2**  
1:50



**SIGNAGE 2**  
ARTIST IMPRESSION ONLY

## CHILDCARE CENTRE COLOUR PALETTE



3 **SIGNAGE 3**  
1:50

## PLANNING REPORT

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**To** Brighton Council - Planning Department

**From** Form Planning + Projects

**Date** 27<sup>th</sup> November 2025

**Reference** **Childcare Centre at 1 Dylan Street, Brighton**

**Subject** Written Assessment and Description for Application for a childcare centre at 1 Dylan Street, Brighton.

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### 1. Summary

Form Planning + Projects, has been engaged by Dourias MGH Pty Ltd to provide a written planning assessment and description of a proposal to construct a childcare centre with associated play areas and parking at 1 Dylan Street, Brighton.

The land at 1 Dylan Street has a planning permit (SA2015/00011) for an 8-lot subdivision which has substantially commenced. The proposed childcare centre will be located on Lot 8 of that subdivision. The below planning assessment has been prepared based on the current parent title and with regard to the future lot 8.

The proposed use and development requires a permit under the *Tasmanian Planning Scheme - Brighton* (Planning Scheme).

The following planning controls apply to the land:

- General Residential Zone;
- C1.0 Sign Code;
- C2.0 Parking and Sustainable Transport Code;
- C3.0 Road and Railway Assets Code;
- C13.0 Bushfire-Prone Areas Code ; and
- BRI-S11.0 South Brighton Specific Area Plan (SAP).

The development application relies on the performance criteria of the following provisions of the Planning Scheme:

- 8.2 Use Table;
- 8.3.1 Discretionary Uses P1, P3 and P4;
- C1.6.1 Design and siting of signs P1.1;
- C1.6.2 Illuminated signs P1
- C13.5.1 Vulnerable uses P1; and
- BRI-S11.7.1 Building and works P1

In addition to this planning report the following documentation are submitted as part of this Development Application:

- Signed DA form;
- Title;
- Architectural drawings;
- Approved Engineering Drawings for SA2015/00011;
- Traffic Impact Assessment;
- Bushfire Report;
- Servicing Plan

As outlined in the below report and supporting documentation, the proposal satisfies the relevant standards of the Planning Scheme and a permit should be issued.

## 2. Site Description

The proposed Childcare Centre will be located on a 10,190 square metre (sqm) lot at 1 Dylan Street, Brighton (CT143361/1) (See Figure 1). The subject site is located on the corner of Dylan Street and William Street and slopes downwards to the south-west corner.

The subject land has a planning permit (SA2015/00011) for an 8-lot subdivision which has substantially commenced. The proposed childcare centre will be generally contained within Lot 8 of that subdivision (See Figure 2). Engineering plans have been approved for the subdivision and a fence has been erected through the centre of the land along the boundary of lots 1-6 that face William Street. There has been no other development on the site to date.

The site has access to reticulated water, and reticulated sewer. There is currently no reticulated stormwater system in the area.



Figure 1: Aerial view of 1 Dylan Street (Source: ListMap)

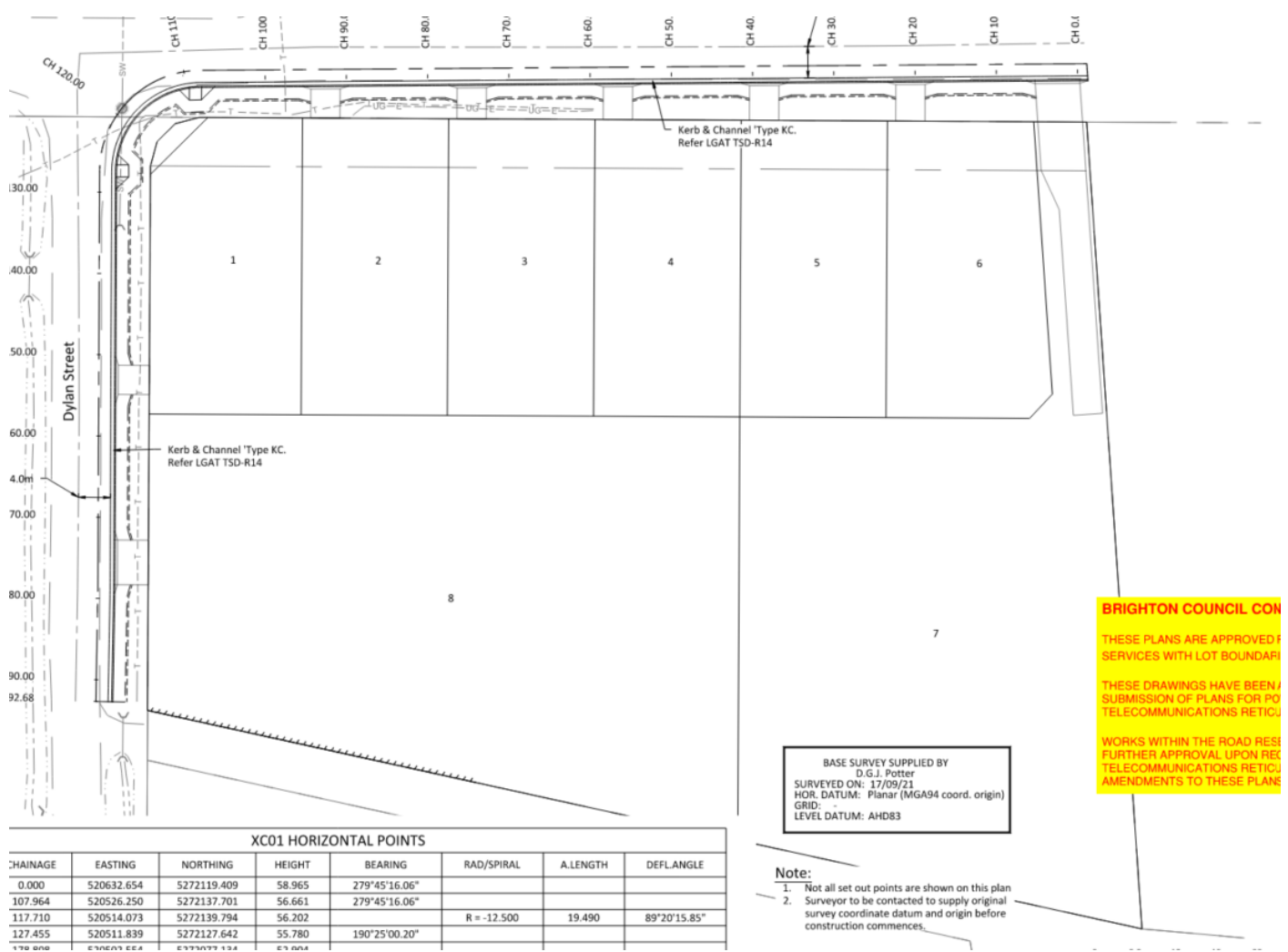


Figure 2: Approved subdivision layout. Proposed childcare centre to be located within lot 8.

### 3. Description of Proposal

The proposal is to develop a childcare centre on future lot 8 of subdivision approval SA2015/00011. The proposal plans are provided at Attachment 1 and includes:

- Childcare building – 1030 sqm
- Play area – 1078 sqm
- Outdoor storage area – 50 sqm
- Car park – 752 sqm
- 3 x signs.

The childcare centre is a single storey building with a covered verandah along the north and south facades. The development is landscaped along all boundaries except the rear boundary. The site will be levelled as per the “Cut and Fill Plan”, with retaining walls located on the north, east and southern boundaries. 1.8m high fences will be located on each of these retaining walls.

Access to the car park will be from Dylan Street. The car park has a total of 32 spaces. Seventeen (17) parking spaces will be allocated to staff and fifteen (15) parking spaces will be available for pick-up/drop-off for parents and visitors, including one disability parking space. One (1) motorcycle parking space and five (5) bike parking spaces are provided. A pedestrian path is provided between Dylan Street and the entrance.

The childcare centre has capacity for 126 children and will have up-to 32 full-time staff and will operate Monday to Friday from 6.30am to 6.30pm.

The childcare centre includes:

- 8 rooms for childcare and associated toilets and sleep area;
- Kitchen facilities;
- Reception area;
- Staff room;
- Laundry; and
- Storage areas.

To accommodate the proposed development the eastern boundary of lot 8 will need to extend by 5.2m beyond what was previously approved. Council staff have indicated that the small extension to the eastern boundary of lot 8 is considered “substantially in accordance” with the approval. The minor extension of this boundary can be considered as part of the minor amendment application for the changes to the services (for the subdivision) that is currently with the Brighton Council.

The proposed retaining wall along the southern boundary of the site (boundary with 3 Dylan Street) is setback 1.6m from the boundary. The fence shown on top of the wall will be setback slightly from the top of the retaining wall.

There are overhead powerlines on 3 Dylan Street (the poles are located within the 3 Dylan Street access strip). The Applicant is aware of advice provided by TasNetworks that a separation distance of at least 1.5m from the top of the fence to the overhead lines is required and that trees/shrubs planted along the southern boundary ought to be species that have a growth height of less than 3m. All of which is achievable and can be resolved prior to an application for a Building Permit and once detailed design is progressed.

## 4. Planning Controls

The land is subject to the *Tasmanian Planning Scheme – Brighton* (the Planning Scheme) and the applicable controls are outlined below.

### 4.1 Zoning

The subject site is within the General Residential Zone on the Planning Scheme maps (see Figure 3):



Figure 3: The land is entirely within the General Residential Zone (Source: theLIST Mapping Services)

## 4.2 Mapped overlays

The proposed Use and Development is subject to the following mapped and unmapped Codes:

- C1.0 Sign Code
- C2.0 Parking and Sustainable Transport Code
- C3.0 Road and Railway Assets Code
- C13.0 Bushfire-Prone Areas Code (see Figure 4); and
- BRI-S11.0 South Brighton Specific Area Plan (SAP) (see Figure 5).

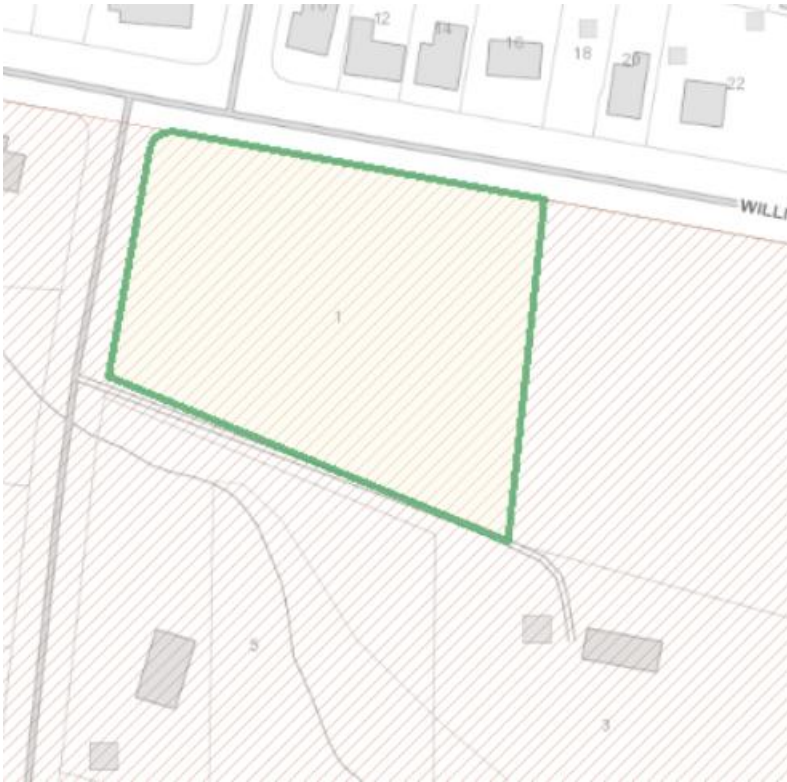


Figure 4: Bushfire Prone areas code applies to the entire site (Source: theLIST Mapping Services)



Figure 5: The South Brighton SAP applies to the entire site (Source: theLIST Mapping Services)

## 5. Planning Assessment

The below planning assessment refers to only the relevant standards within the Planning Scheme. An assessment is provided below each standard. For ease of use, a standard that satisfies the Acceptable Solution is coloured green and a standard that requires assessment against a Performance Criteria is coloured orange.

### 5.1 General Residential Zone (GRZ) Standards

#### Use Table (8.2)

The application is for a Childcare Centre which is categorised as an “Education and Occasional Care” use under clause 6.2 of the Planning Scheme:

Educational and Occasional Care	<u>use of land</u> for educational or short-term care purposes. Examples include a <b>childcare centre</b> , <u>day respite centre</u> , <u>employment training centre</u> , kindergarten, primary school, secondary school and tertiary institution.
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Educational and Occasional Care (Childcare Centre) is a discretionary use in clause 8.2 Use Table.

A Childcare Centre is consistent with the GRZ Zone Purpose, particularly clause 8.1.3:

To provide for non-residential use that:

- (a) *primarily serves the local community; and*
- (b) *does not cause an unreasonable loss of amenity through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off site impacts.*

#### Use Standards

##### 8.3.1 Discretionary uses

<b>Objective:</b>	That Discretionary uses do not cause an unreasonable loss of <u>amenity</u> to <u>adjacent</u> sensitive uses.
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<b>A1</b> <u>Hours of operation</u> of a <u>use</u> listed as Discretionary, excluding Emergency Services, must be within the hours of 8.00am to 6.00pm.	<b>P1</b> <u>Hours of operation</u> of a <u>use</u> listed as Discretionary, excluding Emergency Services, must not cause an unreasonable loss of <u>amenity</u> to <u>adjacent</u> sensitive uses, having regard to:  (a) the timing, duration or extent of vehicle movements; and  (b) noise, lighting or other emissions.
<b>Assessment:</b>	
The proposed operating hours are 6.30am to 6.30pm Monday to Friday and do not satisfy A1.	
The proposed Childcare Centre will not cause an unreasonable loss of amenity to adjacent sensitive uses as it will be contained to only a small proportion of users arriving at the centre prior to 8am or after 6pm. Table 4.1 from the supporting TIA shows that only 9 staff will arrive prior to 8am and only 5 staff will leave after 6pm on a typical day	

(See Figure 3) There will be some additional traffic movements for pick up/drop/off children, however these will be minimal as staffing levels are proportionate to the number of children on-site. The site is fenced and screened by vegetation which will reduce any amenity impacts on adjoining properties.

Table 4.1 – Number of employees arriving and leaving during a typical day

Time	Number of staff arriving	Number of staff leaving	Total number of staff on site
6:30 – 7:00am	3		3
7:00 – 8:00am	6		9
8:00 – 9:00am	8		17
9:00 – 10:00am	10		27
10:00 – 11:00am	5		32
2:00 – 3:00pm		3	29
3:00 – 4:00pm		7	22
4:00 – 5:00pm		9	13
5:00 – 6:00pm		8	5
6:00 – 7:00pm		5	0
<b>Total</b>	<b>32</b>	<b>32</b>	

Figure 3: Number of employees arriving and leaving during a typical day (Source: TIA, Hubble Traffic)

<p><b>A2</b></p> <p>External lighting for a <u>use</u> listed as Discretionary:</p> <p>(a) must not operate within the hours of 7.00pm to 7.00am, excluding any security lighting; and</p> <p>(b) security lighting must be baffled to ensure direct light does not extend into the <u>adjoining</u> property.</p>	<p><b>P2</b></p> <p>External lighting for a <u>use</u> listed as Discretionary, must not cause an unreasonable loss of <u>amenity</u> to <u>adjacent</u> sensitive uses, having regard to:</p> <p>(a) the number of proposed light sources and their intensity;</p> <p>(b) the location of the proposed light sources;</p> <p>(c) the topography of the <u>site</u>; and</p> <p>(d) any existing light sources.</p>
<p><b>Assessment:</b></p> <p>No external lighting will be provided except for baffled security lighting. The lighting will be provided in the verandas to assist with night-time pack up and car park areas to provide safe access to cars.</p> <p>The proposal satisfies A2.</p>	
<p><b>A3</b></p> <p>Commercial vehicle movements and the unloading and loading of commercial vehicles for a <u>use</u> listed as</p>	<p><b>P3</b></p> <p>Commercial vehicle movements and the unloading and loading of commercial vehicles for a <u>use</u> listed as Discretionary, excluding Emergency Services, must not</p>

<p>Discretionary, excluding Emergency Services, must be within the hours of:</p> <p>(a) 7:00am to 7:00pm Monday to Friday;</p> <p>(b) 9:00am to 12 noon Saturday; and</p> <p>(c) nil on Sunday and public holidays.</p>	<p>cause an unreasonable loss of <u>amenity</u> to <u>adjacent</u> sensitive uses, having regard to:</p> <p>(a) the time and duration of commercial vehicle movements;</p> <p>(b) the number and frequency of commercial vehicle movements;</p> <p>(c) the size of commercial vehicles involved;</p> <p>(d) manoeuvring required by the commercial vehicles, including the amount of reversing and associated warning noise;</p> <p>(e) any existing or proposed noise mitigation measures between the vehicle movement areas and <u>sensitive use</u>;</p> <p>(f) potential conflicts with other traffic; and</p> <p>(g) existing levels of <u>amenity</u>.</p>
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#### Assessment

Some commercial vehicle movements are likely to be outside the times in A3(a).

Commercial vehicle movements will be for general supply vehicles (food items, cleaning and toiletries) and will generally be no bigger than a supermarket home delivery trucks. Occasionally these movements will be prior to 7am. Due to the size of the vehicles and frequency of the deliveries there will be no unreasonable impact on amenity of adjoining sensitive uses.

Waste collection will be made through a private contractor and will occur outside of the operational hours. The reason is to avoid truck movements in a carpark area during operational hours that may be a risk to children/families using the carpark and centre. The waste collection is considered outside of the operating hours is considered a normal part of urban life and the collection will be quickly made by the contractor.

The proposal satisfies P3.

<p><b>A4</b></p> <p>No Acceptable Solution.</p>	<p><b>P4</b></p> <p>A <u>use</u> listed as Discretionary must not cause an unreasonable loss of <u>amenity</u> to <u>adjacent</u> sensitive uses, having regard to:</p> <p>(a) the intensity and scale of the <u>use</u>;</p> <p>(b) the emissions generated by the <u>use</u>;</p> <p>(c) the type and intensity of traffic generated by the <u>use</u>;</p> <p>(d) the impact on the character of the area; and</p>
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(e) the need for the use in that location.

**Assessment:**

The proposed childcare centre is of a similar scale and intensity to other child care centres located in residential areas across Greater Hobart. Below are three examples of other childcare centres that are located in General Residential Zones with adjoining residential uses. Each of the below examples are similar to the Brighton proposal. They are conveniently located near a key transit corridor and a local shopping area. Each of the examples below are on smaller sites.

The emissions generated by the use will be generally in relation to children playing outside that can be found in residential areas anywhere.

The centre has the capacity for 126 children, although it is unlikely to be at capacity each day. As with many childcare centres, children will be dropped off and picked up by parents at irregular intervals throughout the day to fit in with their daily routines. Some children will be dropped off early/late as their parents travel to work, others during school start/finish times and others throughout the day.

The proposed childcare centre is a single storey building with generous setback and landscaping on all boundaries and will have minimal impact on the character of the area. It should also be noted that the surrounding area has only recently been rezoned to General Residential Zone and the character of the area will change significantly over the coming years.

The proposed childcare centre is conveniently located near Brighton Road, the Brighton commercial strip and Brighton Industrial Hub. It will be convenient for users to visit the site close to the Brighton township.

**Similar examples across Greater Hobart include:**

Kids Club Child Care Oakdowns Centre, 4 Millview Drive, Oakdowns:



Childs Play Early Learning Centre, 1 Rowitta Rd, Lindisfarne



Kingston Beach Early Learning Centre, Kingston.



## Development Standards

### 8.5 Development Standards for Non-dwellings

#### 8.5.1 Non-dwelling development

<p><b>Objective:</b></p>	<p>That all non-dwelling <u>development</u>:</p> <p>(a) is compatible with the character, siting, apparent scale, bulk, massing and proportion of residential <u>development</u>; and</p> <p>(b) does not cause an unreasonable loss of <u>amenity</u> on <u>adjoining</u> residential properties.</p>
<p><b>Acceptable Solutions</b></p>	<p><b>Performance Criteria</b></p>
<p><b>A1</b></p> <p>A <u>building</u> that is not a <u>dwelling</u>, excluding for Food Services, <u>local shop</u>, garage or carport, and protrusions that extend not more than 0.9m into the <u>frontage setback</u>, must have a <u>setback</u> from a <u>frontage</u> that is:</p> <p>(a) if the <u>frontage</u> is a <u>primary frontage</u>, not less than 4.5m, or if the <u>setback</u> from the <u>primary frontage</u> is less than 4.5m, not less than</p>	<p><b>P1</b></p> <p>A <u>building</u> that is not a <u>dwelling</u>, excluding for Food Services and <u>local shop</u>, must have a <u>setback</u> from a <u>frontage</u> that is compatible with the <u>streetscape</u>, having regard to any topographical constraints.</p>

<p>the <u>setback</u>, from the <u>primary frontage</u>, of any existing <u>dwelling</u> on the <u>site</u>;</p> <p>(b) if the <u>frontage</u> is not a <u>primary frontage</u>, not less than 3.0m, or if the <u>setback</u> from the <u>primary frontage</u> is less than 3.0m, not less than the <u>setback</u>, from the <u>primary frontage</u>, of any existing <u>dwelling</u> on the <u>site</u>;</p> <p>or</p> <p>(c) if for a vacant <u>site</u> and there are existing dwellings on <u>adjoining</u> properties on the same street, not more than the greater, or less than the lesser, <u>setback</u> for the equivalent <u>frontage</u> of the dwellings on the <u>adjoining</u> properties on the same street.</p>	
<p><b>Assessment</b></p> <p>The front setback exceeds the 4.5m requirement and satisfies A1.</p>	
<p><b>A2</b></p> <p>A <u>building</u> that is not a <u>dwelling</u>, excluding outbuildings with a <u>building height</u> of not more than 2.4m and protrusions that extend not more than 0.9m horizontally beyond the <u>building envelope</u>, must:</p> <p>(a) be contained within a <u>building envelope</u> (refer to Figures 8.1, 8.2 and 8.3) determined by:</p> <p>(i) a distance equal to the <u>frontage setback</u> or, for an <u>internal lot</u>, a distance of 4.5m from the rear boundary of a property with an <u>adjoining frontage</u>; and</p> <p>(ii) projecting a line at an angle of 45 degrees from the horizontal at a height of 3m above <u>existing ground level</u> at the side or rear boundaries to a <u>building height</u> of not more than 8.5m above <u>existing ground level</u>; and</p> <p>(b) only have a <u>setback</u> less than 1.5m from a side or rear boundary if the <u>building</u>:</p> <p>(i) does not extend beyond an existing <u>building</u> built on or within 0.2m of the boundary of the <u>adjoining</u> property; or</p>	<p><b>P2</b></p> <p>The siting and scale of a <u>building</u> that is not a <u>dwelling</u> must:</p> <p>(a) not cause an unreasonable loss of <u>amenity</u>, having regard to:</p> <p>(i) reduction in sunlight to a <u>habitable room</u>, excluding a bedroom, of a <u>dwelling</u> on an <u>adjoining</u> property;</p> <p>(ii) overshadowing the <u>private open space</u> of a <u>dwelling</u> on an <u>adjoining</u> property;</p> <p>(iii) overshadowing of an <u>adjoining</u> vacant property; and</p> <p>(iv) visual impacts caused by the apparent scale, bulk or proportions of the <u>building</u> when viewed from an <u>adjoining</u> property; and</p> <p>(b) provide separation between buildings on <u>adjoining</u> properties that is consistent with that existing on established properties in the area.</p>

<p>(ii) does not exceed a total length of 9m or one-third of the length of the side or rear boundary (whichever is lesser).</p>	
<p><b>Assessment</b></p> <p>The building is single storey and setback from all boundaries of both the parent title and proposed Lot 8 and satisfies A2.</p>	
<p><b>A3</b></p> <p>A <u>building</u> that is not a <u>dwelling</u>, must have:</p> <p>(a) a <u>site coverage</u> of not more than 50% (excluding eaves up to 0.6m); and</p> <p>(b) a <u>site area</u> of which not less than 35% is free from impervious surfaces.</p>	<p><b>P3</b></p> <p>A <u>building</u> that is not a <u>dwelling</u>, must have:</p> <p>(a) <u>site coverage</u> consistent with that existing on established properties in the area; and</p> <p>(b) reasonable space for the planting of gardens and landscaping.</p>
<p><b>Assessment:</b></p> <p>The site coverage is 40% of the proposed Lot 8 on the subdivision plan and only 7% of the current lot area. The total impervious area is approximately 65% (i.e. 35% is free from impervious surface) of the proposed Lot 8 on the subdivision plan which equates to 4% of the current lot area. A3 is satisfied.</p>	
<p><b>A4</b></p> <p>No Acceptable Solution.<sup>6</sup></p>	<p><b>P4</b></p> <p>A fence (including a free-standing wall) for a <u>building</u> that is not a <u>dwelling</u> within 4.5m of a <u>frontage</u> must:</p> <p>(a) provide for security and privacy while allowing for passive surveillance of the <u>road</u>; and</p> <p>(b) be compatible with the height and transparency of fences in the street, having regard to:</p> <p>(i) the topography of the <u>site</u>; and</p> <p>(ii) traffic volumes on the <u>adjoining road</u>.</p>
<p><b>Assessment:</b></p> <p>A 1.5m high black aluminium pool fence is provided within 4.5m of the frontage. This fencing has a uniform transparency of at least 30%.</p> <p>The fencing within the 4.5m frontage satisfies the exemption at clause 4.6.3 of the Planning Scheme.</p>	
<p><b>A5</b></p> <p>Outdoor storage areas, for a <u>building</u> that is not a <u>dwelling</u>, including waste storage, must not:</p> <p>(a) be visible from any <u>road</u> or <u>public open space adjoining the site</u>; and</p>	<p><b>P5</b></p> <p>Outdoor storage areas, for a <u>building</u> that is not a <u>dwelling</u>, must be located or screened to minimise their impact on views into the <u>site</u> from any roads or <u>public open space adjoining the site</u>, having regard to:</p>

<p>(b) encroach upon parking areas, driveways or landscaped areas.</p>	<p>(a) the nature of the <u>use</u>;</p> <p>(b) the type of goods, materials or waste to be stored;</p> <p>(c) the topography of the <u>site</u>; and</p> <p>(d) any screening proposed.</p>
<p><b>Assessment</b></p> <p>The bin storage area is located behind fencing and landscaping to prevent visibility from the road or any public open space. There are doors which also obscure the area from the carparking and pedestrian areas of the development. This creates a well designed enclosure and therefore does not encroach on parking areas, driveways or landscaped area.</p>	
<p><b>A6</b></p> <p>Air extraction, pumping, refrigeration systems or compressors, for a <u>building</u> that is not a <u>dwelling</u>, must have a <u>setback</u> from the boundary of a property containing a <u>sensitive use</u> not less than 10m.<sup>7</sup></p>	<p><b>P6</b></p> <p>Air conditioning, air extraction, pumping, heating or refrigeration systems or compressors, for a <u>building</u> that is not a <u>dwelling</u>, within 10m of the boundary of a property containing a <u>sensitive use</u> must be designed, located, baffled or insulated to not cause an unreasonable loss of <u>amenity</u>, having regard to:</p> <p>(a) the characteristics and frequency of any emissions generated;</p> <p>(b) the nature of the proposed <u>use</u>;</p> <p>(c) the topography of the <u>site</u> and location of the <u>sensitive use</u>; and</p> <p>(d) any mitigation measures proposed.</p>
<p><b>Assessment</b></p> <p>The air conditioning and hot water services are both located at the rear of the building and are exempt per Clause 4.6.11 and 4.6.12. This area is described as the services area on the submitted plans.</p>	

## 5.2 C1.0 Signs Code

### C1.6 Development Standards for Buildings and Works

#### C1.6.1 Design and siting of signs

<p><b>Objective:</b></p>	<p>That:</p> <p>(a) signage is well designed and sited; and</p>
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	(b) signs do not contribute to visual clutter or cause an unreasonable loss of visual <u>amenity</u> to the surrounding area.
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<p><b>A1</b></p> <p>A <u>sign</u> must:</p> <p>(a) be located within the applicable zone for the relevant <u>sign</u> type set out in Table C1.6; and</p> <p>(b) meet the <u>sign</u> standards for the relevant <u>sign</u> type set out in Table C1.6,</p> <p>excluding for the following <u>sign</u> types, for which there is no Acceptable Solution:</p> <p>(i) roof <u>sign</u>;</p> <p>(ii) sky <u>sign</u>; and</p> <p>(iii) billboard.</p>	<p><b>P1.1</b></p> <p>A <u>sign</u> must:</p> <p>(a) be located within an applicable zone for the relevant <u>sign</u> type as set out in Table C1.6; and</p> <p>(b) be compatible with the <u>streetscape</u> or landscape, having regard to:</p> <p>(i) the size and dimensions of the <u>sign</u>;</p> <p>(ii) the size and scale of the <u>building</u> upon which the <u>sign</u> is proposed;</p> <p>(iii) the <u>amenity</u> of surrounding properties;</p> <p>(iv) the repetition of messages or information;</p> <p>(v) the number and density of signs on the <u>site</u> and on <u>adjacent</u> properties; and</p> <p>(vi) the impact on the safe and efficient movement of vehicles and pedestrians.</p> <p><b>P1.2</b></p> <p>If a roof <u>sign</u>, sky <u>sign</u> or billboard, the <u>sign</u> must:</p> <p>(a) be located within the applicable zone for the relevant <u>sign</u> type set out in Table C1.6;</p> <p>(b) meet the <u>sign</u> standards for the relevant <u>sign</u> type in Table C1.6; and</p> <p>(c) not contribute to visual clutter or cause unreasonable loss of <u>amenity</u> to the surrounding area, having regard to:</p> <p>(i) the size and dimensions of the <u>sign</u>;</p> <p>(ii) the size and scale of the <u>building</u> upon which the <u>sign</u> is proposed;</p> <p>(iii) the <u>amenity</u> of surrounding properties;</p>

	<ul style="list-style-type: none"> <li>(iv) the repetition of messages or information;</li> <li>(v) the number and density of signs on the <u>site</u> and on <u>adjacent</u> properties; and</li> <li>(vi) the impact on the safe and efficient movement of vehicles and pedestrians.</li> </ul>
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**Assessment**

The proposal includes the below three signs, which are allowable in all zones, as follows:

Sign 1 – Transom sign (0.9m H x 3.9m L)

Sign 2 – Ground base (Sign is 0.9m H x 3.0m L)

Sign 3 – Ground based sign (1.3m H x 3.6m L)

However, the proposal does not satisfy A1(b) as Sign 1 does not meet the transom sign “sign standards” as it has a vertical dimension exceeding 500mm.

Signs 2 & 3 satisfy the sign standards for a ground-based sign.

The proposal satisfies P1.1 as the signs are compatible with the streetscape as they are modest in size and integrate well with the landscaping. The signs directly face the frontage and will have minimal impact on the adjoining properties. The signs are staggered along the frontage and are of different dimensions so that they are not repetitive. They will have no impact on the safe and efficient movement of pedestrians and vehicles.

The proposed signage satisfies P1.1.

P1.2 is not relevant.

**A2**

A sign must be not less than 2m from the boundary of any lot in the General Residential Zone, Inner Residential Zone, Low Density Residential Zone, Rural Living Zone or Landscape Conservation Zone.

**P2**

A sign must not cause an unreasonable loss of amenity to adjoining residential properties, having regard to:

- (a) the topography of the site and the surrounding area;
- (b) the relative location of buildings, habitable rooms of dwellings and private open space;
- (c) any overshadowing; and
- (d) the nature and type of the sign.

**Assessment**

Sign 1 is located on the building and is well setback from the boundary. Sign 2 is setback 2.5m from the front boundary. Sign 3 is setback 2m from the side boundary.

A2 is satisfied.

**A3**

**P3**

<p>The number of signs for each business or tenancy on a <u>road frontage</u> of a <u>building</u> must be no more than:</p> <p>(a) 1 of each <u>sign</u> type, unless otherwise stated in Table C1.6;</p> <p>(b) 1 window <u>sign</u> for each window;</p> <p>(c) 3 if the street <u>frontage</u> is less than 20m in length; and</p> <p>(d) 6 if the street <u>frontage</u> is 20m or more,</p> <p>excluding the following <u>sign</u> types, for which there is no limit:</p> <p>(i) name plate; and</p> <p>(ii) temporary <u>sign</u>.</p>	<p>The number of signs for each business or tenancy on a <u>street frontage</u> must:</p> <p>(a) not unreasonably increase in the existing level of visual clutter in the <u>streetscape</u>, and where possible, reduce any existing visual clutter in the <u>streetscape</u> by replacing existing signs with fewer, more effective signs; and</p> <p>(b) not involve the repetition of messages or information.</p>
<p><b>Assessment</b></p> <p>The proposal has 1 transom sign and 2 ground-based signs. However, the “sign standards” allow for 2 ground-based signs every 20m or part thereof which satisfies A3(a).</p> <p>A3 (b) and (c) are not applicable.</p> <p>A3 (d) is satisfied as the frontage is greater than 20m and less than 6 signs are proposed.</p> <p>The proposal satisfies A3.</p>	

### C1.6.2 Illuminated signs

<p><b>Objective:</b></p>	<p>That:</p> <p>(a) illuminated signs are compatible with the <u>streetscape</u>;</p> <p>(b) the cumulative impact of illuminated signs on the character of the area is managed, including the need to avoid visual disorder or clutter of signs; and</p> <p>(c) any potential negative impacts of illuminated signs on <u>road</u> safety and pedestrian movement are minimised.</p>
<p><b>Acceptable Solutions</b></p>	<p><b>Performance Criteria</b></p>
<p><b>A1</b></p> <p>No Acceptable Solution.</p>	<p><b>P1</b></p> <p>An <u>illuminated sign</u> must not cause an unreasonable loss of <u>amenity</u> to <u>adjacent</u> properties or have an unreasonable effect on the safety, appearance or efficiency of a <u>road</u>, and must be compatible with the <u>streetscape</u>, having regard to:</p>

- (a) the location of the sign;
- (b) the size of the sign;
- (c) the intensity of the lighting;
- (d) the hours of operation of the sign;
- (e) the purpose of the sign;
- (f) the sensitivity of the area in terms of view corridors, the natural environment and adjacent residential amenity;
- (g) the intended purpose of the changing message of the sign;
- (h) the percentage of the sign that is illuminated with changing messages;
- (i) proposed dwell time; and
- (j) whether the sign is visible from the road and if so the proximity to and impact on an electronic traffic control device.

## Assessment

The 3 signs are proposed to be illuminated and therefore assessed under P1.

All signs are proposed to be illuminated at the Environmental Zone A3 level per the table below:

Environmental Zone	Description	Max Average Luminance (cd/m <sup>2</sup> )
A4	High district brightness e.g. Town and city centres, commercial areas, and residential areas abutting commercial areas	350
A3	Medium district brightness e.g. suburban areas in towns and cities	250
A2	Low district brightness e.g. sparsely inhabited rural and semi-rural areas	150
A1	Dark e.g. relatively uninhabited rural areas. No Road Lighting	0.1
A0	Intrinsically Dark e.g. Major Optical Observatories. No Road Lighting	0.1

Note: Where the signage is viewed against a predominantly dark background (e.g. night sky) then the maximum applicable environmental zone is A2

This part of Brighton is a rapidly changing area and fast becoming a more suburban area. The A3 environmental zone is the appropriate lighting level.

The proposed signs will be illuminated during operating hours, meaning the illumination will only have an impact outside of daylight savings during the months April to October.

The signs will have a positive impact on traffic as it will allow customers to clearly identify the building for ease of access and ensure they do not accidentally visit other residential properties. The lighting is of low intensity, low to the ground along the frontage and are of modest size and will not adversely impact adjoining neighbours.

The warm tones of the illumination are also intended to create a feeling of comfort and safety for families in dark, foggy or rainy conditions.

<p>There are no sensitive view corridors in the area and the illuminated sign will not have a changing message.</p> <p>The proposal satisfies P1</p>	
<p><b>A2</b></p> <p>An <u>illuminated sign</u> visible from public places in <u>adjacent</u> roads must not create the effect of flashing, animation or movement, unless it is providing direction or safety information.</p>	<p><b>P2</b></p> <p>No Performance Criterion</p>
<p><b>Assessment:</b></p> <p>The illuminated sign does not flash, contain animation or move. A2 is satisfied.</p>	

### 5.3 C2.0 Parking and Sustainable Parking Code

#### C2.5 Use Standards

##### C2.5.1 Car parking numbers

<p><b>Objective:</b></p>	<p>That an appropriate level of car parking spaces are provided to meet the needs of the <u>use</u>.</p>
<p><b>Acceptable Solutions</b></p>	<p><b>Performance Criteria</b></p>
<p><b>A1</b></p> <p>The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the <u>site</u> including <u>container refund scheme space</u>, excluding if:</p> <ul style="list-style-type: none"> <li>(a) the <u>site</u> is subject to a parking plan for the area adopted by <u>council</u>, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;</li> <li>(b) the <u>site</u> is contained within a <u>parking precinct plan</u> and subject to Clause C2.7;</li> <li>(c) the <u>site</u> is subject to Clause C2.5.5; or</li> <li>(d) it relates to an intensification of an existing <u>use</u> or <u>development</u> or a change of <u>use</u> where:             <ul style="list-style-type: none"> <li>(i) the number of on-site car parking spaces for the existing <u>use</u> or <u>development</u> specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed <u>use</u> or <u>development</u>, in which case no additional on-site car parking is required; or</li> </ul> </li> </ul>	<p><b>P1.1</b></p> <p>The number of on-site car parking spaces for uses, excluding dwellings, must meet the reasonable needs of the <u>use</u>, having regard to:</p> <ul style="list-style-type: none"> <li>(a) the availability of off-street public car parking spaces within reasonable walking distance of the <u>site</u>;</li> <li>(b) the ability of multiple users to share spaces because of:             <ul style="list-style-type: none"> <li>(i) variations in car parking demand over time; or</li> <li>(ii) efficiencies gained by consolidation of car parking spaces;</li> </ul> </li> <li>(c) the availability and frequency of public transport within reasonable walking distance of the <u>site</u>;</li> </ul>

- (ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:

$$N = A + (C - B)$$

N = Number of on-site car parking spaces required

A = Number of existing on site car parking spaces

B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1

C = Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1.

- (d) the availability and frequency of other transport alternatives;
- (e) any site constraints such as existing buildings, slope, drainage, vegetation and landscaping;
- (f) the availability, accessibility and safety of on-street parking, having regard to the nature of the roads, traffic management and other uses in the vicinity;
- (g) the effect on streetscape; and
- (h) any assessment by a suitably qualified person of the actual car parking demand determined having regard to the scale and nature of the use and development.

#### P1.2

The number of car parking spaces for dwellings must meet the reasonable needs of the use, having regard to:

- (a) the nature and intensity of the use and car parking required;
- (b) the size of the dwelling and the number of bedrooms; and
- (c) the pattern of parking in the surrounding area.

### Assessment

The parking requirements as per Table C2.1 are:

<u>Use</u>	<u>Parking Space Requirements</u>	
	<u>Car</u>	<u>Bicycle</u>
Educational and Occasional Care	1 space per employee + 1 space per 6 tertiary education students	1 space per 5 employees and tertiary education students

The childcare centre will have up-to 32 staff and therefore 32 spaces are required in total. The proposal provides 32 spaces, meeting the 32 spaces required.

As described in the submitted Traffic Impact Assessment, staff will work varying shifts and will access the site through various means. The expected movements/modes of transportation for staff is divided as follows:

- 75% commute individually by private vehicle
- 20% are dropped off by family or carpool with coworkers, and
- up to 5% use public transport, walk or cycle.

Also, visitors to the site (i.e. families dropping off children) will typically park for a very short duration during the collection and pickup meaning there will be ongoing supply of parking spaces through out the day.

Even if additional staff are required to run the facility they will work varying shifts and access the site through various means. Accordingly, no additional parking spaces are considered necessary and the proposed carpark is more than adequate for the use. A condition limiting staffing numbers is not recommended as it would inadvertently restrict the centre to roster and manage the operation.

The proposal satisfies A1.

C2.5.2 Bicycle parking numbers

<b>Objective:</b>	That an appropriate level of bicycle parking spaces are provided to meet the needs of the <u>use</u> .
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<b>A1</b> Bicycle parking spaces must:  (a) be provided on the <u>site</u> or within 50m of the <u>site</u> ; and  (b) be no less than the number specified in Table C2.1.	<b>P1</b> Bicycle parking spaces must be provided to meet the reasonable needs of the <u>use</u> , having regard to:  (a) the likely number of users of the <u>site</u> and their opportunities and likely need to travel by bicycle; and  (b) the availability and accessibility of existing and any planned parking facilities for bicycles in the surrounding area.
<b>Assessment</b> Five (5) bicycle space within the site are provided as required by Table C2.1 The proposal satisfies A1.	

C2.5.3 Motorcycle parking numbers

<b>Objective:</b>	That the appropriate level of motorcycle parking is provided to meet the needs of the <u>use</u> .
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<b>A1</b> The number of on-site motorcycle parking spaces for all uses must:  (a) be no less than the number specified in Table C2.4; and  (b) if an existing <u>use</u> or <u>development</u> is extended or intensified, the number of on-site motorcycle parking	<b>P1</b> Motorcycle parking spaces for all uses must be provided to meet the reasonable needs of the <u>use</u> , having regard to:  (a) the nature of the proposed <u>use</u> and <u>development</u> ;

<p>spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.</p>	<ul style="list-style-type: none"> <li>(b) the topography of the <u>site</u>;</li> <li>(c) the location of existing buildings on the <u>site</u>;</li> <li>(d) any constraints imposed by existing <u>development</u>; and</li> <li>(e) the availability and accessibility of motorcycle parking spaces on the street or in the surrounding area.</li> </ul>
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**Assessment:**

The proposal includes one (1) motorcycle parking space which is the number required per the table C2.4 which requires one (1) motorcycle parking space for a use that requires between 21 and 40 parking spaces.

The proposal satisfies with A1

## C2.6 Development Standards for Buildings and Works

### C2.6.1 Construction of parking areas

<p><b>Objective:</b></p>	<p>That parking areas are constructed to an appropriate <u>standard</u>.</p>
<p><b>Acceptable Solutions</b></p>	<p><b>Performance Criteria</b></p>
<p><b>A1</b></p> <p>All parking, access ways, manoeuvring and circulation spaces must:</p> <ul style="list-style-type: none"> <li>(a) be constructed with a durable all weather pavement;</li> <li>(b) be drained to the <u>public stormwater system</u>, or contain stormwater on the <u>site</u>; and</li> <li>(c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.</li> </ul>	<p><b>P1</b></p> <p>All parking, access ways, manoeuvring and circulation spaces must be readily identifiable and constructed so that they are useable in all weather conditions, having regard to:</p> <ul style="list-style-type: none"> <li>(a) the nature of the <u>use</u>;</li> <li>(b) the topography of the <u>land</u>;</li> <li>(c) the drainage system available;</li> <li>(d) the likelihood of transporting sediment or debris from the <u>site</u> onto a <u>road</u> or public place;</li> <li>(e) the likelihood of generating dust; and</li> <li>(f) the nature of the proposed surfacing.</li> </ul>

**Assessment:**

The proposed parking areas will be constructed in accordance with the requirements of A1.

## C2.6.2 Design and layout of parking areas

<b>Objective:</b>	That parking areas are designed and laid out to provide convenient, safe and efficient parking.
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<p><b>A1.1</b></p> <p>Parking, access ways, manoeuvring and circulation spaces must either:</p> <p>(a) comply with the following:</p> <ul style="list-style-type: none"> <li>(i) have a gradient in accordance with <i>Australian Standard AS 2890 - Parking facilities, Parts 1-6</i>;</li> <li>(ii) provide for vehicles to enter and exit the <u>site</u> in a forward direction where providing for more than 4 parking spaces;</li> <li>(iii) have an access width not less than the requirements in Table C2.2;</li> <li>(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;</li> <li>(v) have a combined access and manoeuvring width <u>adjacent</u> to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces;</li> <li>(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and</li> <li>(vii) excluding a <u>single dwelling</u>, be delineated by line marking or other clear physical means; or</li> </ul> <p>(b) comply with <i>Australian Standard AS 2890- Parking facilities, Parts 1-6</i>.</p> <p><b>A1.2</b></p> <p>Parking spaces provided for <u>use</u> by persons with a disability must satisfy the following:</p>	<p><b>P1</b></p> <p>All parking, access ways, manoeuvring and circulation spaces must be designed and readily identifiable to provide convenient, safe and efficient parking, having regard to:</p> <ul style="list-style-type: none"> <li>(a) the characteristics of the <u>site</u>;</li> <li>(b) the proposed slope, dimensions and layout;</li> <li>(c) useability in all weather conditions;</li> <li>(d) vehicle and pedestrian traffic safety;</li> <li>(e) the nature and <u>use</u> of the <u>development</u>;</li> <li>(f) the expected number and type of vehicles;</li> <li>(g) the likely <u>use</u> of the parking areas by persons with a disability;</li> <li>(h) the nature of traffic in the surrounding area;</li> <li>(i) the proposed means of parking delineation; and</li> <li>(j) the provisions of <i>Australian Standard AS 2890.1:2004 - Parking facilities, Part 1: Off-street car parking</i> and <i>AS 2890.2 -2002 Parking facilities, Part 2: Off-street commercial vehicle facilities</i>.</li> </ul>

<p>(a) be located as close as practicable to the main entry point to the <u>building</u>;</p> <p>(b) be incorporated into the overall car park design; and</p> <p>(c) be designed and constructed in accordance with <i>Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities</i>.<sup>35</sup></p>	
<p><b>Assessment</b></p> <p>A Traffic Impact Assessment has been provided to address this standard and together with the submitted drawings demonstrates the proposal satisfies the standard.</p>	

35

Requirements for the number of accessible car parking spaces are specified in part D3 of the National Construction Code 2016.

### C2.6.3 Number of accesses for vehicles

<p><b>Objective:</b></p>	<p><b>That:</b></p> <p>a) access to land is provided which is safe and efficient for users of the land and all road network users, including but not limited to drivers, passengers, pedestrians and cyclists by minimising the number of vehicle accesses;</p> <p>b) accesses do not cause an unreasonable loss of amenity of adjoining uses; and</p> <p>c) the number of accesses minimise impacts on the streetscape..</p>
<p><b>Acceptable Solutions</b></p>	<p><b>Performance Criteria</b></p>
<p><b>A1</b></p> <p>The number of accesses provided for each frontage must:</p> <p>a) be no more than 1; or</p> <p>b) no more than the existing number of accesses, whichever is the greater.</p>	<p><b>P1</b></p> <p>The number of accesses for each frontage must be minimised, having regard to:</p> <p>(a) any loss of on-street parking; and</p> <p>(b) pedestrian safety and amenity;</p> <p>(c) traffic safety;</p> <p>(d) residential amenity on adjoining land; and</p> <p>(e) the impact on the streetscape.</p>
<p><b>Assessment</b></p> <p>Only one (1) access is provided.</p>	

C2.6.5 Pedestrian Access

<p><b>Objective:</b></p>	<p>That pedestrian access within parking areas is provided in a safe and convenient manner.</p>
<p><b>Acceptable Solutions</b></p>	<p><b>Performance Criteria</b></p>
<p>A1.1 Uses that require 10 or more car parking spaces must:</p> <p>a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:</p> <ul style="list-style-type: none"> <li>i. a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or</li> <li>ii. protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and</li> </ul> <p>b) be signed and line marked at points where pedestrians cross access ways or parking aisles.</p> <p>A1.2 In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.</p>	<p><b>P1</b> Safe and convenient pedestrian access must be provided within parking areas, having regard to:</p> <ul style="list-style-type: none"> <li>(a) the characteristics of the site;</li> <li>(b) the nature of the use;</li> <li>(c) the number of parking spaces;</li> <li>(d) the frequency of vehicle movements;</li> <li>(e) the needs of persons with a disability;</li> <li>(f) the location and number of footpath crossings;</li> <li>(g) vehicle and pedestrian traffic safety;</li> <li>(h) the location of any access ways or parking aisles; and</li> <li>(i) any protective devices proposed for pedestrian safety.</li> </ul>
<p><b>Assessment</b></p> <p>Pedestrian access is provided from Dylan Street from the road to the centre. The area is located adjacent to the carpark and access. The pedestrian access is separated by a series of bollards. There are no points where pedestrians cross access ways or parking aisles.</p> <p>The car parking space for persons with a disability is located adjacent to the main entrance and has direct access to a footpath and flat “no parking” area.</p>	

**5.4 C3.0 Road and Railway Assets Code**

**C3.5 Use Standards**

C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

<p><b>Objective:</b></p>	<p>To minimise any adverse effects on the safety and efficiency of the <u>road</u> or <u>rail network</u> from <u>vehicular traffic</u> generated from the <u>site</u> at an existing or new <u>vehicle crossing</u> or <u>level crossing</u> or new <u>junction</u>.</p>
--------------------------	---

Acceptable Solutions	Performance Criteria
<p><b>A1.1</b></p> <p>For a <u>category 1 road</u> or a <u>limited access road</u>, <u>vehicular traffic</u> to and from the <u>site</u> will not require:</p> <p>(a) a new <u>junction</u>;</p> <p>(b) a new <u>vehicle crossing</u>; or</p> <p>(c) a new <u>level crossing</u>.</p> <p><b>A1.2</b></p> <p>For a <u>road</u>, excluding a <u>category 1 road</u> or a <u>limited access road</u>, written consent for a new <u>junction</u>, <u>vehicle crossing</u>, or <u>level crossing</u> to serve the <u>use</u> and <u>development</u> has been issued by the <u>road authority</u>.</p> <p><b>A1.3</b></p> <p>For the <u>rail network</u>, written consent for a new <u>private level crossing</u> to serve the <u>use</u> and <u>development</u> has been issued by the <u>rail authority</u>.</p> <p><b>A1.4</b></p> <p><u>Vehicular traffic</u> to and from the <u>site</u>, using an existing <u>vehicle crossing</u> or <u>private level crossing</u>, will not increase by more than:</p> <p>(a) the amounts in Table C3.1; or</p> <p>(b) allowed by a licence issued under Part IVA of the <i>Roads and Jetties Act 1935</i> in respect to a <u>limited access road</u>.</p> <p><b>A1.5</b></p> <p><u>Vehicular traffic</u> must be able to enter and leave a <u>major road</u> in a forward direction.</p>	<p><b>P1</b></p> <p><u>Vehicular traffic</u> to and from the <u>site</u> must minimise any adverse effects on the safety of a <u>junction</u>, <u>vehicle crossing</u> or <u>level crossing</u> or safety or efficiency of the <u>road</u> or <u>rail network</u>, having regard to:</p> <p>a) any increase in traffic caused by the use;</p> <p>b) the nature of the traffic generated by the use;</p> <p>c) the nature of the road;</p> <p>d) the speed limit and traffic flow of the road;</p> <p>e) any alternative access to a road;</p> <p>f) the need for the use;</p> <p>g) any traffic impact assessment; and</p> <p>h) any advice received from the rail or road authority.</p>
<p><b>Assessment</b></p> <p>Consent from the Council has been requested for the new access to Dylan Street as there is currently no access from the land to a carriageway on either William Street or Dylan Street. Consent for the lodgement of the application would therefore comply with A1.2</p> <p>With regard to A1.4, there is no existing access to the site. This is a newly proposed access for land that does not have been provided with an access and therefore request for the access is included in the application and per the relevant Acceptable Solution A1.2.</p>	

Assessment against the Performance Criteria is however provided in the submitted Traffic Impact Assessment which demonstrates the proposal is otherwise compliant with the Standard C3.5.1.

## 5.5 C13.0 Bushfire-Prone areas Code

### C13.5 Use Standards

#### C13.5.1 Vulnerable uses

<b>Objective:</b>	That vulnerable uses can only be located on <u>land</u> within a <u>bushfire-prone area</u> where tolerable risks are achieved through mitigation measures that take into account the specific characteristics of both the <u>vulnerable use</u> and the bushfire hazard.
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<b>A1</b> No Acceptable Solution.	<b>P1</b> A <u>vulnerable use</u> must only be located in a <u>bushfire-prone area</u> if a <u>tolerable risk</u> from bushfire can be achieved and maintained, having regard to:  (a) the location, characteristics, nature and scale of the <u>use</u> ;  (b) whether there is an overriding benefit to the community;  (c) whether there is no suitable alternative lower-risk <u>site</u> ;  (d) the emergency management strategy ( <u>vulnerable use</u> ) and <u>bushfire hazard management plan</u> ; and  (e) other advice, if any, from the <u>TFS</u> .
<b>A2</b> An emergency management strategy ( <u>vulnerable use</u> ) is endorsed by the <u>TFS</u> or <u>accredited person</u> .	<b>P2</b> No Performance Criterion.
<b>A3</b> A <u>bushfire hazard management plan</u> that contains appropriate <u>bushfire protection measures</u> that is certified by the <u>TFS</u> or an <u>accredited person</u> .	<b>P3</b> No Performance Criterion.
<b>Assessment</b>	
A childcare centre is a vulnerable use under the Code. A bushfire practitioner has prepared the required documents to support the application, and these are included as part of the Development Application. Given this is a serviced urban area, it is anticipated that the application will comply with the Code.	

## 5.6 BRI-S11.0 South Brighton Specific Area Plan

### BRI-S11.7 Development Standards for Buildings and Works

#### BRI-S11.7.1 Building and Works

This clause is in addition to General Residential Zone - clause 8.4 Development Standards for Dwellings.

<b>Objective:</b>	That buildings and <u>works</u> do not prejudice the efficient future utilisation of <u>land</u> for urban <u>development</u> .
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
<p><b>A1</b></p> <p><u>Building</u> and <u>works</u> must:</p> <p>(a) be for an addition to an existing <u>dwelling</u>;</p> <p>(b) be of a temporary nature able to be removed prior to the <u>development</u> of the <u>land</u>; or</p> <p>(c) be on a <u>lot</u>, excluding a balance <u>lot</u>, that has been created by an approved <u>subdivision</u> under this Specific Area Plan.</p>	<p><b>P1</b></p> <p>Buildings and <u>works</u> must not preclude or hinder the effective and efficient implementation of the <u>Development Framework</u> in Figure BRI-S11.2, having regard to:</p> <p>(a) the topography of the <u>site</u>;</p> <p>(b) any existing access arrangements;</p> <p>(c) location of any services;</p> <p>(d) the purpose, location and extent of any <u>building</u> and <u>works</u>; and</p> <p>(e) any alternative <u>subdivision</u> layout that achieves the Specific Area Plan Purpose.</p>
<p><b>Assessment:</b></p> <p>The proposal is to be located on Lot 8 of a subdivision that was approved prior to the SAP and does not satisfy A1.</p> <p>The proposed building and works do not preclude or hinder the SAP Development Framework as the proposed connecting road to the land at 1 Dylan Steet can still be located to the rear of approved Lot 8. The proposal does not hinder any existing access arrangements or propose any services that will cause an issue for the Development Framework in the future.</p> <p>The proposal satisfies P1.</p>	

## 6. Conclusion

This planning report has been prepared by **Form Planning and Projects** (experienced, qualified and registered town planners with the Planning Institute of Australia). The report has described the proposal for a Childcare centre with associated lay areas and parking for the land at 1 Dylan Street, Brighton.

The assessment provided in this report demonstrates that the proposal is compliant with the standards of the *Tasmanian Planning Scheme – Brighton*.

The provided Servicing Plan, Traffic Impact Assessment and Bushfire Plan are included as part of the Development Application and address the relevant standards of the Codes.



# AD DESIGN + CONSULTING

Project Management + Feasibility  
Infrastructure Design + Delivery  
Stormwater Management  
Stakeholder Engagement

## CLIENT

**Dourias MGH Pty Ltd**

## PROJECT

**1 Dylan Street, Brighton Childcare**

## TITLE

**Civil Engineering Serviceability Report**

**AD Design & Consulting Pty Ltd**

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## EXECUTIVE SUMMARY

AD Design & Consulting Pty Ltd was engaged by Dourias MGH Pty Ltd to prepare a Civil Engineering Serviceability Report in support of a Development Application for a new childcare facility at 1 Dylan Street, Brighton. The proposed development includes a single-storey childcare centre, sealed car park for approximately 32 vehicles, outdoor play areas, and associated civil infrastructure. The site, which forms part of a broader residential subdivision, is currently undeveloped and gently sloping, with subdivision works providing future service connections.

The civil engineering assessment addressed stormwater management (both quantity and quality), earthworks, roadworks, traffic access, water and sewer services, electrical supply, and communications. The design references Tasmanian and Australian standards, local council requirements, and future climate change conditions, and was informed by site-specific survey data, architectural concept plans, and infrastructure records.

To manage the proposed increase in impervious surface area on the site, a stormwater detention system has been incorporated to limit peak runoff discharge. The design is compliant with regulatory stormwater quantity criteria and accounts for future climate change impacts on rainfall depth and rainfalls losses. Key parameters of the detention system include:

- Total detention storage volume: 20 cubic metres.
- Low-flow outlet orifice diameter: 115 mm.
- Post-development peak discharge (mitigated): 28 L/s.
- Permissible Site Discharge (PSD): 32 L/s (based on pre-development conditions).
- Design storm event: 5% AEP under the SSP2-4.5 climate change scenario for the year 2100.

Stormwater quality is addressed through a proprietary treatment train designed to target gross pollutants, suspended solids, and nutrients. The system has been modelled using MUSIC software in accordance with Water by Design (2018) guidelines. Key components and performance results include:

- Treatment system components:
  - Ocean Protect OceanGuard basket units installed in each carpark inlet pit to capture gross pollutants.
  - 1 × Ocean Protect JellyFish JF900-1-1 cartridge filtration unit for removal of suspended solids, nutrients, and heavy metals.
- Pollutant reduction performance:
  - Total Suspended Solids (TSS): 87.2% reduction.
  - Total Phosphorus (TP): 71.4% reduction.
  - Total Nitrogen (TN): 45.4% reduction.
  - Gross Pollutants: 95.2% reduction.

The design includes a balanced cut-and-fill earthworks strategy to create a flat area for the childcare building and play areas. Perimeter retaining walls are required to enable this. Access to the site will be provided via a vehicle crossover constructed from Dylan Street in accordance with TSD-R16-V3 standards. On-site parking provision includes approximately 32 spaces, with layout geometry validated through a Traffic Impact Assessment by Hubble Traffic to ensure compliance with relevant standards.

Water and sewer servicing has been assessed and confirmed to be feasible using existing and proposed subdivision infrastructure. Design flows have been estimated in accordance with WSAA and TasWater guidance. The key servicing parameters are:

- Water Supply Design Summary:
  - Connection point: New connection to existing 100 mm PVC-U main on Dylan Street.
  - Fire flow requirement: 20.0 L/s.
  - Probable Simultaneous Discharge (PSD) (AS3500.1): 1.64 L/s.
- Sewer Design Summary:
  - Connection point: Existing DN150 PVC-U lateral line (via Dylan Street access pit).
  - Average dry weather flow (ADWF): 0.08 L/s.
  - Peak dry weather flow (PDWF): 0.81 L/s.
  - Design flow (including groundwater infiltration and rainfall-dependent inflow): 0.99 L/s.

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# 1 INTRODUCTION

## 1.1 BACKGROUND

Dourias MGH Pty Ltd has engaged AD Design & Consulting to provide an engineering services report to support a development application for 1 Dylan Street, Brighton.

The site is proposed to be developed into a childcare facility, incorporating a childcare building, outdoor play areas, car parking, access, and services. The architectural concept plans produced by Raunik Design Group Architects are shown in Appendix A.

## 1.2 AVAILABLE INFORMATION

Documentation and surveys provided or obtained during the concept design development are shown in Table 1.

**Table 1: Available information summary.**

Document Type	Prepared By	Date	Appendix
Architectural Development Application Plans	Raunik Design Group Architects	18 June 2025	A
Subdivision Plans – 1 Dylan Street, Brighton	AD Design & Consulting	December 2021	B
Feature and Boundary Survey	D.G.J. Potter	17 September 2021	-
Underground Utility Survey	UDM Surveyors	18 November 2021	-
Traffic Impact Assessment	Hubble Traffic	April 2025	D
Utility Information	BYDA	24 June 2025	-
Fire Hydrant System Performance Based Design Brief	Castellan Consulting	30 October 2025	E

## 1.3 GUIDELINES REFERENCED

Key guidelines referenced in the design and documentation are outlined in Table 2.

**Table 2: Design guidelines referenced.**

Category	Guideline Referenced
General	Tasmanian Municipal Standard Drawings, Specifications and Subdivision Guidelines
	Tasmanian Stormwater Policy Guidance and Standards for Development
	AS 1742 series: Manual of uniform traffic control devices
	AS 2890 series: Parking facilities - Part 1: Off-street car parking
	AS 2890 series: Parking facilities - Part 2: Off-street commercial vehicle facilities
	AS 3798: Guidelines on earthworks for commercial and residential developments
Stormwater	AS/NZS 3500 series: Stormwater drainage
	Australian Rainfall and Runoff 2019 (ARR19)
Sewer	AS/NZS 3500 series: Sanitary plumbing and drainage
	WSAA Gravity Sewerage Code of Australia WSA 02 2014-3.1 MRWA Edition V2.1
	TasWater Supplement to the Gravity Sewerage Code of Australia WSA 02 2014-3.1 MRWA Edition V2.1
Water addconsulting.com.au	AS/NZS 3500 series: Water services

	WSAA Water Supply Code of Australia WSA 03 2011-3.1 MRWA Edition V2.0
	TasWater Supplement to the Water Supply Code of Australia WSA 03 2011-3.1 MRWA Edition V2.0
Erosion and Sediment Control	IECA Best Practice Erosion and Sediment Control (BESC)

## 2 SITE DESCRIPTION

### 2.1 EXISTING SITE AND PROPOSED SUBDIVISION

The subject site comprises Lot 8 of a proposed subdivision located at 1 Dylan Street, Brighton. At the time of writing, the subdivision has not been constructed; however, construction documentation for the broader subdivision has been finalised and approved.

Lot 8 forms part of a broader residential subdivision bounded by William Street to the north and Dylan Street to the west. The lot is currently undeveloped and vacant, with minimal vegetation cover. The terrain is gently sloping from the eastern boundary towards the southwestern corner, with an estimated gradient ranging between 2% and 6% across the site.

Lot 8 is one of eight residential lots proposed under the subdivision layout, as shown in Figure 1. The lot layout, service connections, and finished surface levels will be finalised upon completion of subdivision works, which include installation of stormwater, sewer and water infrastructure, communications and power infrastructure, fill placement, road widening and footpath construction and construction of vehicle crossovers.

Refer to Appendix B for the civil engineering subdivision plans.

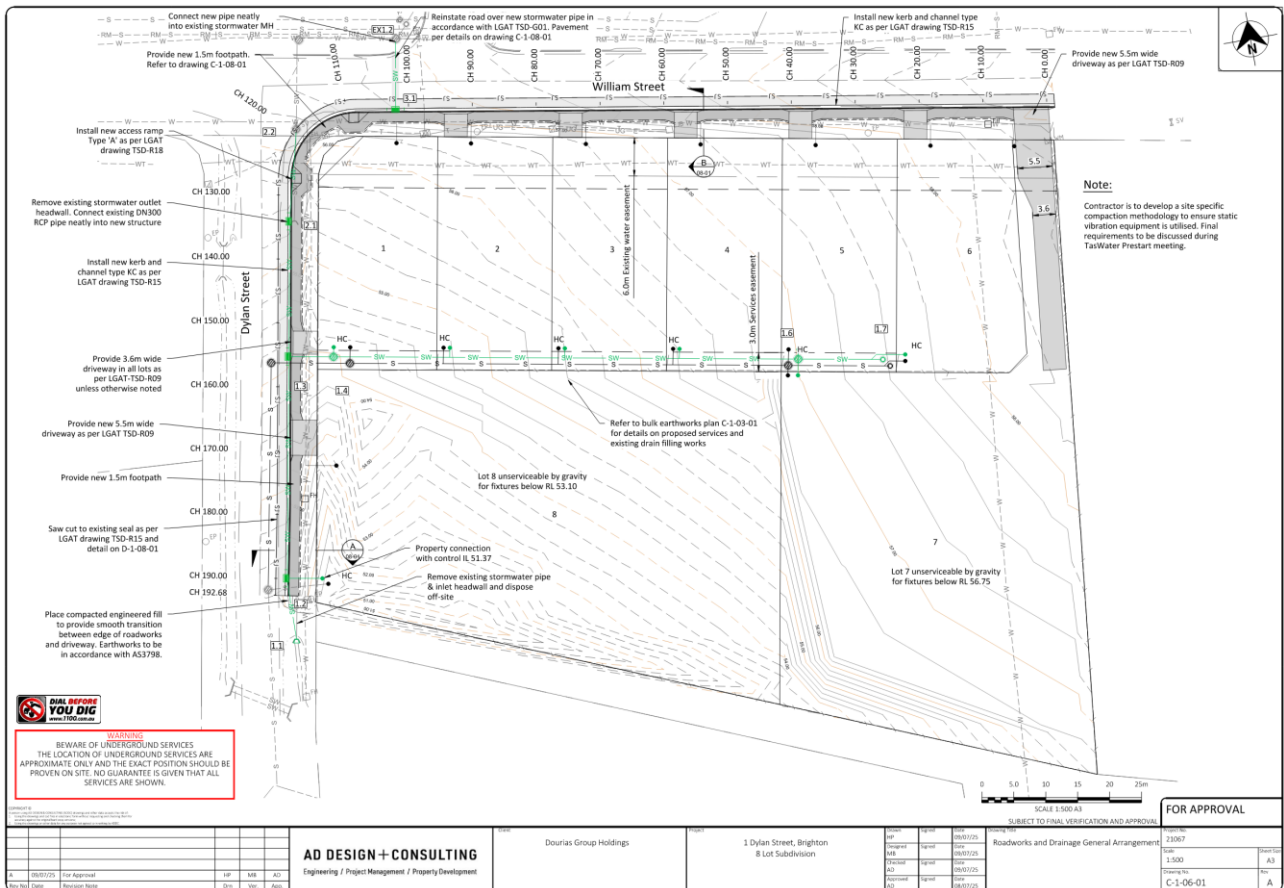


Figure 1: Subdivision civil Roadworks and Drainage General Arrangement plan.

### 2.2 PROPOSED SITE

It is proposed to develop the site into a purpose-built childcare facility, including the following key features:

- A single-storey childcare centre building, centrally located on the site.
- Designated outdoor play areas.
- A sealed carpark comprising approximately 32 on-site car parking spaces.
- A bin storage area positioned adjacent to the carpark.
- Pedestrian and vehicle access provided via Dylan Street.

Refer to Appendix C for the architectural plans illustrating the full layout of the proposed development.

## 3 EARTHWORKS

### 3.1 BULK EARTHWORKS

#### 3.1.1 EARTHWORKS

Bulk earthworks are proposed to establish level platforms suitable for the construction of the childcare centre, associated carpark, play areas, and landscaping. The site currently falls from the northeast (approximate RL 56.0) to the southwest (approximate RL 51.0), necessitating a combination of cut and fill across the development footprint.

Cut is concentrated along the northern and eastern sections of the site to lower natural ground levels to suit the proposed building and carpark pads. Whilst fill is required in the southern and western portions to raise ground levels in support of the building platform and outdoor play areas.

The proposed earthworks aim to balance cut and fill volumes to reduce off-site spoil removal where practical.

All earthworks are to be designed and constructed in accordance with *AS 3798: Guidelines on Earthworks for Commercial and Residential Developments*, including appropriate compaction and testing requirements.

#### 3.1.2 RETAINING STRUCTURES

Retaining walls are proposed along boundaries to manage level transitions resulting from the bulk earthworks. These structures will also support fencing where required. All retaining walls will be subject to detailed structural design during the detailed design phase. Wall heights and extents are based on current architectural levels and subject to refinement in detailed design.

### 3.2 GEOTECHNICAL ENGINEERING AND TESTING

Geotechnical engineering and testing will be required to inform the structural engineering and civil engineering design. This will be conducted prior to the detailed design development phase.

## 4 ROADWORKS

### 4.1 EXISTING INFRASTRUCTURE

The site is adjacent to Dylan Street, which is a local road, with existing table drain construction on either side and a two-way crossfall. Dylan Street is proposed to be widened with kerb and channel, a footpath and vehicle crossovers as part of the proposed subdivision works.

It is proposed to utilise the vehicle crossover constructed as part of the subdivision works.

### 4.2 TRAFFIC IMPACT ASSESSMENT

A traffic assessment has been undertaken by Hubble Traffic and is shown in Appendix D. The assessment considers turning path requirements for design vehicles, vehicle queuing, minimum access road widths, carpark geometry, intersection treatments and pedestrian interactions.

The assessment concluded that the proposed development is not anticipated to cause any adverse impacts on road safety, traffic flow, or local amenity. Key considerations supporting this conclusion include:

- The volume of traffic generated by the development is expected to be moderate, and the surrounding road network has adequate capacity to accommodate these movements without detriment to existing users.
- A new vehicular access point will be provided from Dylan Street, designed with sufficient width to support two-way traffic operations.
- The new access location offers adequate sight distances in both directions, ensuring safe and efficient ingress and egress for vehicles.
- On-site parking provision is sufficient to meet expected demand, thereby limiting the potential for overflow parking on surrounding streets.
- All parking spaces are designed in accordance with relevant standards, allowing vehicles to enter and exit efficiently and in a forward-facing direction.
- The internal circulation layout supports access by larger vehicles, ensuring unimpeded entry for emergency services.
- Waste collection can be managed via kerbside pickup, with bin storage positioned behind the footpath to avoid obstructing pedestrian movement.

## 5 STORMWATER INFRASTRUCTURE

### 5.1 EXISTING INFRASTRUCTURE

A detailed survey prepared by UDM Surveyors (2021) and Before You Dig Australia (BYDA) records indicate the following stormwater infrastructure within and adjacent to the subject site:

- An existing stormwater outlet headwall discharges to the table drain near the intersection of Dylan Street and William Street.
- A 300 mm RCP stormwater pipe conveys runoff underneath the driveway at the south-western corner of the site.

#### 5.1.1 PROPOSED SUBDIVISION INFRASTRUCTURE

- A proposed upgrade of the stormwater system forms part of the subdivision works, including:
  - Kerb and channel, side entry pits and underground drainage along Dylan Street, adjacent to the site.
  - A 300 mm polypropylene stormwater pipe and two access pits within a drainage easement along the site's northern boundary, servicing lots within the subdivision.

#### 5.1.2 POINT OF CONNECTION

The point of connection for the site will be provided as part of the proposed subdivision in the southwestern corner of the site. The connection will be a 150 mm diameter PVC pipe discharging into a side entry pit.

## 6 STORMWATER QUANTITY ASSESSMENT

### 6.1 KEY DESIGN CRITERIA

An assessment of stormwater quantity has been undertaken to ensure that stormwater runoff from the development is managed in accordance with the Tasmanian Stormwater Policy Guidance and Standards (2021) guidelines and industry best practice. Key design criteria and management strategy responses specific to the development site are outlined in Table 3.

**Table 3: Stormwater service provider key design criteria and stormwater management strategy responses.**

Key Design Criteria	Stormwater Management Strategy
The minor system is intended to manage nuisance flows. Flow should be conveyed in a safe manner, minimising nuisance and damage to property. Infrastructure should be designed to avoid maintenance and safety issues associated with ponding.	The underground stormwater conveyance network is designed to accommodate a 5% AEP storm event with consideration for climate change in 2100.
The major system is intended to mitigate disaster and includes overland flow paths on roads and through open spaces and is designed to convey runoff produced in larger, rarer storm events. Overland flow is potentially hazardous and must be safely contained with defined flow paths, or otherwise the risk of human interaction must be tolerable.	Combined stormwater conveyance through the underground stormwater network and overland flow paths is designed to accommodate a 1% AEP storm event with consideration for climate change in 2100.
Stormwater disposal must be in accordance with the requirements of the Tasmanian Planning Scheme, the Tasmanian Subdivision Guidelines, and any Stormwater Service Provider by-laws.	Stormwater disposal by gravity is proposed in accordance with Council requirements. The development will be provided with/reuse the existing DN150 connection point into the public underground system.
Any increase in stormwater runoff must be accommodated within an existing public stormwater system, public infrastructure upgraded by the developer or on-site detention designed to offset the increase in runoff caused by the development.	Stormwater will be detained on-site to ensure that runoff during a minor storm event does not exceed pre-development levels, due to the increase in impervious surface area. To achieve this, an underground stormwater detention system is proposed near the site outlet. The system will be fitted with a low-flow orifice for minor storm event flow management and a high-flow weir to accommodate larger storm events.

### 6.2 HYDROLOGY

#### 6.2.1 METHODOLOGY

A hydrologic analysis was conducted using a runoff routing hydrograph modelling approach. The Laurenson model was applied within 12d Model to identify critical storm durations and generate hydrographs for input into a hydraulic model. The Laurenson model uses a non-linear cascading storage method to determine catchment lag rather than travel path, as seen in time-area methods.

The assessment has been undertaken using the following Bureau of Meteorology (BOM) and ARR 2019 Data Hub information as inputs to modelling and for guidance:

- BOM rainfall intensity, frequency and duration (IFD) data.
- Temporal patterns.
- Storm losses.
- Pre-burst depths.
- Climate change influence on rainfall depths and storm losses.

#### 6.2.2 CATCHMENTS

Catchments have been delineated based on survey information and land uses. A catchment map is shown in Appendix C.

## 6.2.3 CLIMATE CHANGE CONSIDERATIONS

The ARR19 guidelines have been updated to provide revised guidance for incorporating climate change into current and future runoff modelling. These updates include recommendations on adjusting rainfall depths and loss parameters to reflect changing climatic conditions. Rainfall depths are predicted to increase significantly for short duration events, whilst losses are also anticipated to increase due to drying antecedent conditions. In this analysis, the recommendations have been applied using the SSP2-4.5 'middle of the road' global warming scenario in the year 2100.

- A rainfall depth increase of 41% has been adopted for a burst duration less than 1 hour.
- An initial loss and continuing loss multiplier of 1.1 and 1.22 has been adopted, respectively.

## 6.2.4 DESIGN STORMS

The following design storms have been considered for analysis:

- 5% AEP minor storm event, in the year 2100 under a SSP2-4.5 climate change scenario.
- 1% AEP major storm event, in the year 2100 under a SSP2-4.5 climate change scenario.

## 6.2.5 MODEL PARAMETERS

### 6.2.5.1 Catchment Modelling Parameters

Runoff surfaces and slopes have been delineated and are summarise in Table 4. Figure 2 shows a map of the delineated catchments.

**Table 4: Catchment type, area, slope and impervious area.**

Catchment	Area (m <sup>2</sup> )	Slope (%)	Impervious Area (%)
Roof	1,159	~2	100
Road	912	~2	100
Landscaped	1,464	~2	0
<b>Post-Development Total</b>	<b>3,536</b>	<b>2</b>	<b>60</b>
<b>Pre-Development Total</b>	<b>3,536</b>	<b>2</b>	<b>0</b>



Figure 2: Development catchments.

### 6.2.5.2 Rainfall Losses

Rainfall losses were modelled using the Initial Loss/Continuing Loss (IL/CL) approach, a widely accepted method across Australia for estimating effective rainfall. This method accounts for both the initial abstraction (interception and depression storage) and the ongoing infiltration and evaporation during a storm event.

The initial loss (IL) values applied in this study were adapted from published rural catchment loss values available on the ARR Data Hub. These values were modified to reflect conditions relevant to the urban environment, including:

- Climate change influences (as recommended by ARR 2019),
- Pre-burst rainfall conditions, and
- Reduced infiltration capacity due to increased imperviousness.

ARR 2019 guidelines suggest that in urban catchments, the initial loss applied to pervious areas should range between 60% to 80% of the equivalent rural value, with a maximum of 100% where impervious areas are minimal. The adopted loss values are shown in Table 5.

Table 5: Initial and continuing loss summary

Loss Parameter/Input	Initial Loss, IL (mm)		Continuing Loss, CL (mm/h)
ARR Data Hub IL-CL – Rural	26		4.3
ARR Data Hub IL-CL – Rural – Climate Change	28.6		5.2
Median Pre-Burst Depths (60min burst for all AEP events)	Min	Max	N/A
	4.9	8.5	

Adopted % of Rural Value for Urban Areas	60%	40%
Calculated IL - Urban Areas	17.2	2.1
Reduction of IL to account for pre-burst rainfall	8.5	N/A
<b>Adopted Value - Pervious Area</b>	<b>8.7</b>	<b>2.1</b>
<b>Adopted Value - Impervious Area</b>	<b>0.0</b>	<b>0.0</b>

### 6.2.5.3 Roughness Values

The catchment surface roughness is a parameter used within the Laurenson runoff routing model to estimate storage delay and hydrograph timing. Adopted roughness values are shown in Table 6.

**Table 6: Surface roughness values.**

Runoff Surface	Roughness Value (n)
Impervious	0.025
Pervious	0.045

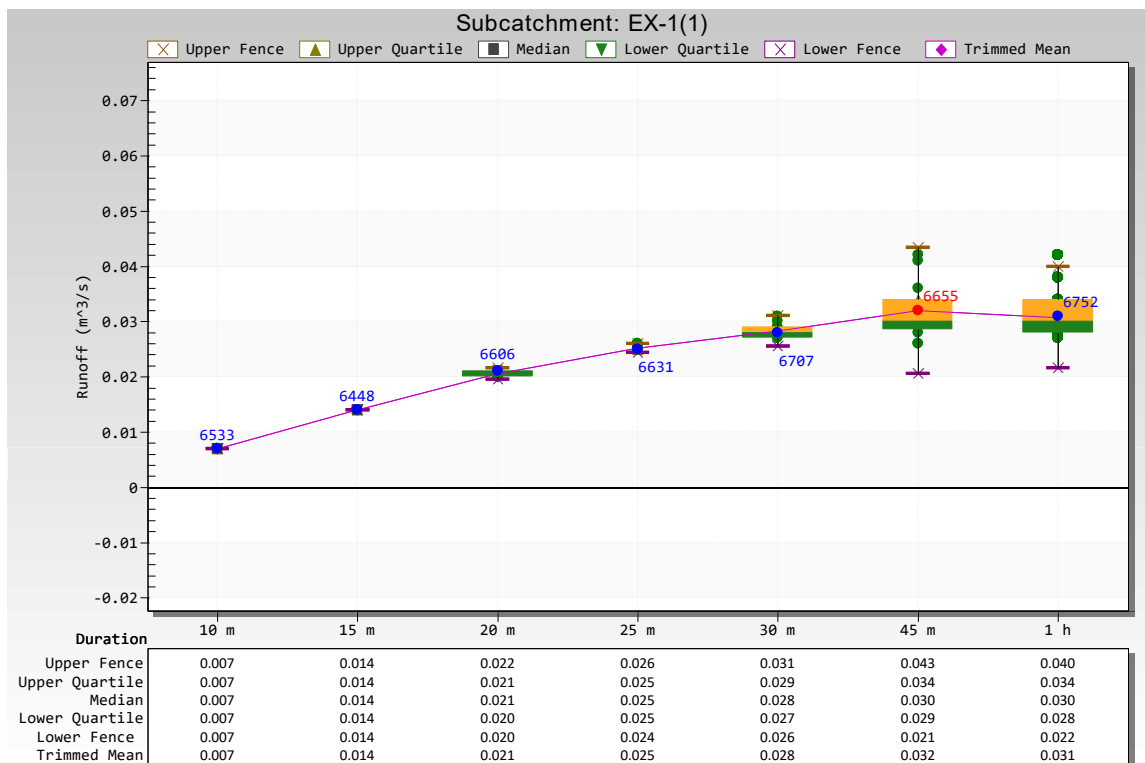
### 6.2.5.4 Results

Box and whisker plots showing storm ensembles for various storm durations are shown in Figure 3 and Figure 4.

Table 7 shows a summary of the critical duration trimmed mean flow rate for the minor storm event.

**Table 7: Critical storm peak flow rate and duration results.**

Scenario	Critical Duration Trimmed Mean Event Flow Rate (m <sup>3</sup> /s)
Pre-development	0.032
Post-development	0.057



**Figure 3: Pre-development 5% AEP storm event discharge ensemble box and whisker plot.**

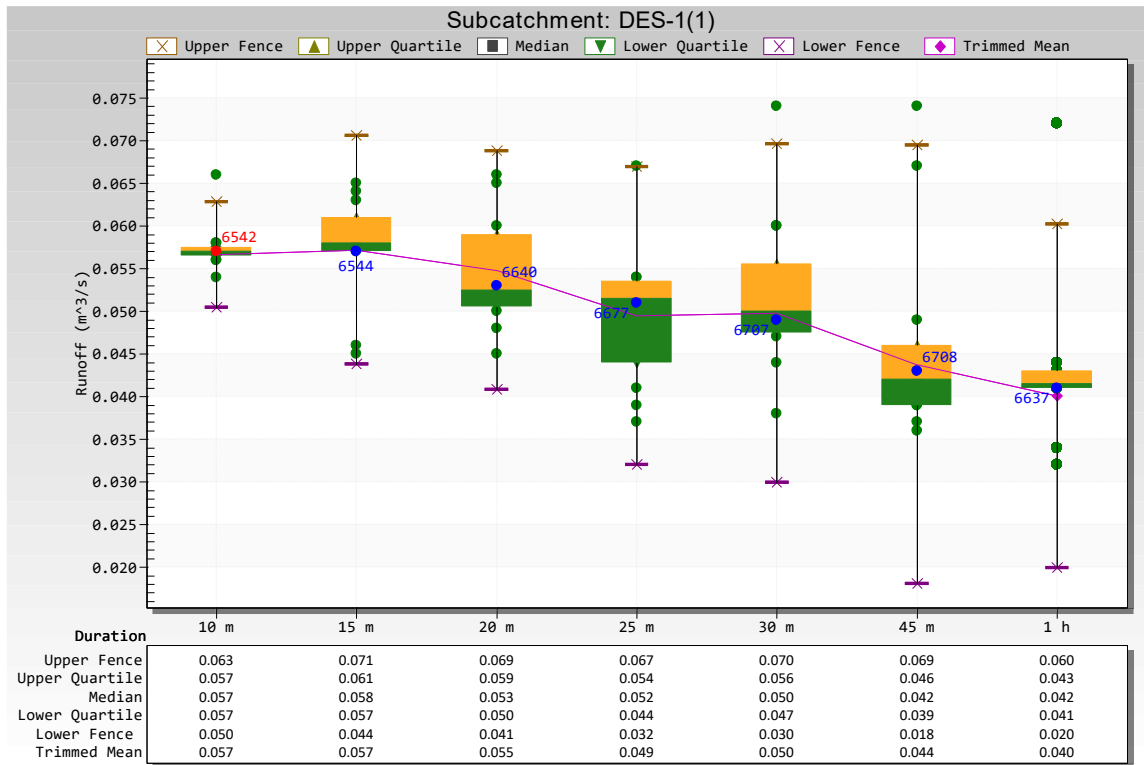


Figure 4: Post-development 5% AEP storm event discharge ensemble box and whisker plot.

## 6.3 HYDRAULICS

### 6.3.1 ON-SITE STORMWATER DETENTION

#### 6.3.1.1 Modelling Summary

A detention system was modelled to assess the impacts of the proposed development on runoff characteristics for a 5% Annual Exceedance Probability (AEP) storm event, in accordance with council requirements. Key observations include:

- Post-development runoff is expected to increase due to a higher proportion of impervious surfaces introduced by the development.
- A detention system was evaluated to mitigate the increase in peak flow rates and ensure compliance with regulatory requirements.
- The Permissible Site Discharge (PSD) was determined based on the critical storm trimmed mean ensemble runoff from the pre-development scenario. Table 8 shows the PSD determined.

**Table 8: Permissible site discharge (PSD)**

Permissible Site Discharge (PSD)	32 L/s
----------------------------------	--------

#### 6.3.1.2 Detention System Results

Figure 5 shows the post-development 5% AEP storm event discharge ensemble box and whisker plot with detention incorporated. It is observed that the critical storm trimmed mean ensemble event runoff is less than the PSD, in compliance with regulatory requirements. Figure 6 shows the corresponding detention volume. Detention storage parameters are outlined in Table 9

**Table 9: Detention system parameters.**

Parameter	Value
Mitigated Discharge	28 L/s
Orifice Diameter	115 mm
Storage Volume	20 m <sup>3</sup>
Storage Height	1 m

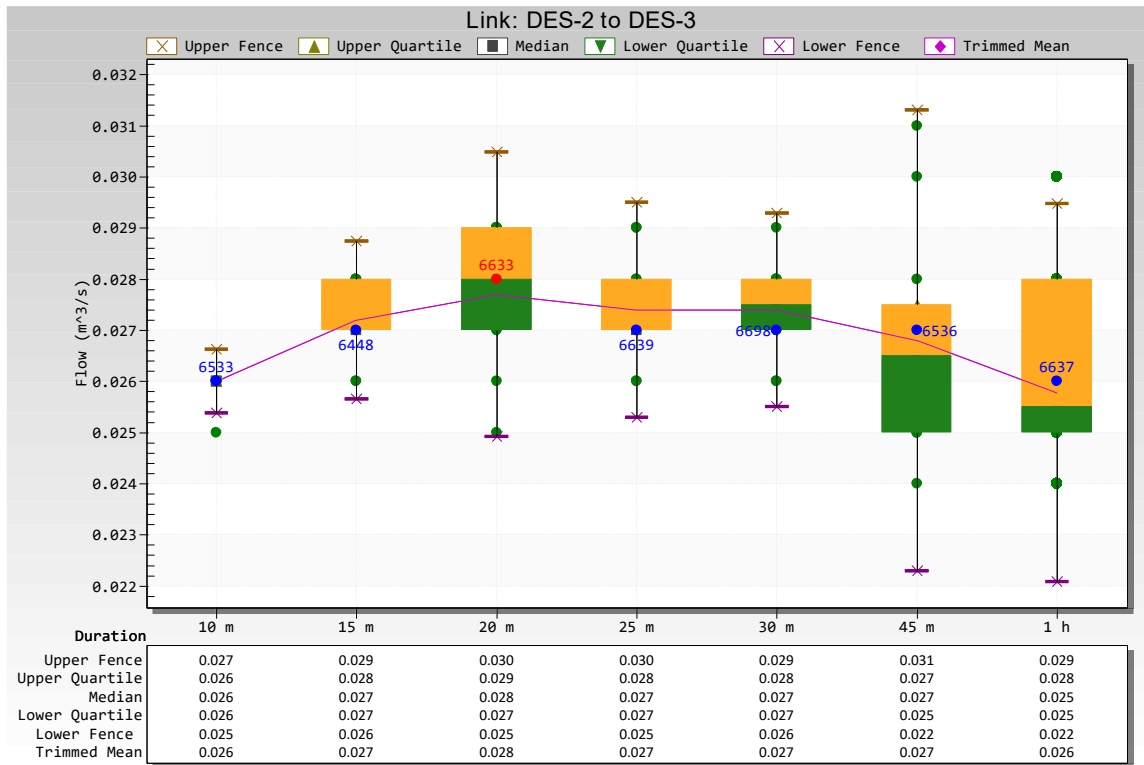


Figure 5: Post-development with detention, 5% AEP storm event discharge ensemble box and whisker plot.

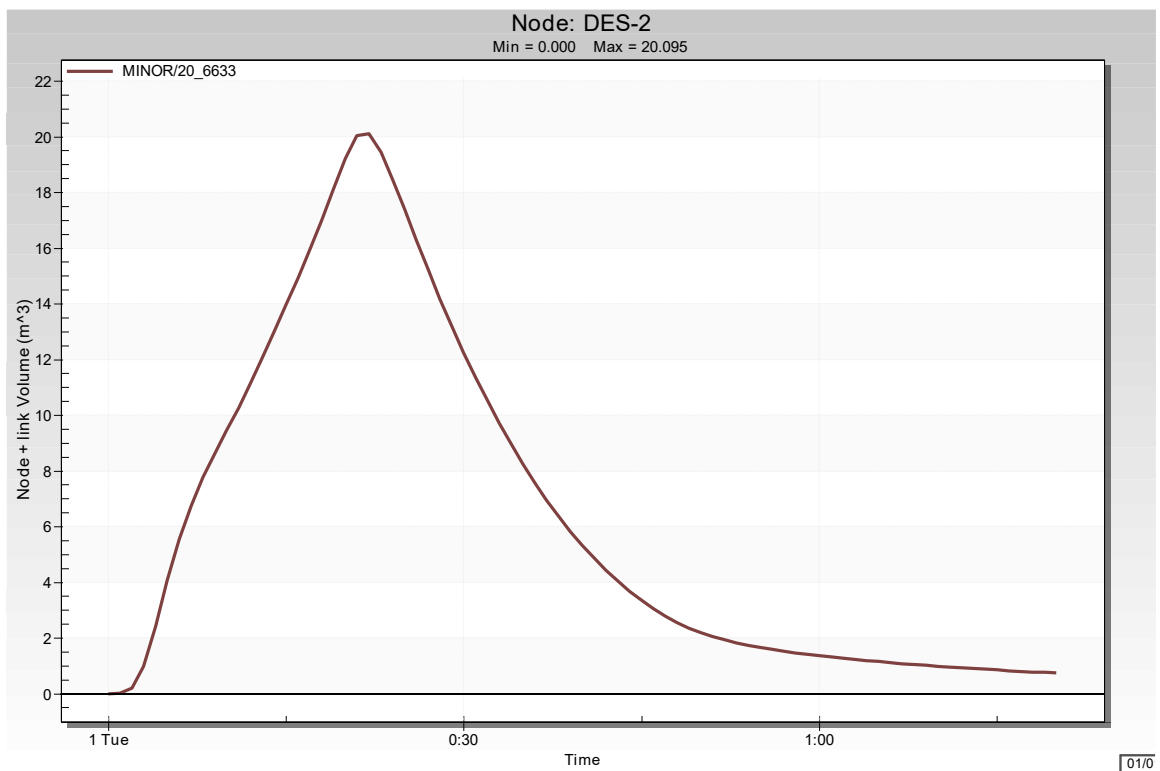


Figure 6: Post-development, with detention, 5% AEP storm event critical event volume ensemble box and whisker plot.

### 6.3.2 EXTERNAL CATCHMENTS

The development site is not impacted by any significant external catchments or major overland flow paths. Flood mapping data published by SES Tasmania confirms that the primary overland flow corridor is located to the west of the site and does not encroach upon the development area.

Additionally, overland flow from adjacent minor catchments is managed via local drainage infrastructure, including side entry pits and stormwater mains, with the development site grading and drainage to be designed to capture any nuisance flows effectively.

Figure 7 illustrates the extent of 1% AEP overland flooding under climate change conditions, noting that it is unknown whether the latest climate change guidance in ARR has been incorporated into the results, however, there appears to be sufficient clearance from the overland flow path for immunity from increases in runoff due to climate change or a larger event.

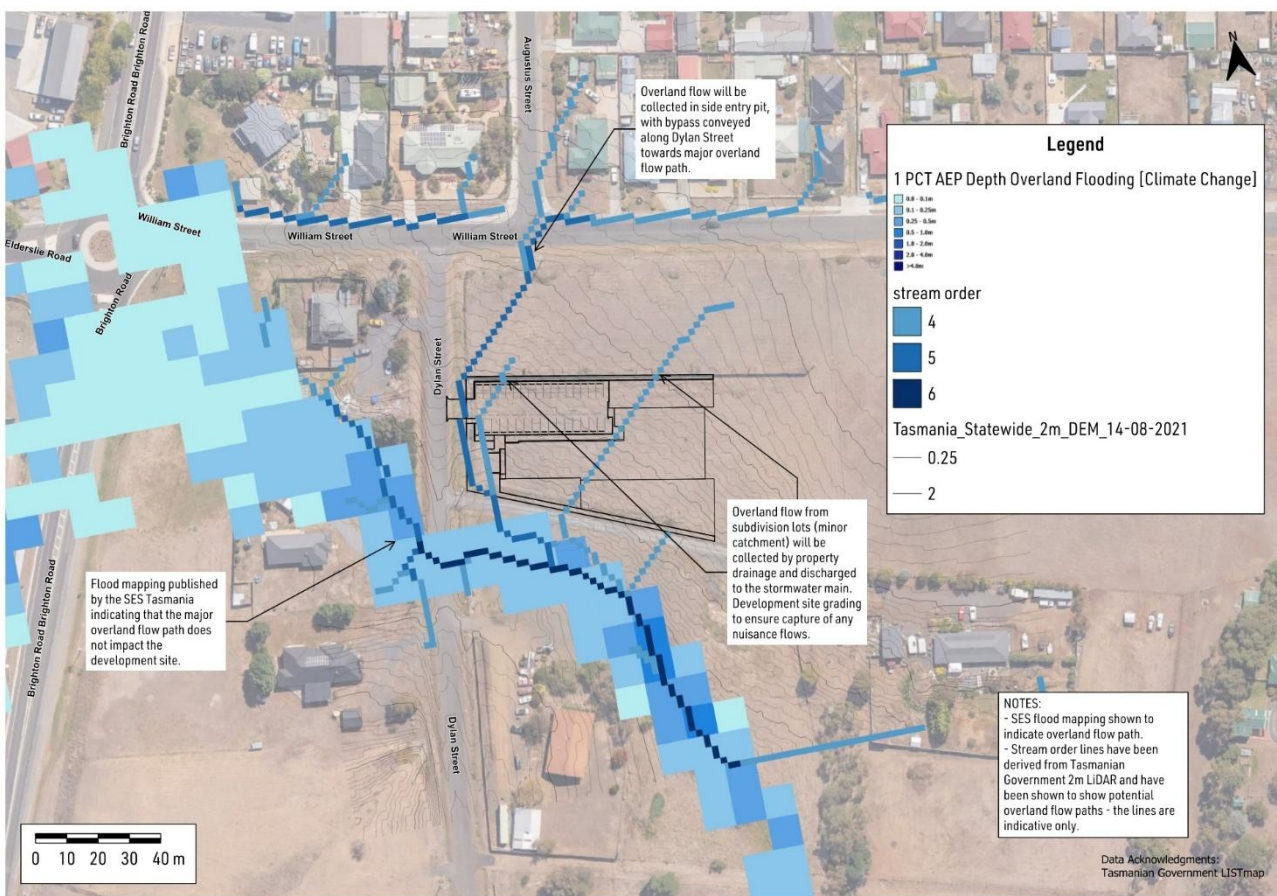


Figure 7: SES published 1% AEP overland flooding depths and external catchment interaction.

## 7 STORMWATER QUALITY ASSESSMENT

### 7.1 TREATMENT REQUIREMENTS

An assessment of stormwater quality has been undertaken to ensure that stormwater runoff from the development is managed in accordance with the Tasmanian Stormwater Policy Guidance and Standards (2021) guidelines and industry best practice. Key design criteria and management strategy responses specific to the development site are outlined in Table 10.

**Table 10: Stormwater service provider key design criteria and stormwater management strategy responses.**

Key Design Criteria	Stormwater Management Strategy
<p>Stormwater pollutants must be treated in accordance with the 'Standard Stormwater Treatment Requirements', in accordance with Table 3 of the Tasmanian Stormwater Policy Guidance and Standards (2021).</p> <p>Based on typical urban stormwater concentration levels, the following pollutant reductions must be met:</p> <ul style="list-style-type: none"> <li>• 90% reduction in the average annual load of litter and gross pollutants.</li> <li>• 80% reduction in the average annual load of total suspended solids (TSS).</li> <li>• 45% reduction in total phosphorus (TP).</li> <li>• 45% reduction in total nitrogen (TN).</li> </ul>	<p>The treatment requirements will be met by implementing a treatment system near the development site outlet.</p>

### 7.2 MUSIC MODELLING

Water quality modelling has been undertaken in accordance with Derwent Estuary Program and Water by Design guidelines. MUSIC modelling software has been used to estimate the reduction targets for the development. Proprietary WSUD treatment nodes have been modelled in accordance with manufacturer guidelines. The parameters used within the MUSIC model are described in the following sections.

#### 7.2.1 MODEL INFORMATION

The quality of stormwater runoff and the effectiveness of proposed stormwater treatment measures have been assessed using the MUSIC (Model for Urban Stormwater Improvement Conceptualisation) software. The modelling was carried out in accordance with the *MUSIC Modelling Guidelines* (Water by Design, 2018).

##### Rainfall Data

Rainfall input parameters used in the model are summarised in Table 11. These inputs are based on historical data from the Hobart rainfall station and include key variables required for accurate hydrological simulation.

**Table 11: MUSIC modelling rainfall data.**

Parameter	Value
Rain Station	Ellerslie Road Station (094029)
Time Step	6 min
Period of Record	1990 to 2010
Mean Annual Rainfall	620
Evapotranspiration	903

Pollutant generation rates were modelled using values recommended in the Melbourne Water MUSIC Guidelines (2018). Proprietary treatment nodes were modelled using parameters specified by the respective manufacturers. Non-proprietary treatment nodes (e.g., swales, bioretention systems) were assigned parameters consistent with the Melbourne Water MUSIC Guidelines (2018).

## 7.2.2 POLLUTANT CATCHMENTS

To assess stormwater pollutant loads within MUSIC, the development site was divided into catchment surface types including road surfaces, roofed areas, and landscaped zones, each with varying levels of imperviousness and pollutant generation.

Figure 2 shows a map of the site, delineating each pollutant catchment. Table 12 provides a summary of each catchment, including total surface area and the percentage of impervious cover.

**Table 12: Development pollutant catchment summary.**

Catchment	Area (m <sup>2</sup> )	Impervious Area (%)
Roof	1,159	100
Road	912	100
Landscaped	1,464	0

## 7.2.3 TREATMENT SYSTEM

Stormwater treatment for the development is achieved through a proprietary treatment train comprising primary and secondary filtration devices. The proposed system layout has been modelled using the MUSIC software to evaluate pollutant reduction performance.

Table 13 provides a description of the treatment nodes included in the system, while Figure 8 illustrates the MUSIC model schematic along with the associated results at the receiving node.

**Table 13: Treatment Nodes**

Node	Quantity	Description
Ocean Protect OceanGuards with 200µm mesh bags (OG-200)	Each Carpark Inlet Pit	Side entry pit basket designed to capture stormwater gross pollutants.
Ocean Protect JellyFish JF900-1-1 (686mm Cartridges) (230mm Head)	1 unit	Cartridge-based stormwater filtration system for the removal of heavy metals, suspended solids, and nutrients.

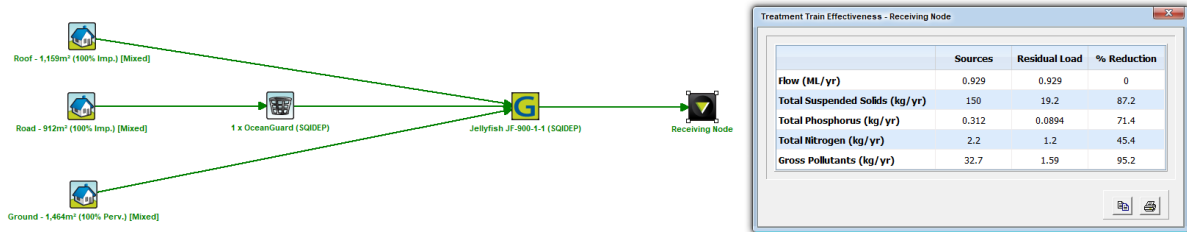


Figure 8: Proposed stormwater treatment system MUSIC model schematic and results.

## 7.2.4 RESULTS

The MUSIC model was used to assess the performance of the treatment train in reducing typical urban stormwater pollutants. The results demonstrate the system’s ability to meet stormwater quality objectives. A summary of the pollutant reduction performance is provided in Table 14.

Table 14: MUSIC modelling pollutant reduction result summary.

Pollutant (kg/yr)	Source (kg/yr)	Residual Load (kg/yr)	Reduction (%)
Total Suspended Solids	150	19.2	87.2
Total Phosphorus	0.312	0.0894	71.4
Total Nitrogen	2.2	1.2	45.4
Gross Pollutants	32.7	1.59	95.2

## 7.3 EROSION AND SEDIMENT CONTROL

Prior to and during construction activities, it is essential to implement staged erosion and sediment control (ESC) measures to minimise environmental impacts and ensure compliance with water quality standards. These measures must be aligned with the progression of the development, from the pre-development phase through to construction and maintenance.

Table 15 outlines the erosion and sediment control (ESC) measures required at each key phase of the project. The controls are designed to address site-specific risks associated with soil disturbance, runoff, and sediment transport, and must be applied in accordance with the International Erosion Control Association (IECA) Guidelines.

Table 15: Erosion and Sediment Control (ESC) measures required during project phases.

Project Phase	Erosion and Sediment Control Measures
Pre-Development	<ul style="list-style-type: none"> <li>Install sediment barriers at entry points to downstream stormwater infrastructure (e.g., gully pits).</li> </ul>

	<ul style="list-style-type: none"> <li>• Establish designated transport routes to minimise vegetation disturbance.</li> <li>• Retain existing vegetation where possible to reduce soil disturbance and filter runoff.</li> <li>• Provide stabilised entry and exit points with shakedown pads.</li> <li>• Install sediment fencing along downstream boundaries.</li> <li>• Implement dust control measures as necessary.</li> </ul>
Bulk Earthworks	<ul style="list-style-type: none"> <li>• Install sediment barriers near downstream stormwater infrastructure.</li> <li>• Define haulage and access routes to minimise vegetation disturbance.</li> <li>• Preserve vegetation where feasible to stabilise soil and filter runoff.</li> <li>• Provide stabilised entry/exit points with shakedown facilities.</li> <li>• Install sediment fencing at downstream boundaries.</li> <li>• Apply dust suppression as required.</li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Construct temporary diversion drains to direct runoff to sediment basins.</li> <li>• Protect treatment devices (e.g., bioretention areas) with temporary diversion drains.</li> <li>• Install sediment barriers at access points to new stormwater structures.</li> <li>• Place sediment fencing downslope of stockpiles and batters.</li> <li>• Re-vegetate disturbed areas within two (2) weeks of completion.</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>• All erosion and sediment control devices are to be maintained throughout the development, leading up to the operational phase. Devices must be monitored throughout the project phases to ensure they are operating effectively. No erosion and sediment control devices are to be removed unless otherwise authorised by a suitably qualified engineer or the site superintendent.</li> </ul>

## 8 WATER AND FIRE SUPPLY

### 8.1 EXISTING INFRASTRUCTURE

The following TasWater water infrastructure is in the vicinity of the development site:

- A 100 mm PVC-U reticulation main is located along the eastern side of Dylan Street, adjacent to the site frontage.
- Two major bulk water transfer mains are located in William Street, to the north of the site:
  - A 250 mm CIPL (Cast Iron Cement Lined) water main.
  - A 648 mm MSCL (Mild Steel Cement Lined) water main.
- Two TasWater water hydrants are located near the Dylan Street/William Street intersection and near the site's southern boundary.

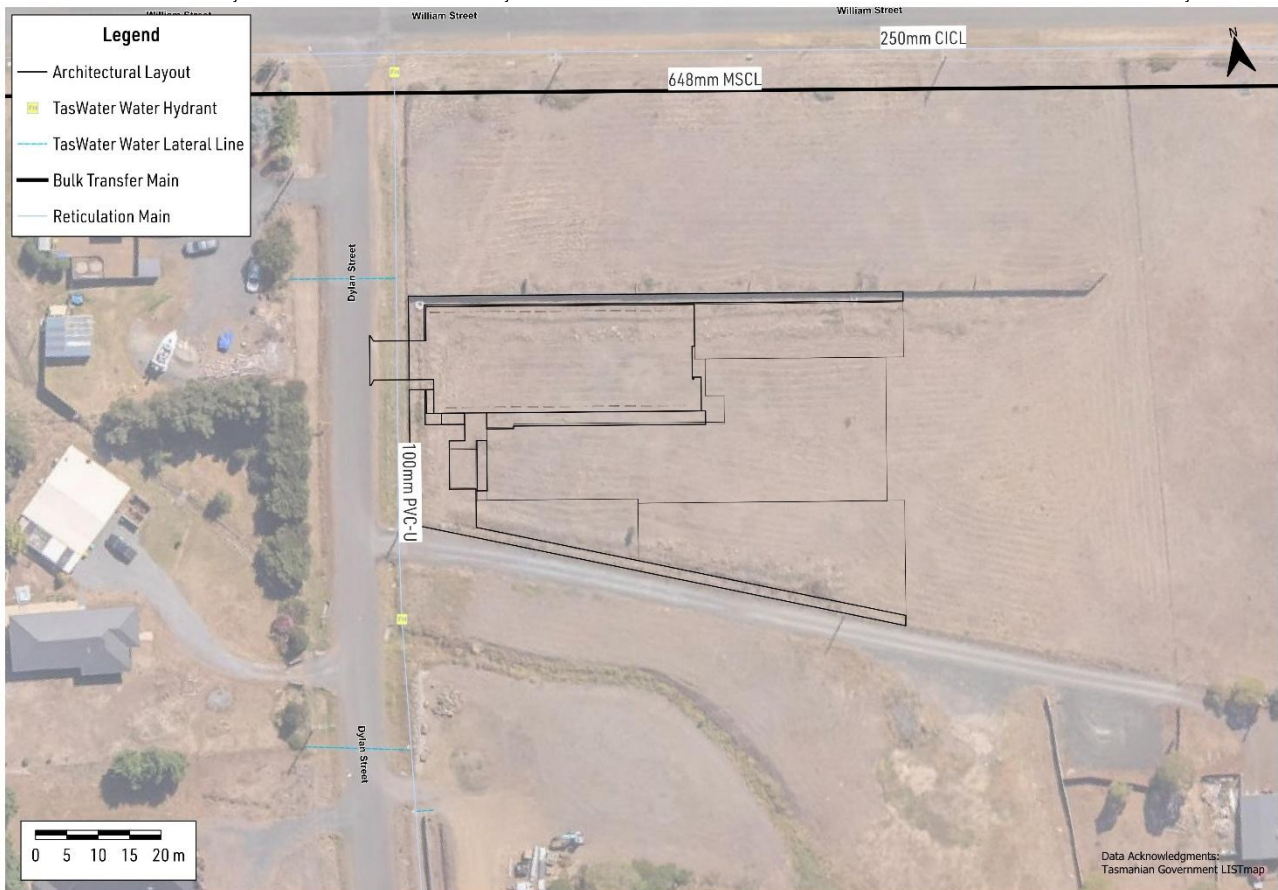


Figure 9: Existing TasWater water infrastructure (GIS).

## 8.2 DESIGN INPUTS

The design inputs outlined in Table 16 have been used to estimate the water demand for the proposed development. These inputs are based on the total number of occupants, typical equivalent tenement (ET) values, and WSAA/TasWater design criteria for both domestic and fire flow requirements.

**Table 16: Water demand parameters.**

Parameter	Value
Number of People	126 Children 24 Staff <u>150 Total</u>
ET	9
Average Daily Demand (AD)	685 L/ET/day
Mean Day Max Month (MDMM) Factor	1.5
Peak Day (PD) Factor	2.25
Peak Hour (PH) Factor	2.0
Fire Demand	20 L/s

## 8.3 FLOW ESTIMATION

The estimated average day, peak day, peak hour, and fire flow demands for the site are summarised in the Table 17.

**Table 17: Water demand estimate summary.**

Parameter	Flow (L/s)
Average Day (AD)	0.07
Peak Day (PD)	0.16
Peak Hour (PH)	0.32
Probable Simultaneous Discharge (PSD) (AS3500.1)	1.64
Fire Demand	20.0 <sup>12</sup>

<sup>1</sup> TasWater Supplement to WSAA Water Supply Code of Australia - MRWA Edition

<sup>2</sup> Under AS 2419.1 Table 2.2.5(B), two hydrants are required to operate simultaneously for a Class 9 building with a floor area exceeding 1,000 m<sup>2</sup>. In this case, that threshold is exceeded by only 30 m<sup>2</sup>. A childcare building up to two storeys with a floor area of up to 5,000 m<sup>2</sup> may be served by two hydrants, so the requirement here represents only a minor increase beyond the area at which a single hydrant would normally satisfy the NCC DfS provisions.

## 8.4 POINT OF CONNECTION

It is proposed to service the development with a new water connection from the existing TasWater network in Dylan Street. The proposed arrangement includes the following:

- Installation of a new property connection to the existing 100 mm PVC-U water main in Dylan Street.
- Provision of a low-hazard water meter assembly located within the property boundary, in accordance with TasWater Standard Drawing TWS-W-0002.
- All water servicing works are to be constructed by TasWater at the developer's cost.

A concept servicing plan illustrating the proposed water connection layout is provided in Appendix C. The connection size, alignment, and meter configuration will be confirmed during the detailed design phase by the appointed building services consultant.

## 8.5 INTERNAL FIRE HYDRANTS

Internal fire hydrants, hose reels, and associated suppression systems form part of the building's internal fire protection measures and fall outside the scope of this engineering servicing report. These elements must comply with the relevant provisions of the Building Code of Australia (BCA) and AS 2419.1 Fire Hydrant Installations. Assessment and certification of these systems are undertaken by the Services Engineer and Building Surveyor as part of the building approval process.

However, a review of available flow and pressure to support firefighting requirements was prompted by a TasWater request for additional information. Castellán Consulting was engaged to provide advice and performance solutions in response to Deemed-to-Satisfy (DtS) non-compliances identified within the proposed fire hydrant system. The purpose of the engagement was to confirm whether an internal hydrant was required and to assess the capacity of the existing water reticulation system to deliver the required flow rate for firefighting.

The DtS concerns related to the following issues:

- Street hydrants in Dylan Street do not provide full hydrant coverage to the building.
- The available flow and pressure in the town main may be insufficient to support two feed hydrants operating simultaneously.

An acceptable hydrant arrangement has been developed using the existing street hydrants, supplemented by the proposed additional hydrant detailed in this report. This arrangement is subject to consultation with, and approval by, the Tasmania Fire Service. Flow testing undertaken by TasWater indicates that adequate flow and pressure are available, and it is anticipated that DtS-compliant performance will be achieved once the new hydrant is installed. As a result, a performance solution is not considered necessary for this aspect of the hydrant system.

The Castellán Consulting *Performance Based Design Brief – Fire Hydrant System* is shown in Appendix E.

## 9 SEWER

### 9.1 EXISTING INFRASTRUCTURE

The following infrastructure is relevant to the subject site:

- A 150 mm diameter PVC-U gravity reticulation main was recently constructed to service the proposed subdivision and area. The sewer runs along Dylan Street to an access pit near the south-western corner of the development site. A 150 mm diameter PVC-U lateral line terminates within the site.

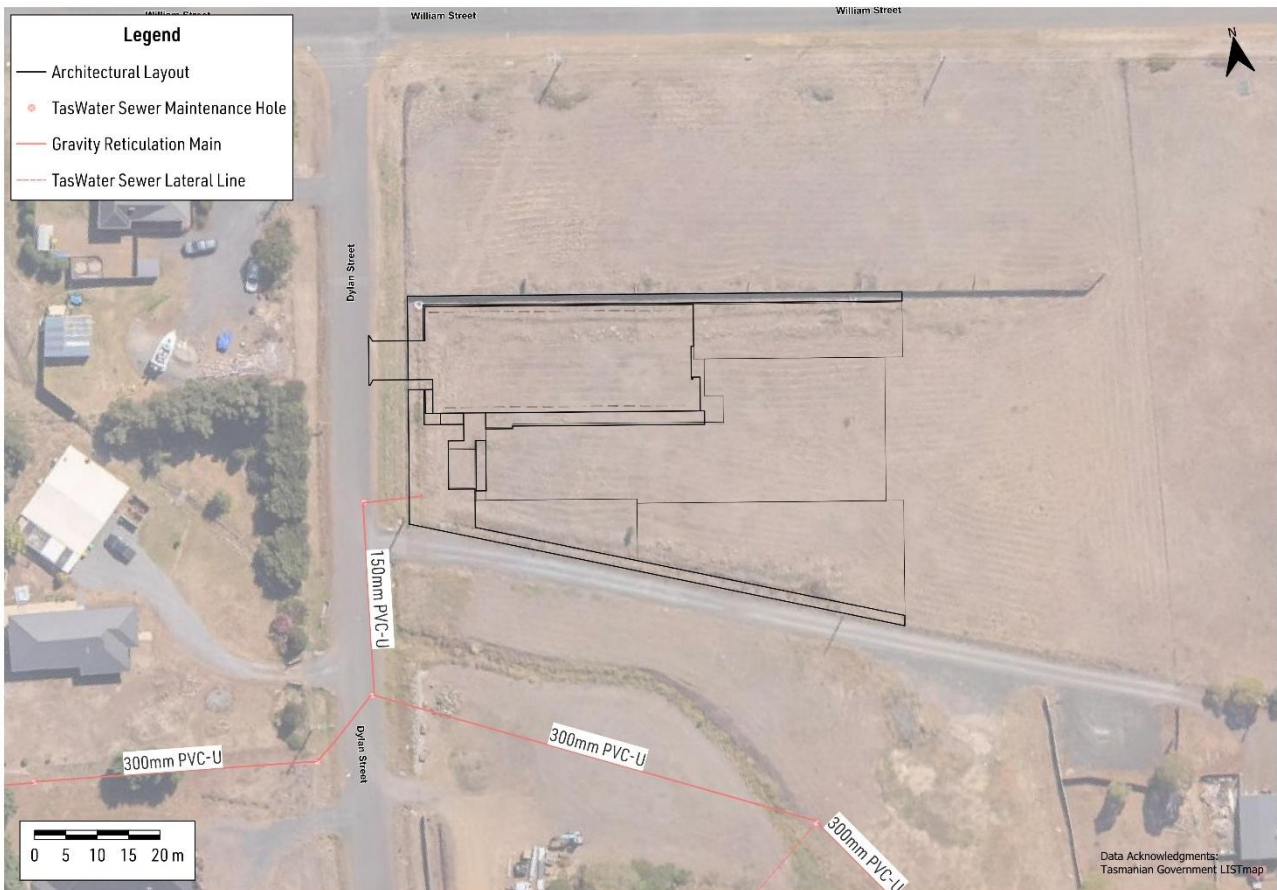


Figure 10: TasWater sewer infrastructure (GIS).

## 9.2 DESIGN INPUTS

Sewer flow design inputs shown in Table 18 are based on the anticipated occupants, site characteristics, and standard ET values. The inputs are in accordance with WSAA/TasWater guidelines.

**Table 18: Sewer demand parameters.**

Parameter	Input
Number of People	126 Children 24 Staff <u>150 Total</u>
Development Type	Commercial/Community Facilities
Site Area	0.36 ha
Groundwater Impacting Pipes	50%
Impervious Area Percentage	60%
Rainfall Intensity (50% AEP, 1 hour)	16 mm/hr
ET	15
Average Daily Flow per ET	450 L/ET/day

## 9.3 FLOW ESTIMATION

Based on the design parameters, the estimated dry weather and total design sewer flows are shown in Table 19.

**Table 19: Sewer demand estimate summary.**

Parameter	Flow (L/s)
Average Dry Weather Flow (ADWF)	0.08
Peaking Factor (d)	9.95
Peak Dry Weather Flow (PDWF)	0.81
Groundwater Infiltration (GWI)	$4.5 \times 10^{-3}$
Rainfall Dependent Infiltration (RDI)	0.18
Design Flow (DF)	0.99
DF / PDWF	1.22

## 9.4 POINT OF CONNECTION

It is proposed to service the development using the existing sewer infrastructure. The servicing strategy includes:

- Reusing the existing 150 mm diameter PVC-U lateral line as the property connection for the development site, subject to coordination with other internal services and confirmation during detailed design
- All sewer servicing works to be constructed by TasWater at the developer's cost

A concept layout illustrating the proposed sewer servicing strategy is included in Appendix C. Final connection details will be refined during the detailed design phase in consultation with the building services consultant and TasWater.

## 10 ELECTRICAL SUPPLY

### 10.1 EXISTING INFRASTRUCTURE

Figure 11 illustrates the existing electrical supply network surrounding the development area. Key features shown include:

- High-voltage overhead lines running along William Street and extending along Dylan Street.
- Low-voltage spans and underground low-voltage cables.
- TasNetworks poles.

### 10.2 POINT OF CONNECTION

An electricity connection will be provided as part of the subdivision works and will be reused for the development, pending detailed design by an electrical services consultant.

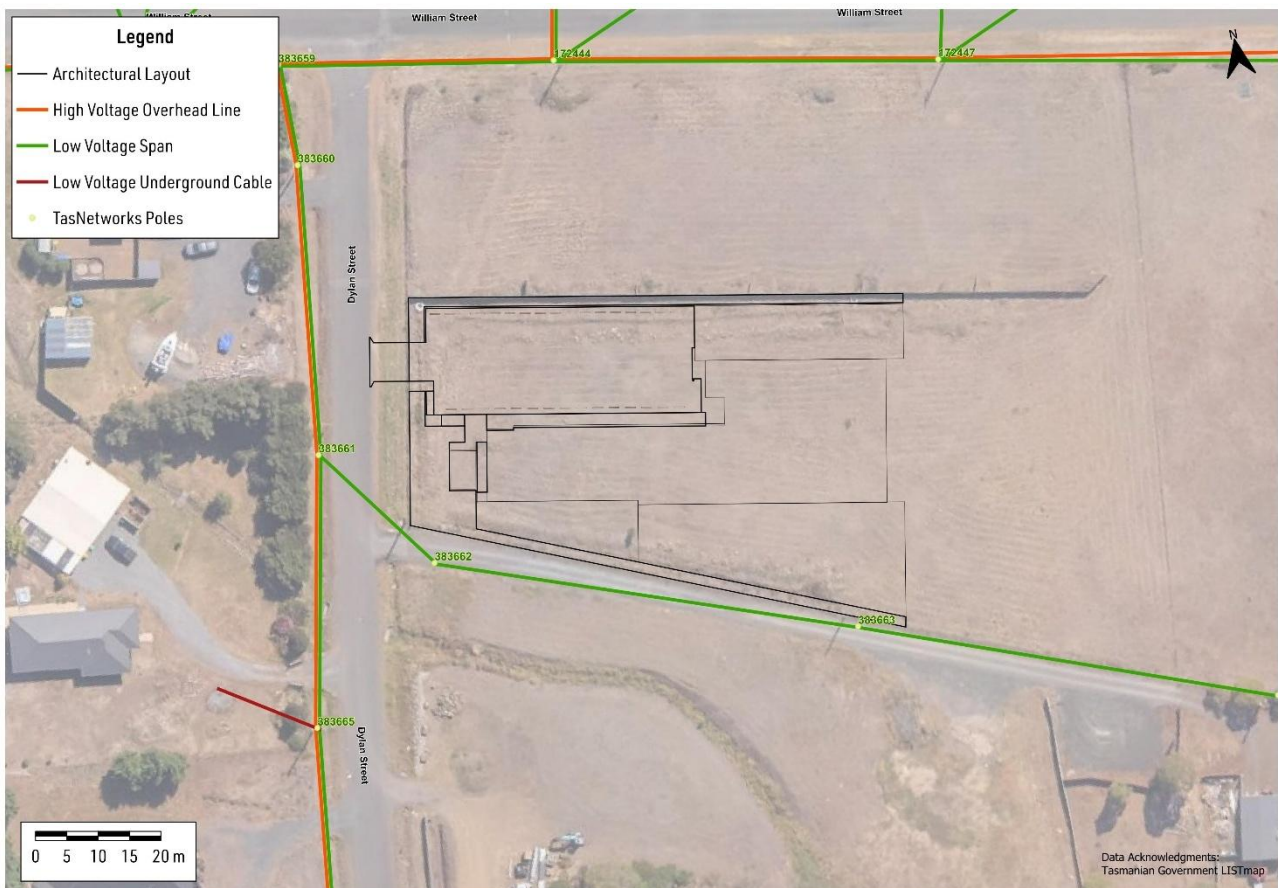


Figure 11: TasNetworks infrastructure (GIS).

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## 11 COMMUNICATIONS

### 11.1 EXISTING INFRASTRUCTURE

Figure 12 illustrates the communications infrastructure surrounding the development site based on Telstra BYDA records. Key observations include:

- Multiple existing telecommunications conduits (OC – Optic Conduit) are present along Dylan Street, William Street, and the nearby reserve.

There is no NBN Co infrastructure in close vicinity to the development site per BYDA records. NBN connections will be provided to each lot during subdivision construction and will be reused for the development.

### 11.2 POINT OF CONNECTION

An NBN connection will be provided as part of the subdivision works and will be reused for the development, pending detailed design by an communication services consultant.

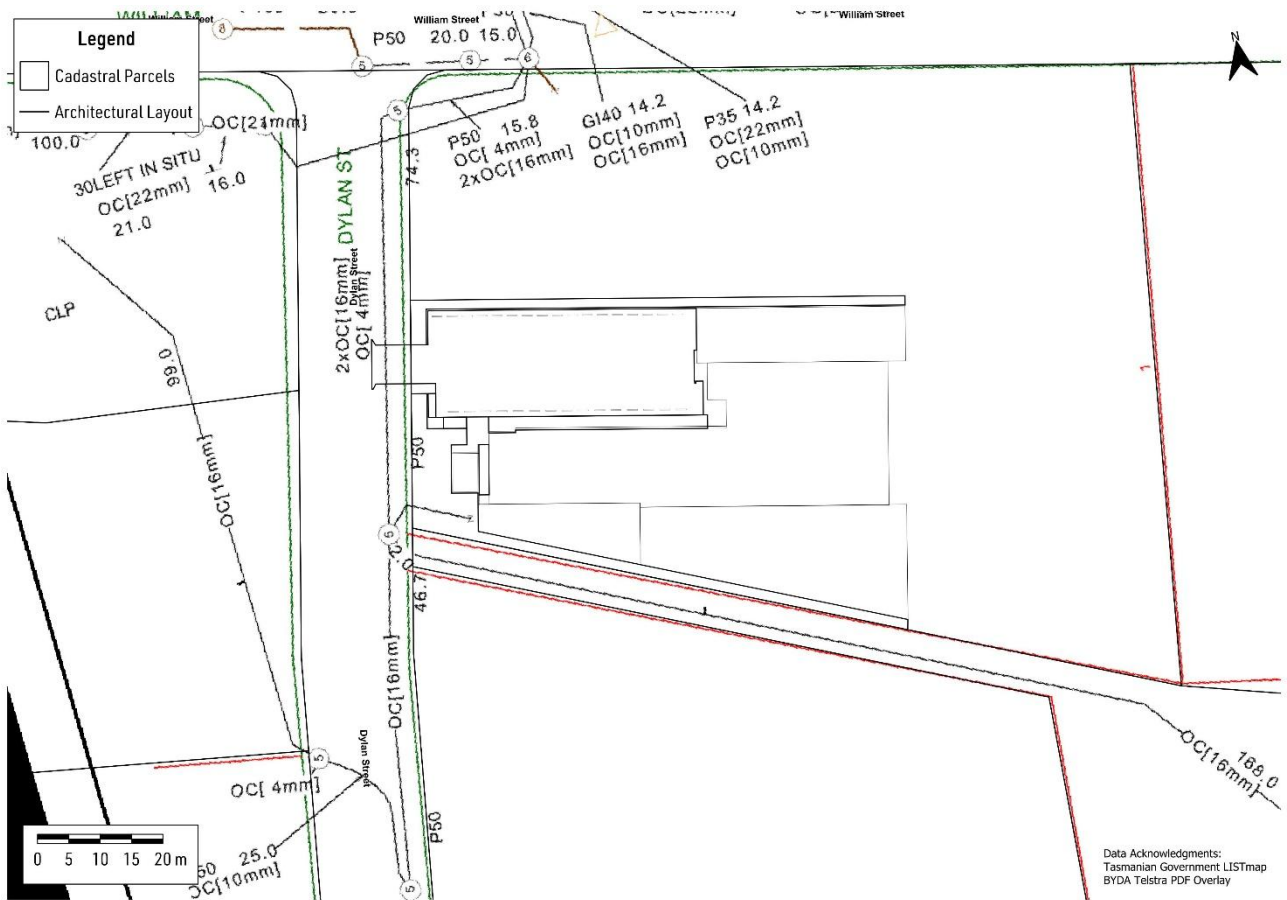


Figure 12: Communications infrastructure.

---

## 12 CONCLUSION

The proposed childcare facility at 1 Dylan Street, Brighton, can be effectively serviced by existing and planned infrastructure associated with the broader subdivision. Stormwater quantity has been addressed through a detention system designed to control runoff to acceptable levels in accordance with council and industry standards.

Stormwater quality treatment will be achieved through a proprietary system reducing stormwater pollutants to required levels. The system has been modelled and assessed to meet relevant environmental performance objectives set by the Tasmanian Stormwater Policy Guidance and Standards for Development (2021).

All essential infrastructure, including water supply, sewerage, road access, electrical and communication services, is available or will be provided as part of the subdivision works. The overall design has been prepared in accordance with applicable engineering standards and incorporates future climate change considerations in line with ARR2019 guidance.

Subject to the implementation of the report's recommendations during detailed design and construction, no significant engineering constraints have been identified that would prevent the development from proceeding.



# APPENDIX

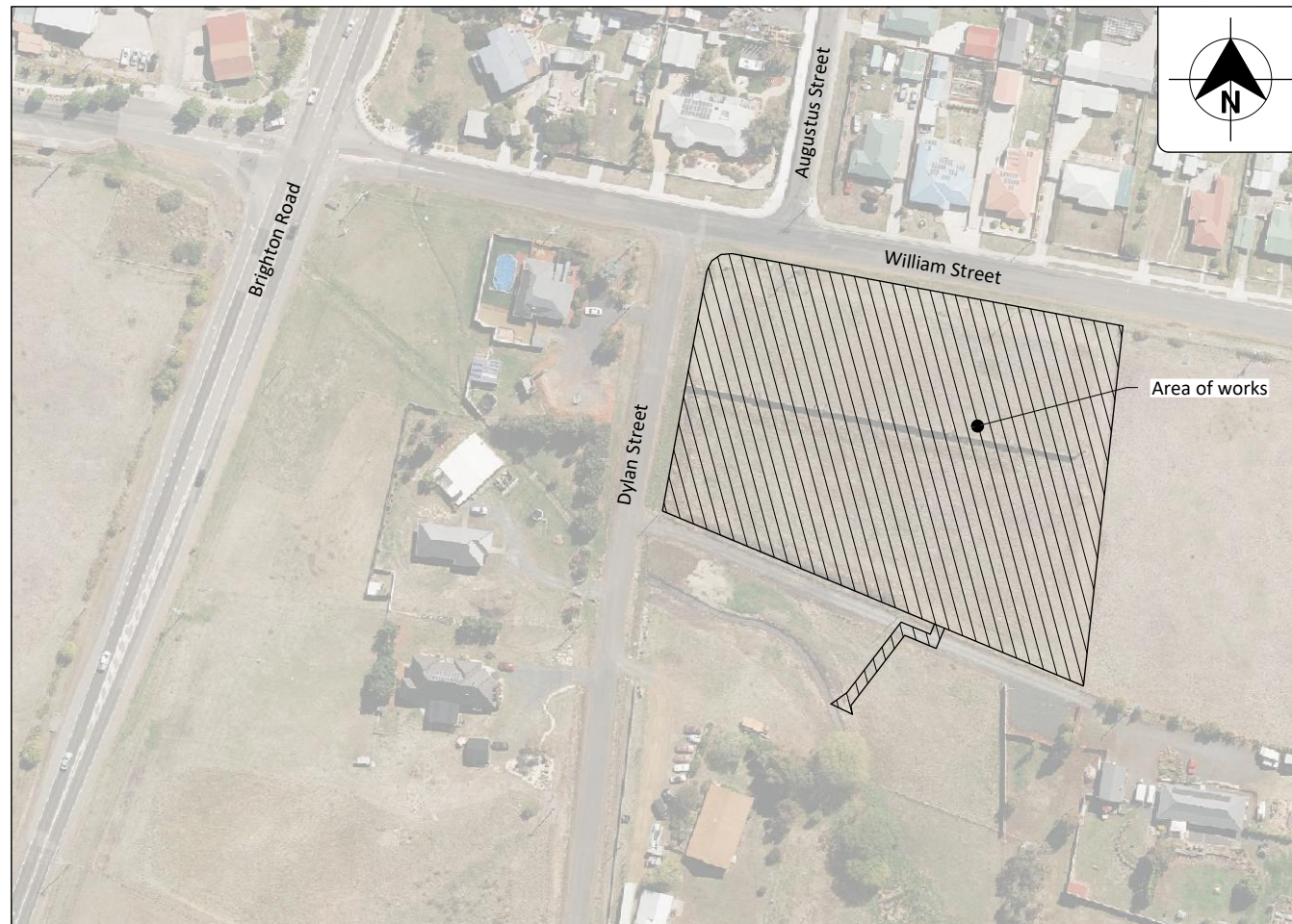
## Appendix A: Architectural Concept Plans



# APPENDIX

## Appendix B: Civil Subdivision Plans

# 8 Lot Subdivision 1 Dylan Street, Brighton For Approval



Locality Plan  
scale NTS

DRAWING LIST	
NUMBER	DESCRIPTION
C-1-00-01	Cover Sheet
C-1-00-02	Legend
C-1-00-03	Project Notes
C-1-02-01	Existing Conditions
C-1-03-01	Bulk Earthworks
C-1-05-01	Alignment Plan
C-1-06-01	Roadworks and Drainage General Arrangement
C-1-08-01	Typical Cross Sections
C-1-10-01	Water and Sewerage General Arrangement
C-1-10-02	Fire Hydrant Coverage Plan
C-1-12-01	Drainage Longitudinal Sections - Sheet 1
C-1-12-02	Drainage Longitudinal Sections - Sheet 2
C-1-13-01	Sewer Longitudinal Sections - Sheet 1
C-1-13-02	Sewer Longitudinal Sections - Sheet 2
C-1-16-01	Road Cross Sections
C-1-17-01	Landscaping and Staging Plan

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Rev No	Date	Revision Note	Drn	Ver.	App.
B	17/11/25	Drawing List Updated	MB	MB	AD
A	09/07/25	For Approval	HP	MB	AD

**AD DESIGN + CONSULTING**  
Engineering / Project Management / Property Development

Client	Dourias Group Holdings
Project	1 Dylan Street, Brighton 8 Lot Subdivision

Drawn	HP	Signed		Date	09/07/25
Designed	MB	Signed		Date	09/07/25
Checked	AD	Signed		Date	09/07/25
Approved	AD	Signed		Date	08/07/25

Drawing Title	Cover Sheet
Project No.	21067
Scale	NTS
Sheet Size	A3
Drawing No.	C-1-00-01
Rev	B

**FOR APPROVAL**

SUBJECT TO FINAL VERIFICATION AND APPROVAL

# Legend

## Design

12.5	Design Contours Labels		Retaining wall
	Design Contours Major		Design Fence
	Design Contours Minor		Design Comms
	Design Boundaries Easement		Design Comms Optical Fiber
	Design Boundaries Property		Design Comms Tele Conc Pit
	Design Crossovers		Design Comms Tele Conc Pit Twin
	Design Road Edge of Concrete		Design Gas main
	Design Road Kerb Back		Design Gas Manhole
	Design Road Kerb Invert		Design Power Underground
	Design Road Kerb Lib		Design Power Overhead
	Design Road Kerb Top		Design Power Junction Box
	Design Road Control Line		Design Power Light Outreach
	Design Road Edge Of Lane		Design Power Pole Light
	Design Road Shoulder		Design Power Pole Power
	Design Road Edge Of Median		Design Flow Path Arrow
	Design Road Verge		Section Design Surface
	Design Road Footpath		Section EX Surface
	Design Road Table Drain		Section Nominal Stripping
	Design Road Barrier W-Beam		
	Design Road Barrier Wire Rope		
	Design Road Sawcut		
	Design Line Marking		
	Design Earthworks Batter		
	Design Sewer Pipe		
	Design Sewer Internal		
	Design Sewer Structures Internal		
	Design Sewer Structures		
	Design Water Main		
	Design Water Internal		
	Design Water Fittings		
	Design Water Fittings		
	Design Drainage Pipe		
	Design Drainage Internal		
	Design Drainage Structure Internal		
	Design Drainage Subsoil		
	Design Drainage GVP		
	Design Drainage SEP Type 1		
	Design Drainage SEP Type 2		
	Design Drainage SEP Type 3		
	Design Drainage SEP Type 4		
	Design Drainage SEP Type 5		
	Design Drainage SEP Type 6		
	Design Drainage Field Inlet		
	Design Drainage Manhole		

## Existing

12	Ex Drainage Dish Drain		Ex Boundary Lot Numbers
	Ex Drainage Open Drain		Ex Boundary Property Line
	Ex Drainage Pipe		Ex Building Outline
	Ex Drainage Spoon Drain		Ex Building Retaining Wall
	Ex Drainage Table Drain		Ex Building Roof Cover
	Ex Drainage Water Course		Ex Building Stairs
	Ex Services Comms		Ex Building Wall
	Ex Services Elec OH		Ex Misc Demolish
	Ex Services Elec UG		Ex Road CL
	Ex Sewer Main		Ex Road Footpath
	Ex Sewer Rising Main		Ex Road Kerb
	Ex Sewer Trunk Main		Ex Services Gas
	Ex Water Pipe		Ex Services Gas High Pressure
	Ex Water Recycled		Ex Services Optic Fibre
	Ex Water Trunk Main		Ex Services Elec Tel OH
	Ex Water Fittings		
	Ex Boundary Cadastral		
	Ex Boundary Fence		
12.5	EX Contours Labels		
	EX Contours Major		
	EX Contours Minor		
	EX Power Junction Box		
	EX Power Light Outreach		
	EX Power Pole Light		
	EX Power Pole Power		
	EX Comms Tele Conc Pit		
	EX Comms Tele Conc Pit Twin		
	EX Sewer Structures		
	EX Water Fittings		

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A	09/07/25	For Approval	HP	MB	AD

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MB		09/07/25
Checked	Signed	Date
AD		09/07/25
Approved	Signed	Date
AD		08/07/25

SUBJECT TO FINAL VERIFICATION AND APPROVAL

Project No.	21067
Scale	NTS
Sheet Size	A3
Drawing No.	C-1-00-02
Rev	A

**FOR APPROVAL**

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# PROJECT NOTES

## General

- These notes have been prepared as a guide to relevant codes, regulations and standards for use by the Contractor during the construction process.
- Council & LGAT current specifications and drawings are to be read in conjunction with these drawings. Works to be carried out to the satisfaction of the Council and in accordance with relevant Permits.
- The Council and all service authorities shall be notified, in writing, seven days prior to commencement of the works. All existing services in the vicinity of the works are to be located prior to commencement.
- Workmanship and materials are to comply with the requirements of relevant S.A.A. Codes, the NCC Australia and by-laws and ordinances of relevant building authorities. All codes referred to are those current (as amended) at commencement of the Contract.
- Prior to commencement of the works, the Contractor shall provide the Superintendent with the following information:
  - Source of quarry material.
  - Optimum moisture content and maximum modified dry density of the fine crushed rock (FCR), to be used from NATA approved laboratory.
  - If the source of the quarry material is changed during the course of the works, new test results shall be provided.
- On completion, the Contractor is responsible for the removal of all rubbish and spoil from the site.
- All services are to be located prior to commencement of works.
- All levels are to be confirmed prior to commencement of works.
- All levels are to the Australian Height Datum (Tasmania) 1983.

## Approvals

- The Contractor is responsible for ensuring that start work notices are in place for all works.
- The Contractor shall not commence construction within a road reserve until the following requirements are met:
  - The 'Permit to Carry Out Works Within a Council Road Reservation' (or equivalent) has been issued by Council; and
  - All traffic management has been prepared in accordance with DSG Traffic Control Code of Practice.
- Refer to Council permit for full disclosure of permit conditions.

## Quality Assurance

If construction certification from ADDC is required, the following requirements must be complied with:

- Inspections, hold points and testing per LGAT and TasWater specifications and drawings must be followed. Please note the frequencies of testing and references to LGAT, TasWater and any other relevant authority drawings and specifications.
- ADDC shall be given the opportunity to carry out all the inspections nominated on LGAT and TasWater specifications. A minimum of 48h notice will be required.
- All costs for the construction support services by ADDC shall be paid by the Developer. ADDC will not carry out any construction support works until there is a suitable commercial agreement between the Developer and ADDC. The contractor shall confirm with the Developer the above agreement is in place before commencing works onsite
- ADDC can provide an example QA documentation filing structure for the Contractor to populate with all QA information progressively. Following this procedure will assist in minimising delays during the final QA review process and preparation of the Certificate of Completion.

## Safety in Design

- The 'Safety in Design' risk mitigation measures for this project do not necessarily account for all design, construction, operation, maintenance and demolition assessments. It does not reduce or limit the obligations of the constructor, user, operator, maintainer and demolisher to perform their own safety in design risk assessment.
- Construction and installation safe work method statements, to eliminate and minimise installation risks, must be reviewed and approved by a suitably qualified person.

## Earthworks

- All general earthworks, material and workmanship shall comply with the current edition of the S.A.A. AS 3798 Guidelines on Earthworks for Commercial and Residential Developments, where applicable.
- Foundations, bedding and trench backfill for the carried out in accordance with AS3798
- The Contractor is to engage an approved Geotechnical Engineer to carry out Level 1 Inspection and Testing of all earthworks to AS3798, including but not limited to:
  - Subgrade;
  - Fills;
  - Pavements; and
  - Backfilling of service trenches.
 Certification of these elements are to be provided to the Superintendent prior to practical completion.
- All earthwork filling is to be constructed in accordance with Section 6 of AS3798. Minimum 95% standard dry density (SMDD).
- Pavement subgrade is to be compacted to a minimum 98% standard dry density (SMDD).
- The Contractor shall erect and maintain all shoring, planking and strutting, dewatering devices, barricades, signs, lights etc necessary to keep works in a safe and stable condition and for the protection of the public.
- The Contractor must take the utmost care to protect all existing vegetation, unless identified on the civil works plans for removal. Should any tree be removed without the Council's written authority, or damaged due to negligence by the Contractor, then the Contractor shall pay compensation for the tree.
- All areas shown on the drawings to be cut or filled are to be stripped of topsoil. Upon completion of the bulk earthworks, the topsoil is to be spread to a depth of 100mm over the area and graded to finished levels shown on the drawings with a minimum slope of 1 in 150.

## Services

- All conduit trenches under road pavement and kerb and channel shall be backfilled with 20 mm Class 4 FCR.
- Connections to existing stormwater and sewer are to be constructed to Council & TasWater standards and in accordance with approvals.
- Telstra conduits and cable ducts shall be laid in trenches excavated and backfilled by the Contractor. The Contractor shall give the Telstra Area Engineer 7 days notice prior to commencing work.
- 100 mm diameter sub soil drains to be constructed behind or under kerb and channel, kerb only and edge strips where directed by the Superintendent or as shown on the plans and to be connected to underground SW drains.
- The reinstatement and compaction of public authority service trenches shall be the Contractors responsibility, and to the satisfaction of the Council.

## Roads

- All works are to be carried out in accordance with Council/LGAT standards. Any departures from the standards requires the prior approval of the Superintendent and the Council Municipal Engineer.
- The Contractor must supply to the Superintendent a schedule and plan of testing to be carried out on pavement & backfill material and this is to be approved by the Superintendent before any works can commence.
- All batters shall be 1 in 4 unless otherwise stated.
- All footpaths to be 100mm thick, N25 concrete in accordance with TSD-R11-v3. Thickening at vehicle crossovers is to be in accordance with TSD-R09-v3.
- All kerb and channel, kerb only, edge strips, and concrete inverts are to be constructed in accordance with TSD-R14-v3. All concrete is to be 25MPa and have a minimum cement content of 280 kg/m<sup>3</sup>.
- For all filling and backfilling requirements, refer to Earthworks section.

## Signage

- The Contractor is to install all signage.
- The Contractor is to install "end of road" barricade/sign at end of works in accordance with staging plans.

## Drainage

- All works to be carried out in accordance with Council Municipal Standards, LGAT standard drawings, AS3500 and project specification where required and to the satisfactory of the Council.
- All fill material is to be placed and compacted prior to excavation of trenches, in accordance with the Earthworks Notes.
- All trench excavations over 1.5m in depth must be carried out in accordance with the Safe Work Australia Excavation Work Code of Practice. The Contractor is to notify the Superintendent 48 hours prior to commencing excavations.
- All stormwater drains shall be as specified on drawings, if not specified all pipes are to be Iplex Blackmax or approved equivalent.
- All stormwater pits in allotments shall be 1.0m offset from building lines unless otherwise shown.
- For all pits constructed on steep terrain, the finished surface profile of the structure is to match the existing or finished slope of the ground.
- All house drains for allotments shall be at a sufficient depth to control drainage at a minimum of 1 in 100 fall from all points within the building area, and shall be connected to underground drains in road reserves where possible, with 600mm minimum cover at the building line. House drains to be placed 2.0m from the low corner of the lot unless otherwise shown.
- All pipes, located beneath existing or proposed road pavement, driveways, footpaths and drains must be completely backfilled with 20mm, Class 4 FCR, watered, compacted & tested to the satisfaction of Council.
- All pipe work in stormwater drainage pits are to be well aligned ensuring incoming flows are jetted directly to the outlet pipe, that is, the centre line of the inlet pipe is to intersect the centre line of the outlet pipe at the outlet pit wall.
- All stormwater pits unless otherwise specified are to be constructed with a minimum concrete strength of 25MPa and provide 2 No. 65 dia weep holes for stormwater side entry pits and manholes.
- All stormwater lot connections are to be 150 mm dia PVC Class SN8 pipes. Unused connections and to be sealed.
- All anchor blocks (concrete bulkheads) are to be keyed into undisturbed, competent material to ensure movement of bedding and backfill material is reduced and the integrity of the pipe is maintained.

## Water

- All water works are to be constructed in accordance with WSAA Water Supply Code of Australia (MRWA) - WSA 03-2011 VER 3.1, AS/NZS 3500 Part 0-4:2021 and the TasWater Supplement to the Code.
- All property connections are to be DN25 PE100 PN16 and in accordance with TW-S-W-0002 with meter with integral dual check valve, gate valve and PVC box as specified by TasWater.
- Where pipes are laid in fill, the filling shall be carried out in accordance with Earthworks Notes.
- All thrust blocks to be in accordance with Taswater Std Drg TW-W-300, refer also WSA03-2011-3.1 MRWA ver 3 MRWA-W-204 and 205A.
- Detector tape is to be installed over all non-metallic water mains.
- All conduits for poly water road crossings are to be uPVC SN4 100mm.
- All trenching, backfill and embedment to be in accordance with WSA03-2011-3.1 MRWA VER 2.0 MRWA-W-201 to 203.
- All hydrant road marking indicators shall be in accordance with Section 8 of the Institute of Municipal Engineering Australia's Tasmanian Division document titled 'Fire Hydrant Guidelines' and the TasWater Supplement to WSA 03-2011-3.1 MRWA.
- All Valves and Hydrants located within roads or driveways to have trafficable covers.
- All water works must be tested and inspected by TasWater prior to backfill.
- The allowable deflections shall be in accordance with MRWA-W-212.

## Sewerage

- All sewerage works are to be in accordance with the WSAA Sewerage Code of Australia (MRWA) WSA 02-2014-3.1 MRWA VER 2.0, AS/NZS 3500 Part 0-4:2021 and the TasWater Supplement to the Code.
- All maintenance structures are to be constructed in accordance with MRWA standard drawings MRWA-S-308 to MRWA-S-314.
- All maintenance shafts are to be constructed in accordance with MRWA standard drawing MRWA-S-305.
- All property connections are to be 100mm UPVC SN10 unless noted otherwise and are to be constructed in accordance with MRWA standard drawings MRWA-S-301, MRWA-S-302 (Type 1), MRWA-S-303 (Type 2) and MRWA-S-304 (Type 4).
- All sewer pipes to be DN150 UPVC minimum SN8 solvent weld joint.
- All pipework under trafficable areas, including driveways are to be backfilled with 20mm, Class 4 FCR.
- All fill material is to be placed and compacted prior to excavation of trenches, in accordance with the Earthworks Notes.
- All sewer works must be tested and inspected by TasWater prior to backfill.
- Fall through manholes to be as specified on design drawings

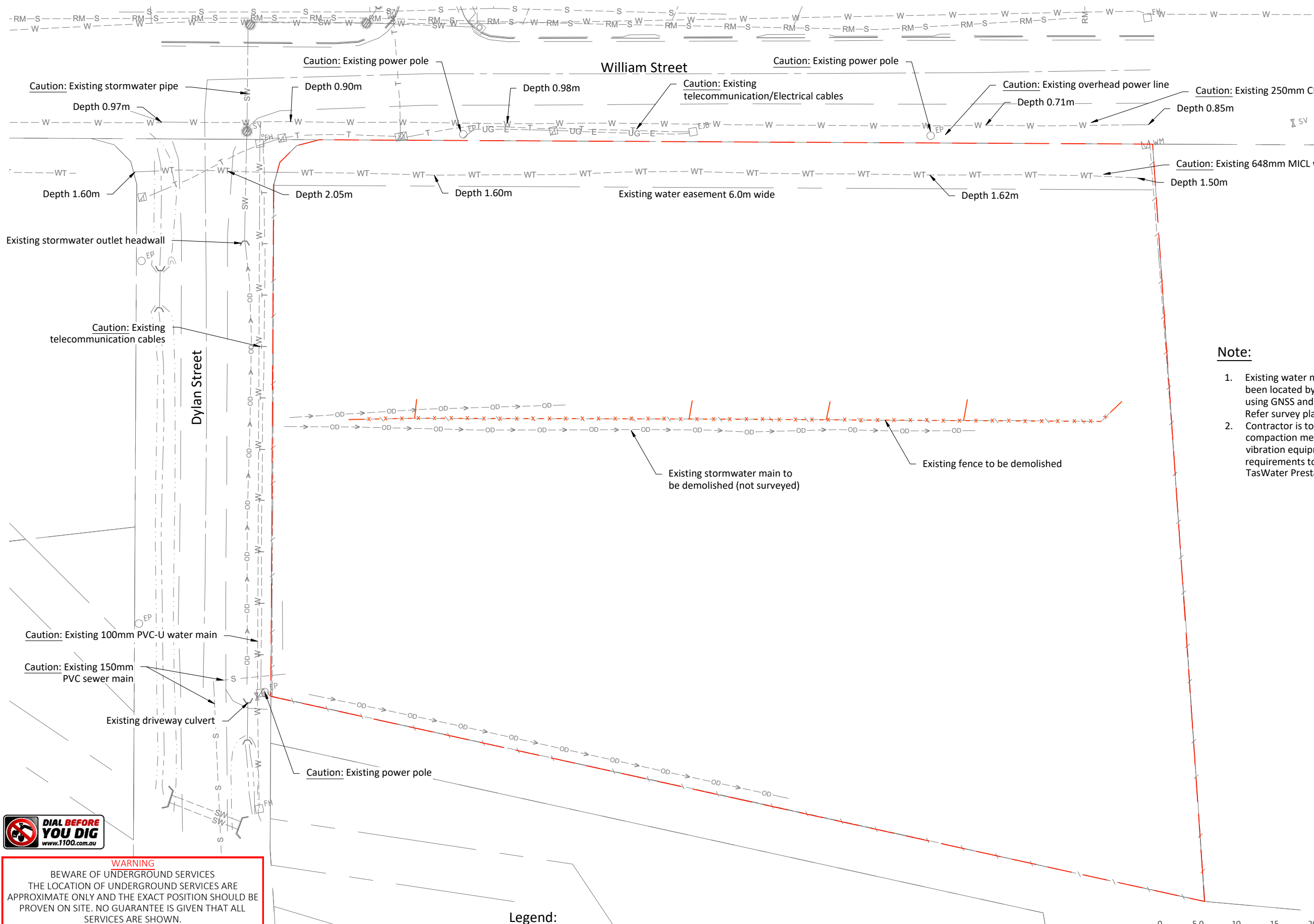
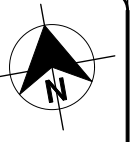
## Schedule of works by TasWater

- All live connections for water and sewer infrastructure are to be performed by the an approved TasWater contractor at the Developer's cost.

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<b>AD DESIGN + CONSULTING</b> Engineering / Project Management / Property Development						Client		Dourias Group Holdings			Project			1 Dylan Street, Brighton 8 Lot Subdivision			Drawn HP Signed MB Date 09/07/25 Checked AD Signed AD Date 09/07/25 Approved AD Signed AD Date 08/07/25			Drawing Title Project Notes			Project No. 21067			Scale NTS			Sheet Size A3		
						SUBJECT TO FINAL VERIFICATION AND APPROVAL															Drawing No. C-1-00-03			Rev A							
Rev No	Date	Revision Note	Drn	Ver.	App.																										

**FOR APPROVAL**

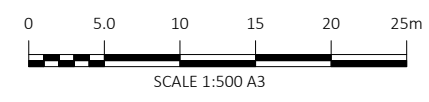


- Note:**
- Existing water mains along William St have been located by UDM Surveyors (18/11/21) using GNSS and GPR. Depth Xm level QL-B. Refer survey plans for further details.
  - Contractor is to develop a site specific compaction methodology to ensure static vibration equipment is utilised. Final requirements to be discussed during TasWater Prestart meeting.



**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

**Legend:**  
 - - - - - x - - - - - Demolish  
 - - - - - Extent of Works



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**FOR APPROVAL**

Rev No	Date	Revision Note	Drn	Ver.	App.
A	09/07/25	For Approval	HP	MB	AD

**AD DESIGN + CONSULTING**  
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

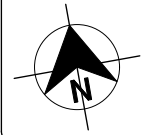
Project: 1 Dylan Street, Brighton  
8 Lot Subdivision

Drawn	Signed	Date
HP	Signed	09/07/25
Designed	Signed	09/07/25
Checked	Signed	09/07/25
Approved	Signed	08/07/25

Drawing Title: Existing Conditions

Project No.	21067
Scale	1:500
Drawing No.	C-1-02-01
Sheet Size	A3
Rev	A

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**Cut/Fill Depth Range**  
Lower Value of Upper Value

-1.8 to -1.6 m	Dark Red
-1.6 to -1.4 m	Red
-1.4 to -1.2 m	Light Red
-1.2 to -1.0 m	Light Green
-1.0 to -0.8 m	Light Green
-0.8 to -0.6 m	Light Green
-0.6 to -0.4 m	Light Green
-0.4 to -0.2 m	Light Green
-0.2 to 0.0 m	Light Green
0.0 to 0.2 m	Light Green
0.2 to 0.4 m	Light Green
0.4 to 0.6 m	Light Green
0.6 to 0.8 m	Light Green
0.8 to 1.0 m	Light Green
1.0 to 1.2 m	Light Green
1.2 to 1.4 m	Light Green
1.4 to 1.6 m	Light Green
1.6 to 1.8 m	Light Green
1.8 to 2.0 m	Light Green



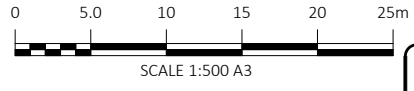
- Note:**
1. Stripping depth is to be determined on site by supervising geotechnical engineer.
  2. All earthworks to be undertaken under level 1 supervision by a certified geotechnical engineer.
  3. Contractor to make allowance for the removal and replacement of uncontrolled fill and/or unsuitable material as instructed by supervising geotechnical engineer.
  4. All earthworks to be carried as per project notes on drawing C-1-00-02 or as directed by supervising geotechnical engineer.

Place compacted engineered fill to remove local gully, provide minimum 450mm cover over stormwater main and 600mm cover over sewer main.

Place compacted engineered fill as required to remove gully and ensure site is free draining.



**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
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Rev No	Date	Revision Note	Drn	Ver.	App.
C	17/11/25	Lot 8 Adjusted Servicing	MB	MB	AD
B	31/07/25	Lot 7 & 8 Boundary Adjustment	MB	MB	JD
A	09/07/25	For Approval	HP	MB	AD

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Engineering / Project Management / Property Development

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Project: 1 Dylan Street, Brighton  
8 Lot Subdivision

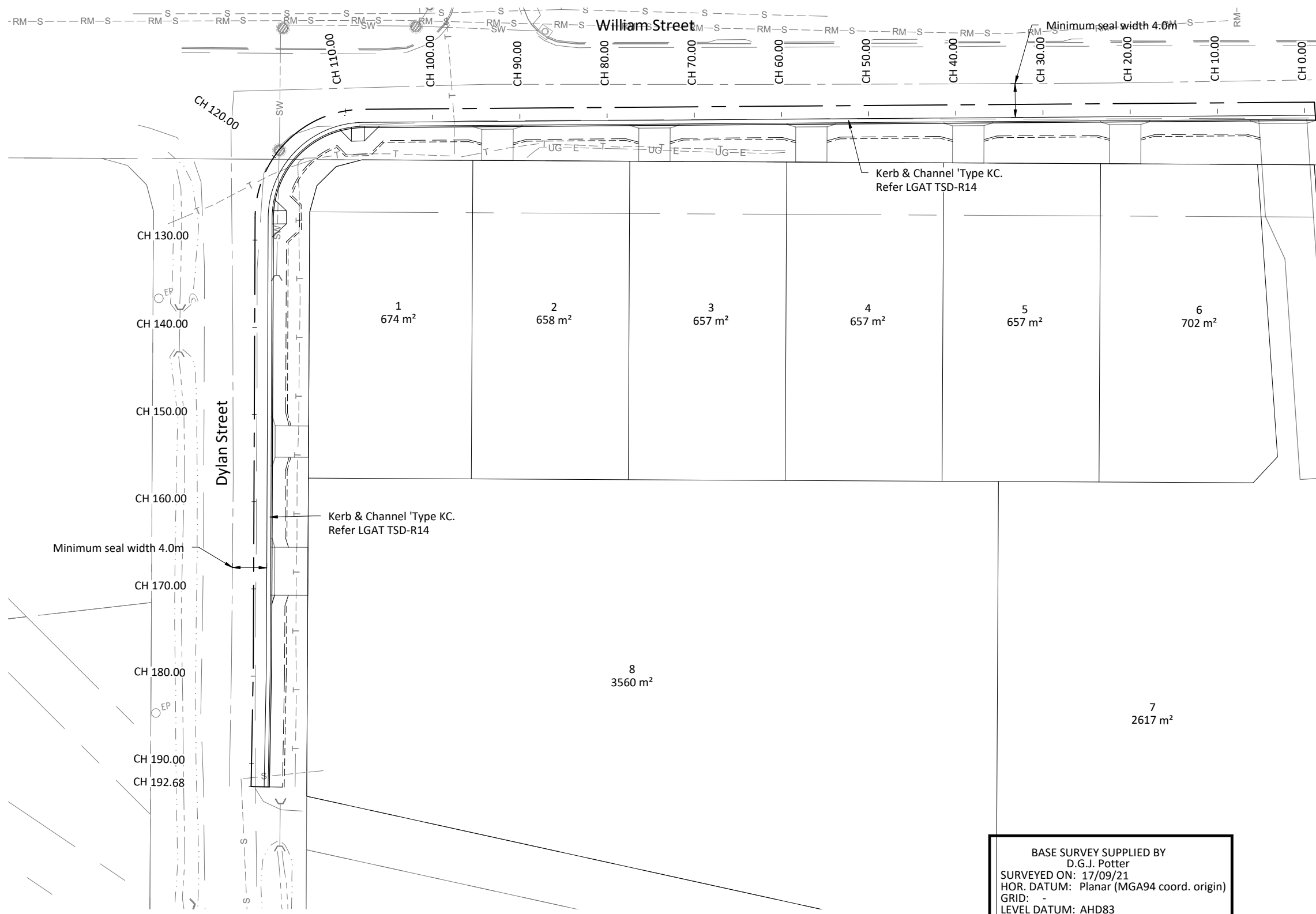
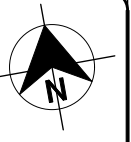
Drawn	Signed	Date
HP	Signed	09/07/25
Designed	Signed	09/07/25
Checked	Signed	09/07/25
Approved	Signed	08/07/25

Drawing Title: Bulk Earthworks  
Project No: 21067  
Scale: 1:500  
Drawing No: C-1-03-01

**FOR APPROVAL**

Project No.	Sheet Size
21067	A3
Scale	Rev
1:500	C
Drawing No.	Rev
C-1-03-01	C

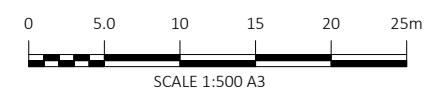
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BASE SURVEY SUPPLIED BY  
 D.G.J. Potter  
 SURVEYED ON: 17/09/21  
 HOR. DATUM: Planar (MGA94 coord. origin)  
 GRID: -  
 LEVEL DATUM: AHD83

**Note:**

- Not all set out points are shown on this plan
- Surveyor to be contacted to supply original survey coordinate datum and origin before construction commences.



XC01 HORIZONTAL POINTS								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	520632.654	5272119.409	58.965	279°45'16.06"			
TC	107.964	520526.250	5272137.701	56.661	279°45'16.06"			
IP 2	117.710	520514.073	5272139.794	56.202		R = -12.500	19.490	89°20'15.85"
CT	127.455	520511.839	5272127.642	55.780	190°25'00.20"			
IP 3	178.808	520502.554	5272077.134	52.904				
IP 4	192.676	520499.854	5272063.532	52.240	191°13'32.23"			

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Rev No	Date	Revision Note	Drn	Ver.	App.
B	31/07/25	Lot 7 & 8 Boundary Adjustment	MB	MB	JD
A	09/07/25	For Approval	HP	MB	AD

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 Engineering / Project Management / Property Development

Client	Dourias Group Holdings
Project	1 Dylan Street, Brighton 8 Lot Subdivision

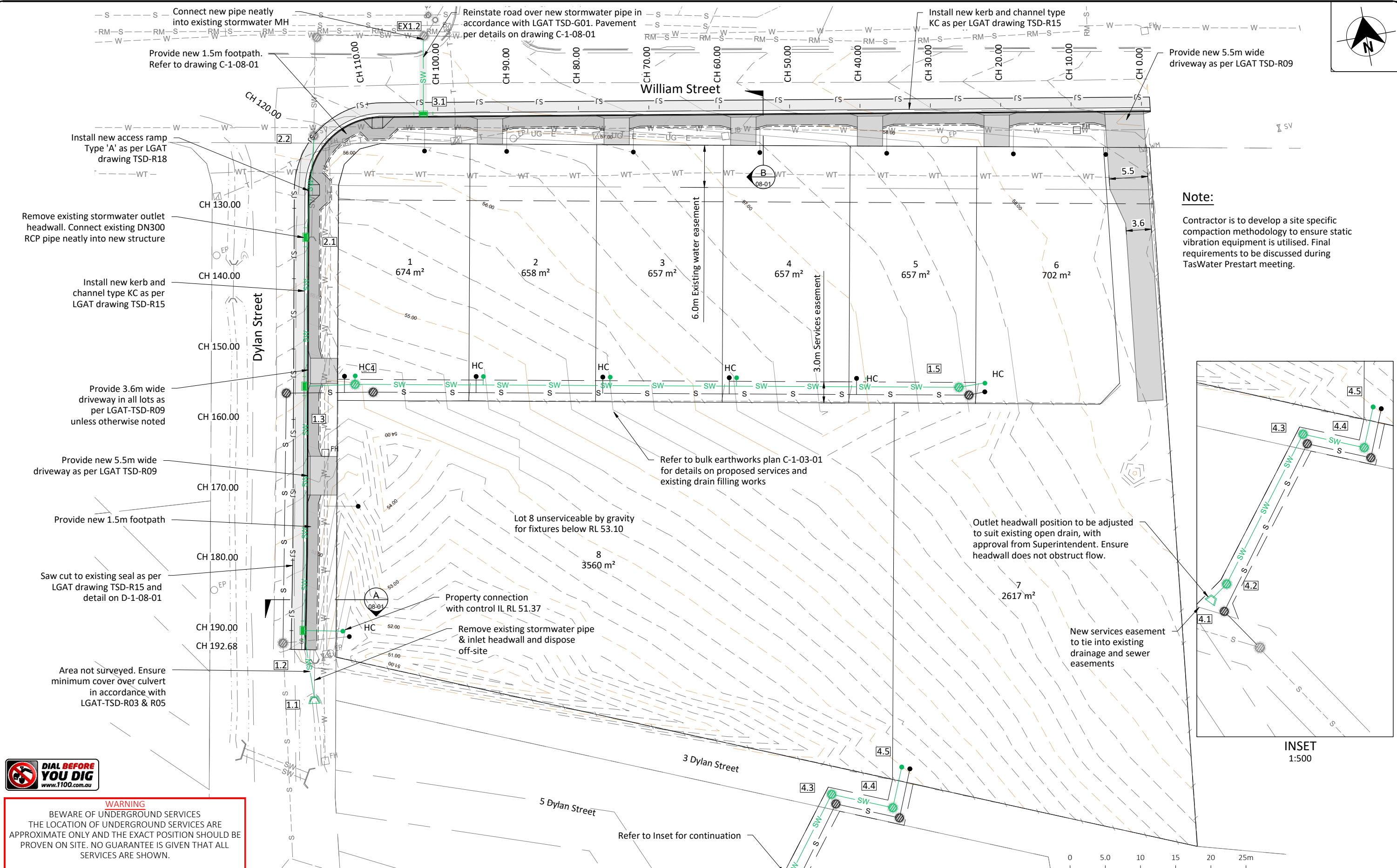
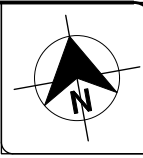
Drawn	HP	Signed		Date	09/07/25
Designed	MB	Signed		Date	09/07/25
Checked	AD	Signed		Date	09/07/25
Approved	AD	Signed		Date	08/07/25

Drawing Title		Alignment Plan	
Project No.	21067	Scale	1:500
Drawing No.	C-1-05-01	Sheet Size	A3
Rev	B	Rev	B

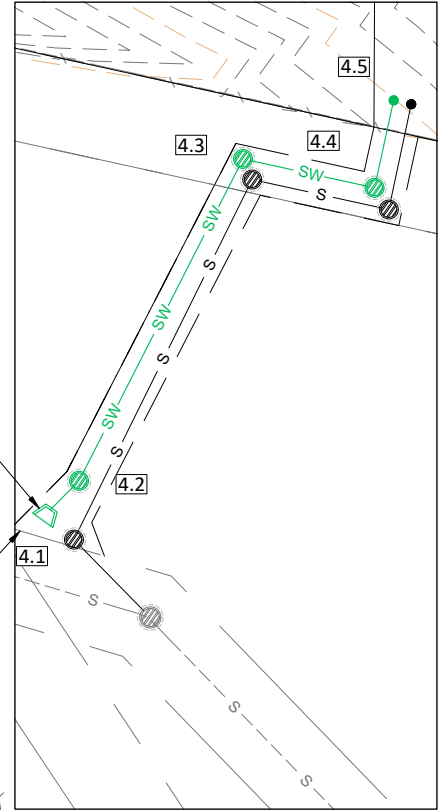
**FOR APPROVAL**

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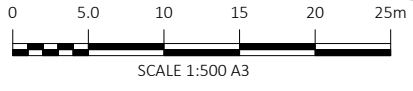
**Note:**  
Contractor is to develop a site specific compaction methodology to ensure static vibration equipment is utilised. Final requirements to be discussed during TasWater Prestart meeting.



INSET  
1:500



**WARNING**  
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**FOR APPROVAL**

Rev No	Date	Revision Note	Drn	Ver.	App.
C	17/11/25	Lot 8 Adjusted Servicing	MB	MB	AD
B	31/07/25	Lot 7 & 8 Boundary Adjustment	MB	MB	JD
A	09/07/25	For Approval	HP	MB	AD

**AD DESIGN + CONSULTING**  
Engineering / Project Management / Property Development

Client	Dourias Group Holdings
Project	1 Dylan Street, Brighton 8 Lot Subdivision

Drawn	HP	Signed		Date	09/07/25
Designed	MB	Signed		Date	09/07/25
Checked	AD	Signed		Date	09/07/25
Approved	AD	Signed		Date	08/07/25

Drawing Title	Roadworks and Drainage General Arrangement
Project No.	21067
Scale	1:500
Drawing No.	C-1-06-01

Sheet Size	A3
Rev	C

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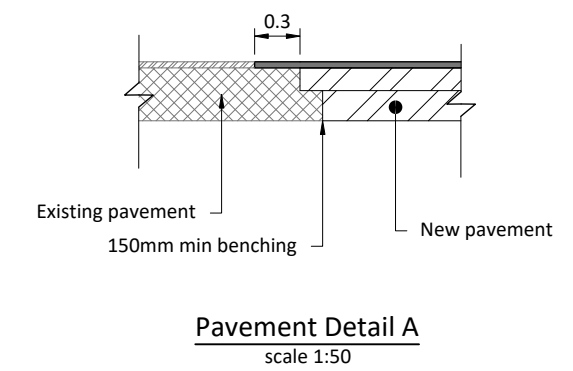
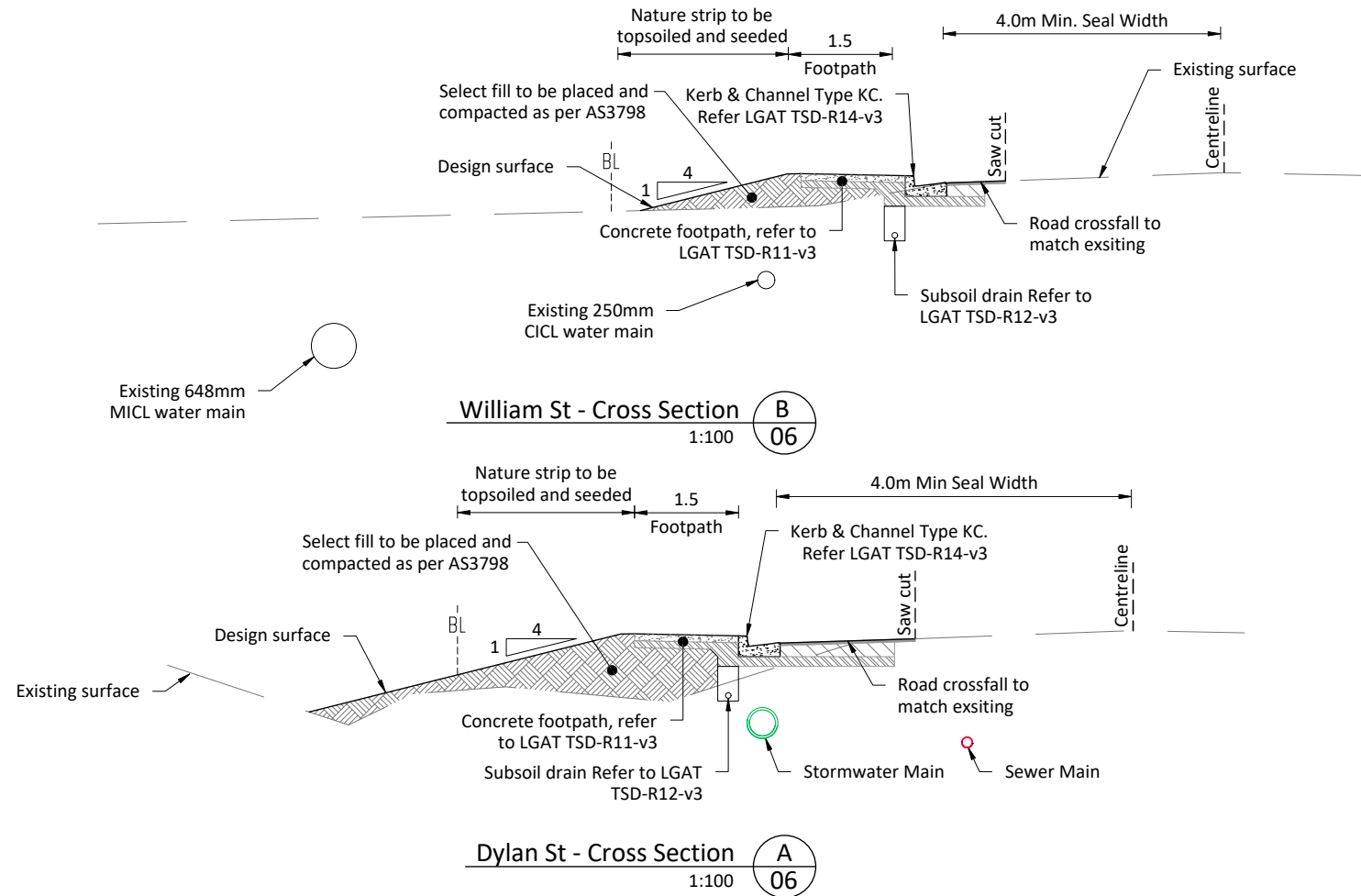
**Pavement Type A**

Wearing Course:  
40mm Dense Graded AC14 C170 binder with Prime

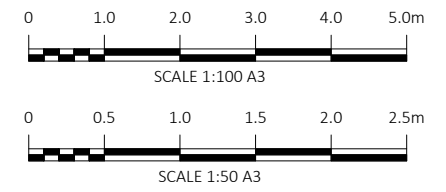
Pavement:  
150mm Class A base  
150mm sub-base 1

Pavement design based on subgrade CBR of 8.0% (soaked).

Contractor to confirm pavement design with superintendent prior to construction



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A	09/07/25	For Approval	HP	MB	AD

**AD DESIGN + CONSULTING**  
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: 1 Dylan Street, Brighton  
8 Lot Subdivision

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Checked	Signed	Date
AD		09/07/25
Approved	Signed	Date
AD		08/07/25

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Drawing Title: Typical Cross Sections

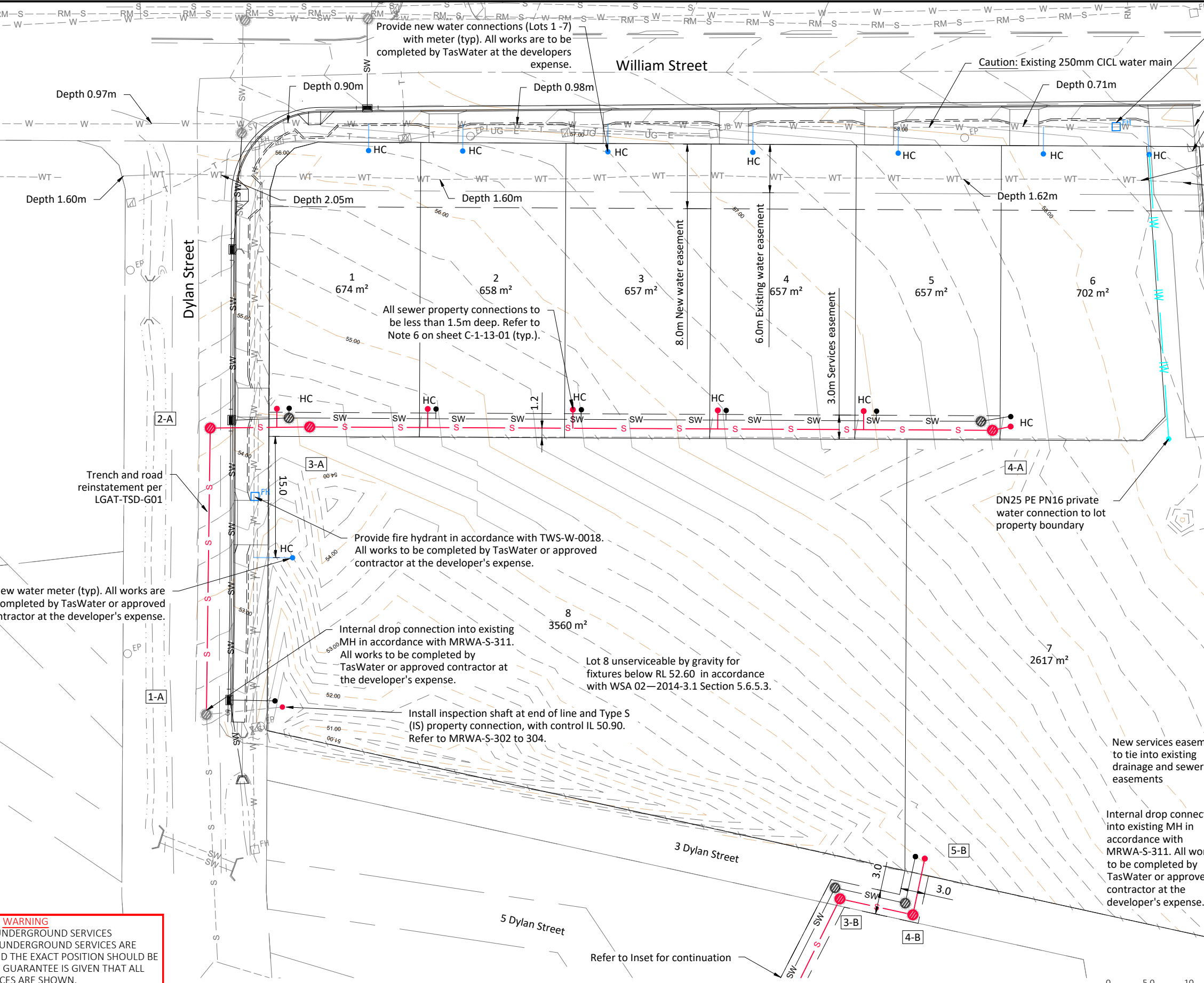
<b>FOR APPROVAL</b>	
Project No. 21067	Sheet Size A3
Scale As Shown	Rev A
Drawing No. C-1-08-01	

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Provide new water connections (Lots 1-7) with meter (typ). All works are to be completed by TasWater at the developer's expense.

Provide fire hydrant in accordance with TWS-W-0018. All works to be completed by TasWater or approved contractor at the developer's expense.



Depth 0.85m  
Existing water meter to be made redundant, connection to be cut and sealed by TasWater, at developer's expense.  
Caution: Existing 648mm MICL water main  
Depth 1.50m

**Note:**

- Existing water mains along William St have been located by UDM Surveyors (18/11/21) using GNSS and GPR. Depth Xm level QL-B. Refer survey plans for further details.
- Contractor is to develop a site specific compaction methodology to ensure static vibration equipment is utilised. Final requirements to be discussed during TasWater Prestart meeting.
- Fire hydrant coverage for Lot 8 is not achieved in accordance with TasWater WSA03-2011-3.1 MRWA V2.0 Supplement 'Hydrant Spacing'. Refer to C-1-10-02.

All sewer property connections to be less than 1.5m deep. Refer to Note 6 on sheet C-1-13-01 (typ.).

Provide fire hydrant in accordance with TWS-W-0018. All works to be completed by TasWater or approved contractor at the developer's expense.

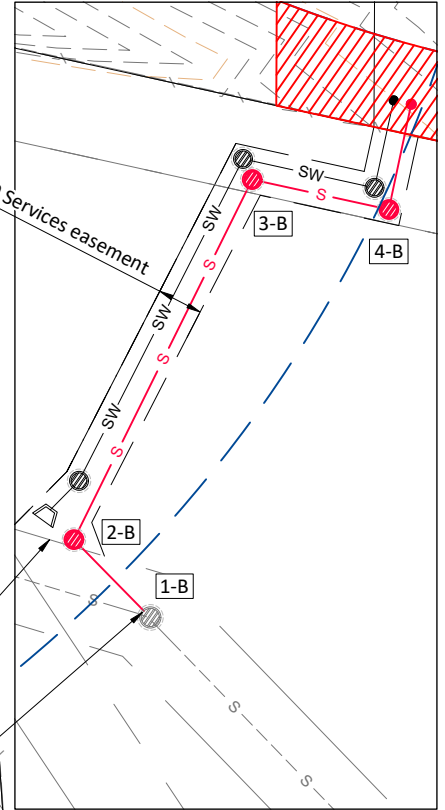
Internal drop connection into existing MH in accordance with MRWA-S-311. All works to be completed by TasWater or approved contractor at the developer's expense.

Lot 8 unserviceable by gravity for fixtures below RL 52.60 in accordance with WSA 02-2014-3.1 Section 5.6.5.3.

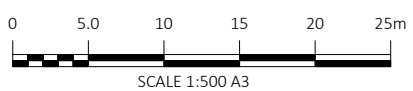
Install inspection shaft at end of line and Type S (IS) property connection, with control IL 50.90. Refer to MRWA-S-302 to 304.

Provide new water meter (typ). All works are to be completed by TasWater or approved contractor at the developer's expense.

Trench and road reinstatement per LGAT-TSD-G01



INSET 1:500



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C	17/11/25	Lot 8 Adjusted Servicing	MB	MB	AD
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A	09/07/25	For Approval	HP	MB	AD

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Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: 1 Dylan Street, Brighton  
8 Lot Subdivision

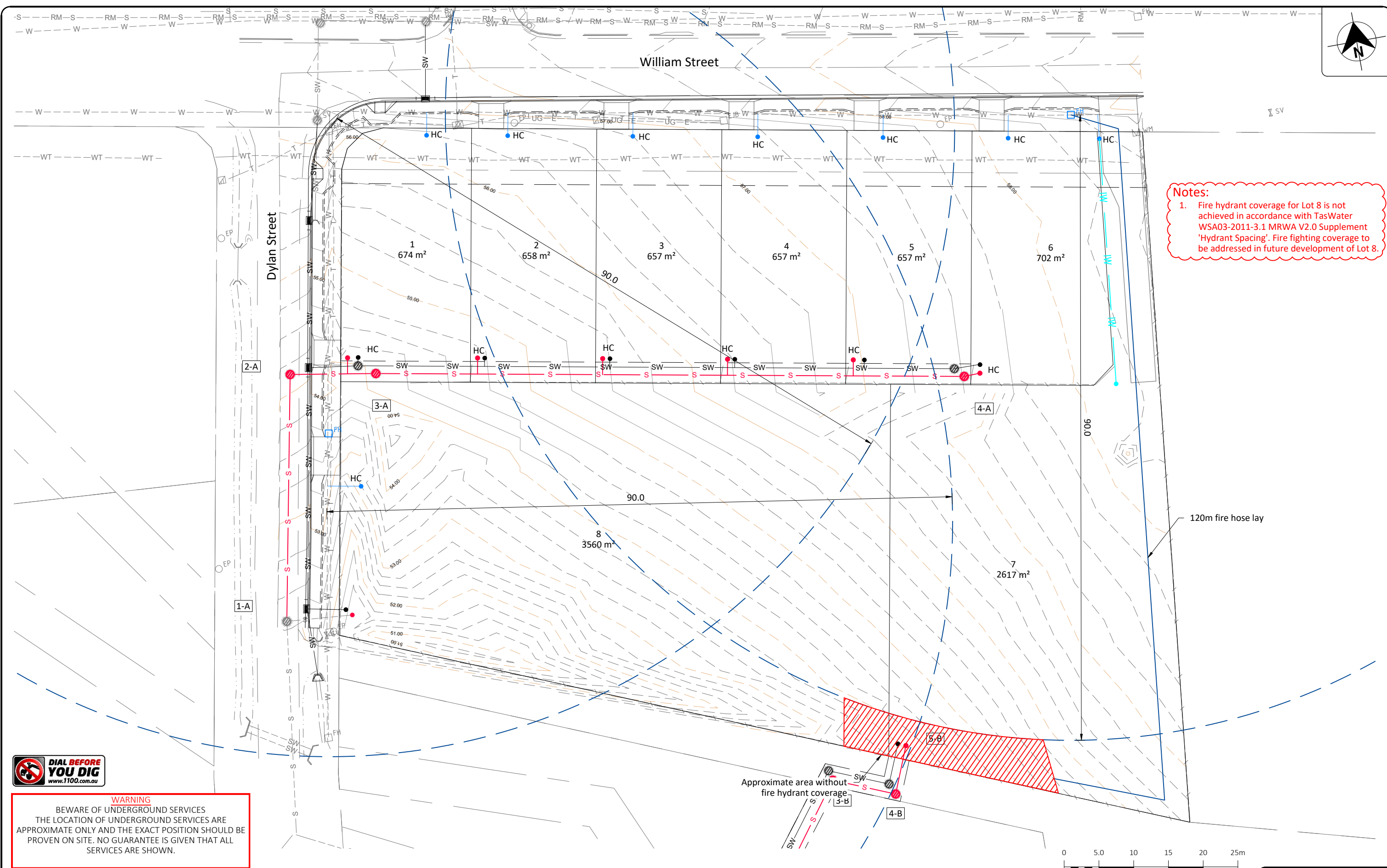
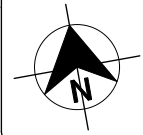
Drawn	Signed	Date
HP		09/07/25
Designed	Signed	09/07/25
Checked	Signed	09/07/25
Approved	Signed	08/07/25

Drawing Title: Water and Sewerage General Arrangement

**FOR APPROVAL**

Project No.	21067	Sheet Size	A3
Scale	1:500	Rev	C
Drawing No.	C-1-10-01		

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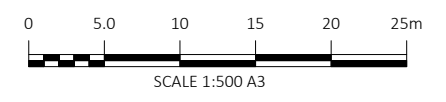


**Notes:**

1. Fire hydrant coverage for Lot 8 is not achieved in accordance with TasWater WSA03-2011-3.1 MRWA V2.0 Supplement 'Hydrant Spacing'. Fire fighting coverage to be addressed in future development of Lot 8.



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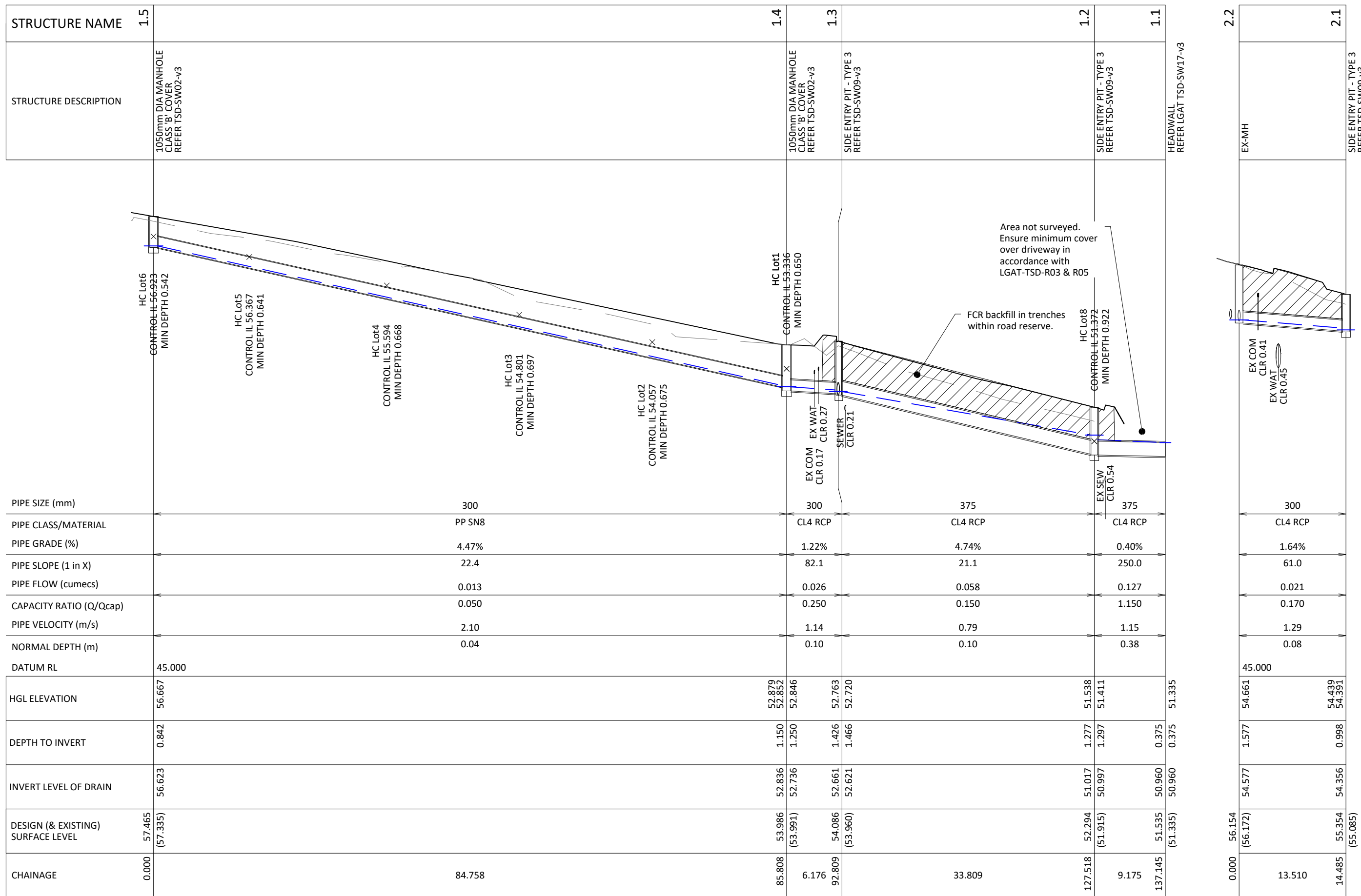
Client	Dourias Group Holdings
Project	1 Dylan Street, Brighton 8 Lot Subdivision

Drawn	HP	Signed		Date	09/07/25
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Checked	AD	Signed		Date	09/07/25
Approved	AD	Signed		Date	08/07/25

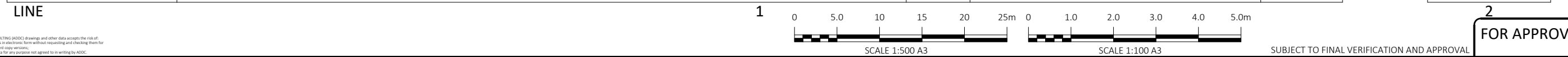
Project No.	21067
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Drawing No.	C-1-10-02
Drawing Title	Fire Hydrant Coverage Plan

Sheet Size	A3
Rev	C

PLOTTED: 11/17/2025 11:51:21 AWC:\126\data\addc-s121067 - 1 dylan street, brighton\_10161\02 cadd\drawings\dlc-1-10-01.dwg



PIPE SIZE (mm)	300	300	375	375	300
PIPE CLASS/MATERIAL	PP SN8	CL4 RCP	CL4 RCP	CL4 RCP	CL4 RCP
PIPE GRADE (%)	4.47%	1.22%	4.74%	0.40%	1.64%
PIPE SLOPE (1 in X)	22.4	82.1	21.1	250.0	61.0
PIPE FLOW (cumecs)	0.013	0.026	0.058	0.127	0.021
CAPACITY RATIO (Q/Qcap)	0.050	0.250	0.150	1.150	0.170
PIPE VELOCITY (m/s)	2.10	1.14	0.79	1.15	1.29
NORMAL DEPTH (m)	0.04	0.10	0.10	0.38	0.08
DATUM RL	45.000				45.000
HGL ELEVATION	56.667	52.870 52.852 52.846	51.538 51.411	51.335	54.661 54.439 54.391
DEPTH TO INVERT	0.842	1.150 1.250	1.277 1.297	0.375	1.577 0.998
INVERT LEVEL OF DRAIN	56.623	52.836 52.736	51.017 50.997	50.960	54.577 54.356
DESIGN (& EXISTING) SURFACE LEVEL	57.465 (57.335)	53.986 (53.991)	54.086 (53.960)	52.294 (51.915)	55.354 (55.085)
CHAINAGE	0.000	84.758	85.808 6.176 92.809	33.809	127.518 9.175 137.145



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**AD DESIGN + CONSULTING**  
Engineering / Project Management / Property Development

Client	Dourias Group Holdings
Project	1 Dylan Street, Brighton 8 Lot Subdivision

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Designed	MB	Signed	Date	09/07/25
Checked	AD	Signed	Date	09/07/25
Approved	AD	Signed	Date	08/07/25

Project No.	21067
Scale	As Shown
Drawing No.	C-1-12-01

**FOR APPROVAL**

Project No.	21067	Sheet Size	A3
Scale	As Shown	Rev	C

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STRUCTURE NAME	2.1	1.3
STRUCTURE DESCRIPTION	SIDE ENTRY PIT - TYPE 3 REFER TSD-SW09-v3	SIDE ENTRY PIT - TYPE 3 REFER TSD-SW09-v3
PIPE SIZE (mm)	300	
PIPE CLASS/MATERIAL	CL4 RCP	
PIPE GRADE (%)	8.36%	
PIPE SLOPE (1 in X)	12.0	
PIPE FLOW (cumecs)	0.021	
CAPACITY RATIO (Q/Qcap)	0.070	
PIPE VELOCITY (m/s)	1.77	
NORMAL DEPTH (m)	0.06	
DATUM RL	45.000	
HGL ELEVATION	54.439 54.391	52.720
DEPTH TO INVERT	0.998 1.018	1.446 1.466
INVERT LEVEL OF DRAIN	54.356 54.336	52.641 52.621
DESIGN (& EXISTING) SURFACE LEVEL	55.354 (55.085)	54.086 (53.960)
CHAINAGE	14.485 20.261	35.646

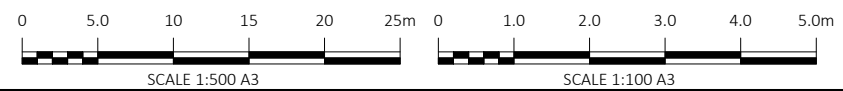
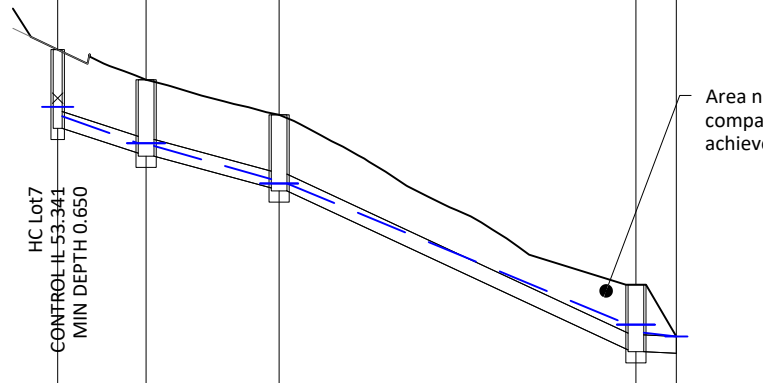
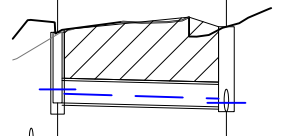
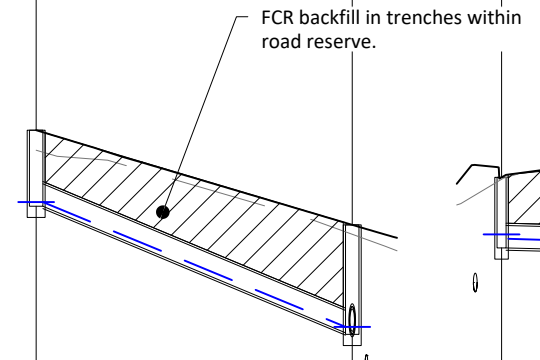
LINE 2

STRUCTURE NAME	3.1	EX1.2
STRUCTURE DESCRIPTION	SIDE ENTRY PIT - TYPE 3 REFER TSD-SW09-v3	EX-MH
PIPE SIZE (mm)	300	
PIPE CLASS/MATERIAL	CL4 RCP	
PIPE GRADE (%)	0.50%	
PIPE SLOPE (1 in X)	201.9	
PIPE FLOW (cumecs)	0.021	
CAPACITY RATIO (Q/Qcap)	0.310	
PIPE VELOCITY (m/s)	0.62	
NORMAL DEPTH (m)	0.11	
DATUM RL	47.000	
HGL ELEVATION	55.959 55.900	55.835 55.779
DEPTH TO INVERT	0.945	1.072 1.136
INVERT LEVEL OF DRAIN	55.777	55.725 55.661
DESIGN (& EXISTING) SURFACE LEVEL	56.722 (56.696)	56.797
CHAINAGE	10.478	11.303

LINE 3

STRUCTURE NAME	4.5	4.4	4.3	4.2	4.1
STRUCTURE DESCRIPTION	225 DIA - IS CLASS 'B' COVER	1050mm DIA MANHOLE CLASS 'D' COVER REFER TSD-SW02-v3	1050mm DIA MANHOLE CLASS 'D' COVER REFER TSD-SW02-v3	1050mm DIA MANHOLE CLASS 'D' COVER REFER TSD-SW02-v3	HEADWALL REFER LGAT TSD-SW17-v3
PIPE SIZE (mm)	225	225	225	225	
PIPE CLASS/MATERIAL	PVC-U SN8	PVC-U SN8	PVC-U SN8	PVC-U SN8	
PIPE GRADE (%)	6.53%	5.41%	9.32%	1.00%	
PIPE SLOPE (1 in X)	15.3	18.5	10.7	100.0	
PIPE FLOW (cumecs)	0.057	0.057	0.057	0.057	
CAPACITY RATIO (Q/Qcap)	0.490	0.540	0.410	1.250	
PIPE VELOCITY (m/s)	1.69	2.11	1.85	1.44	
NORMAL DEPTH (m)	0.11	0.12	0.10	0.23	
DATUM RL	43.000				
HGL ELEVATION	53.224 53.098	52.737 52.701	52.256 52.199	50.309 50.201	50.150
DEPTH TO INVERT	1.054	0.983 1.023	0.979 1.019	0.873 0.897	0.225 0.225
INVERT LEVEL OF DRAIN	52.937	52.604 52.564	52.139 52.099	49.970 49.947	49.925 49.925
DESIGN (& EXISTING) SURFACE LEVEL	53.991	53.587	53.118	50.243 (50.843)	49.958 (50.150)
CHAINAGE	5.094 5.919	7.857 14.826	22.840	38.716 2.176	41.419

LINE 4



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A	17/11/25	Lot 8 Adjusted Servicing	MB	MB	AD

**AD DESIGN + CONSULTING**  
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: 1 Dylan Street, Brighton  
8 Lot Subdivision


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HP		09/07/25
Designed	Signed	Date
MB		09/07/25
Checked	Signed	Date
AD		09/07/25
Approved	Signed	Date
AD		08/07/25

Drawing Title: Drainage Longitudinal Sections  
Sheet 2

FOR APPROVAL	
Project No.	21067
Scale	As Shown
Drawing No.	C-1-12-02
Sheet Size	A3
Rev	A

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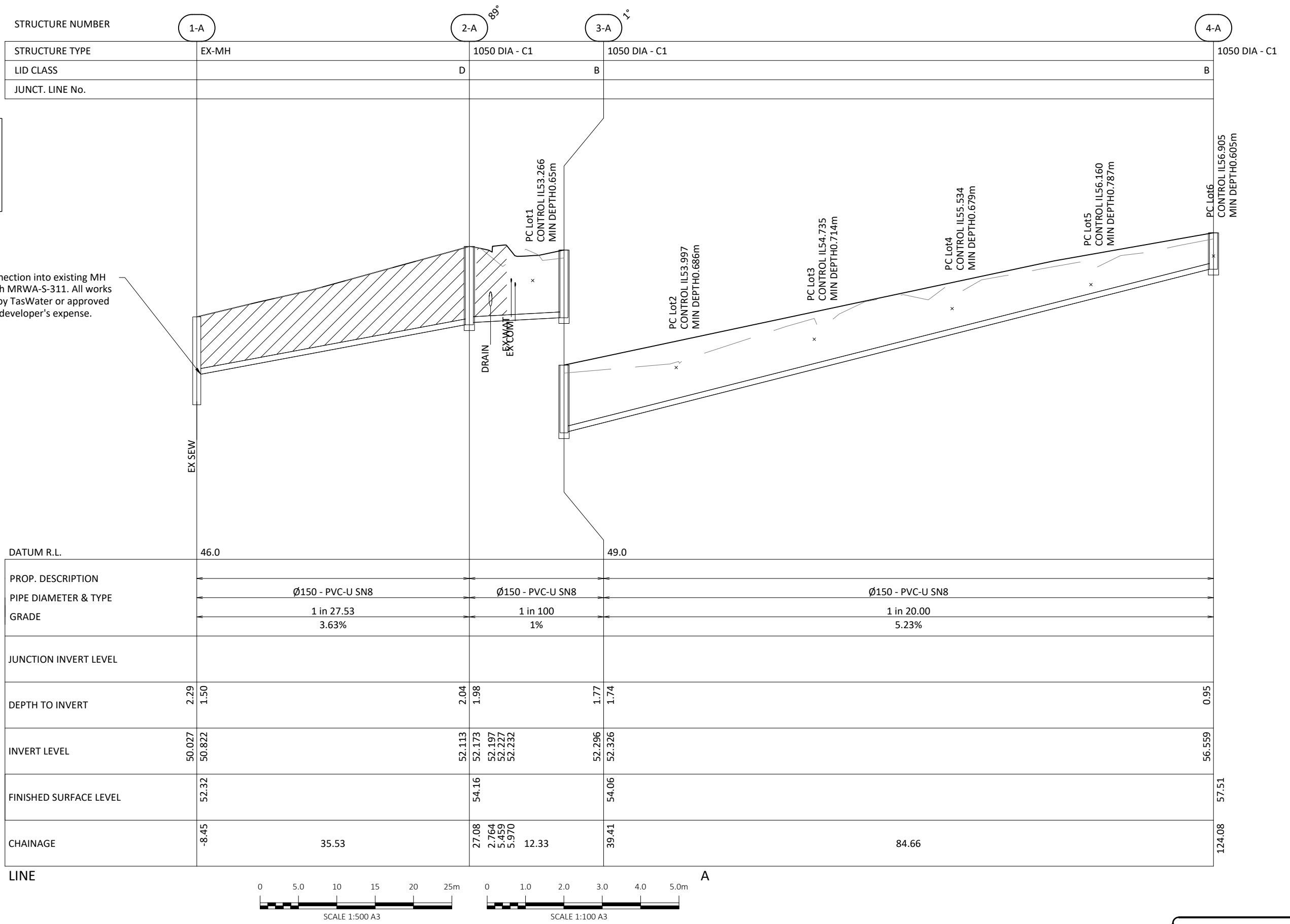
**Legend**

	FCR under road pavement.
Property Description:	Manhole
RR - Road Reserve/ Pavement.	Cover Class:
FP - Footpath	B - Non-Trafficable
PP - Private Property	D - Trafficable
	CL - DN Clearance

Internal drop connection into existing MH in accordance with MRWA-S-311. All works to be completed by TasWater or approved contractor at the developer's expense.

**Notes:**

- Sewer pipe material to be 150mm UPVC SN8 SCJ UNO.
- For project general notes refer to drg C-1-00-02
- Pits in road reserve to have Class D covers.
- Concrete bulkheads to be installed in accordance with MRWA-S-205 & MRWA-S-206, where nominated.
- Trench backfill shall be installed in accordance with MRWA-S-201 & MRWA-S-202.
- All sewer property connection to be less than 1.5m deep. Control level and minimum depth given is the minimum required property connection invert level necessary for the lot to be serviced and should not be subceeded. Please refer to MRWA-S-301 for the appropriate property connection arrangement.
- Maintenance hole cover requirements to be in accordance with MRWA-S-313. Refer to property description for sewer main location.
- Where trenches have been excavated deeper than necessary, the excess depth shall be filled either with bedding material compacted to achieve a dry density ratio of 98%, or with concrete in accordance with AS3500.



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Rev	C

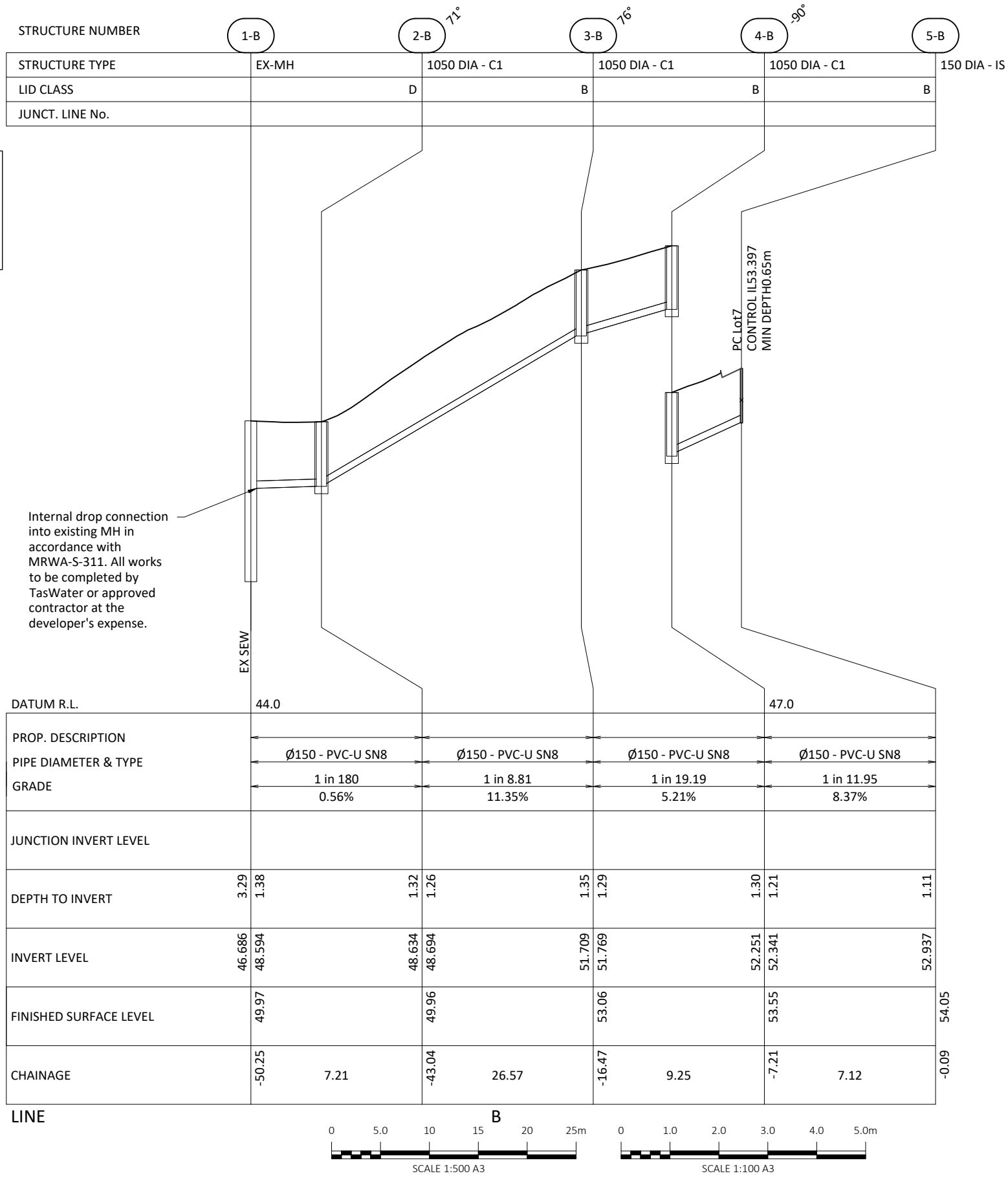
**FOR APPROVAL**

**Legend**

	FCR under road pavement.
Property Description:	Manhole
RR - Road Reserve/ Pavement.	Cover Class:
FP - Footpath	B - Non-Trafficable
PP - Private Property	D - Trafficable
	CL - DN Clearance

**Notes:**

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- For project general notes refer to drg C-1-00-02
- Pits in road reserve to have Class D covers.
- Concrete bulkheads to be installed in accordance with MRWA-S-205 & MRWA-S-206, where nominated.
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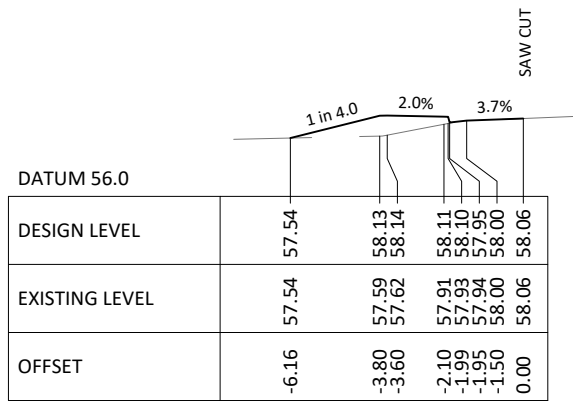
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Project	1 Dylan Street, Brighton 8 Lot Subdivision

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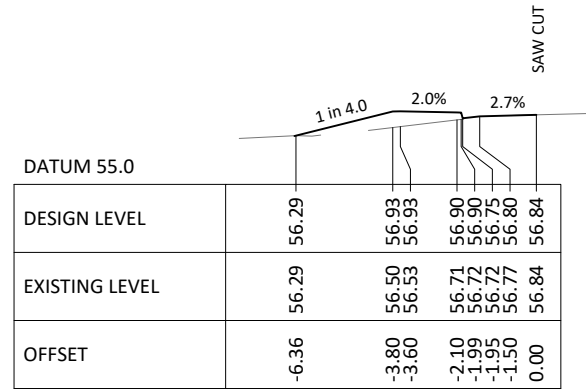
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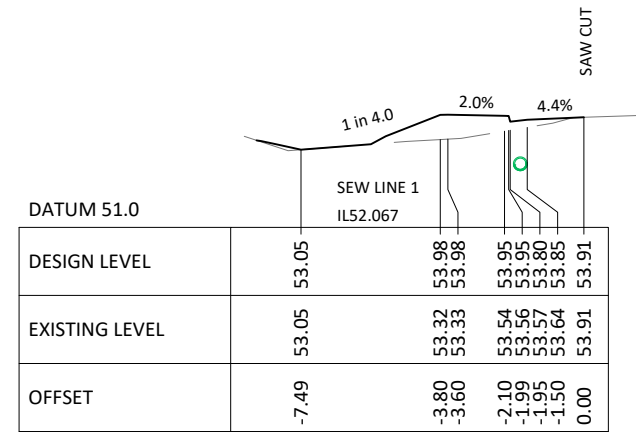
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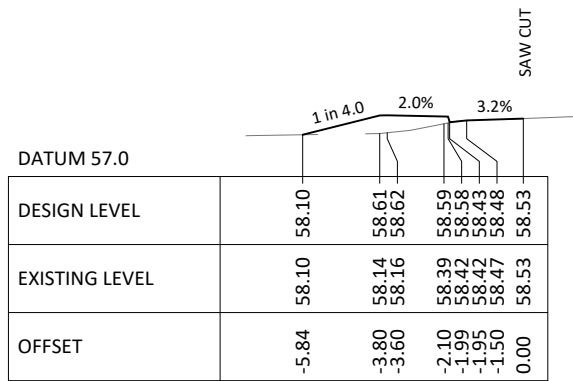
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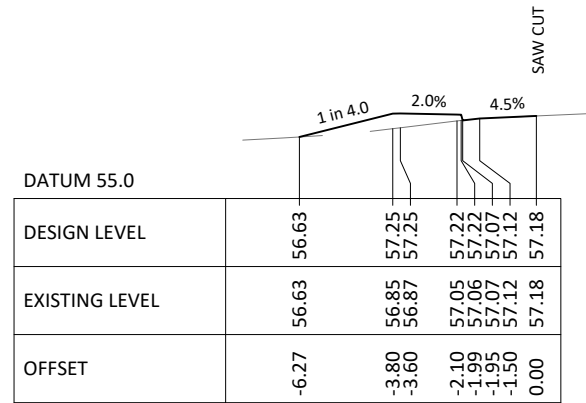
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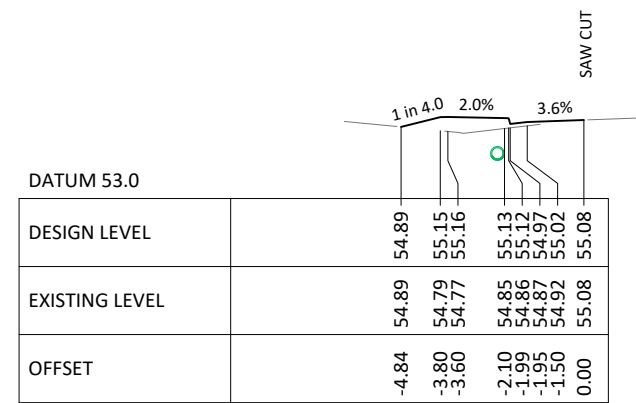
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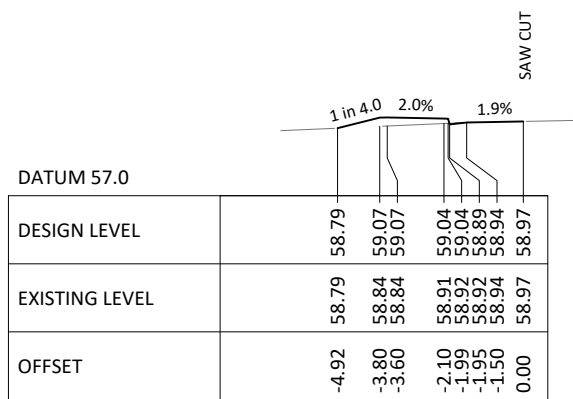
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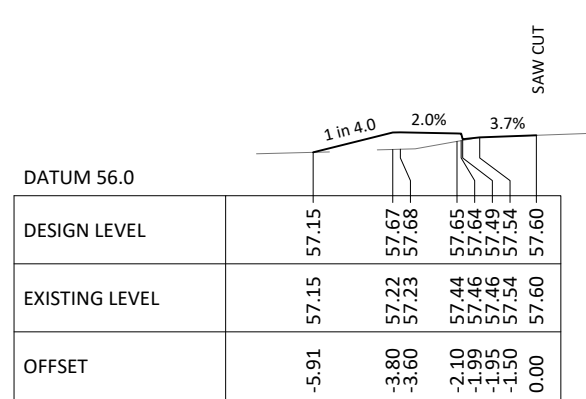
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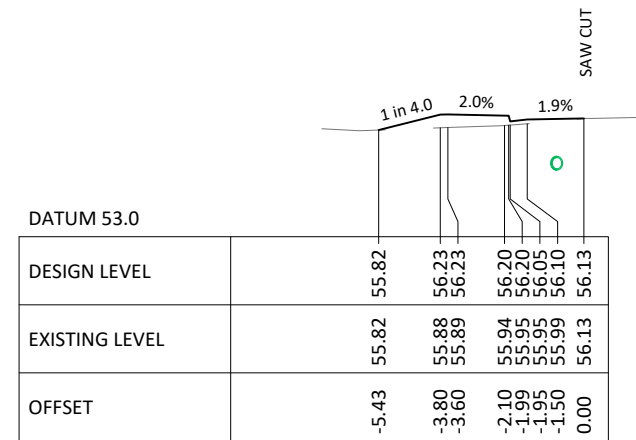
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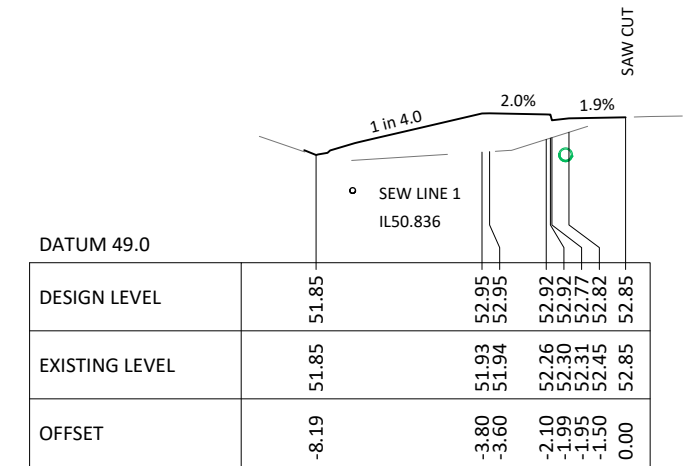
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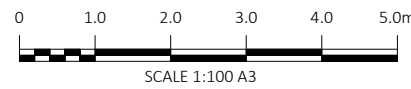
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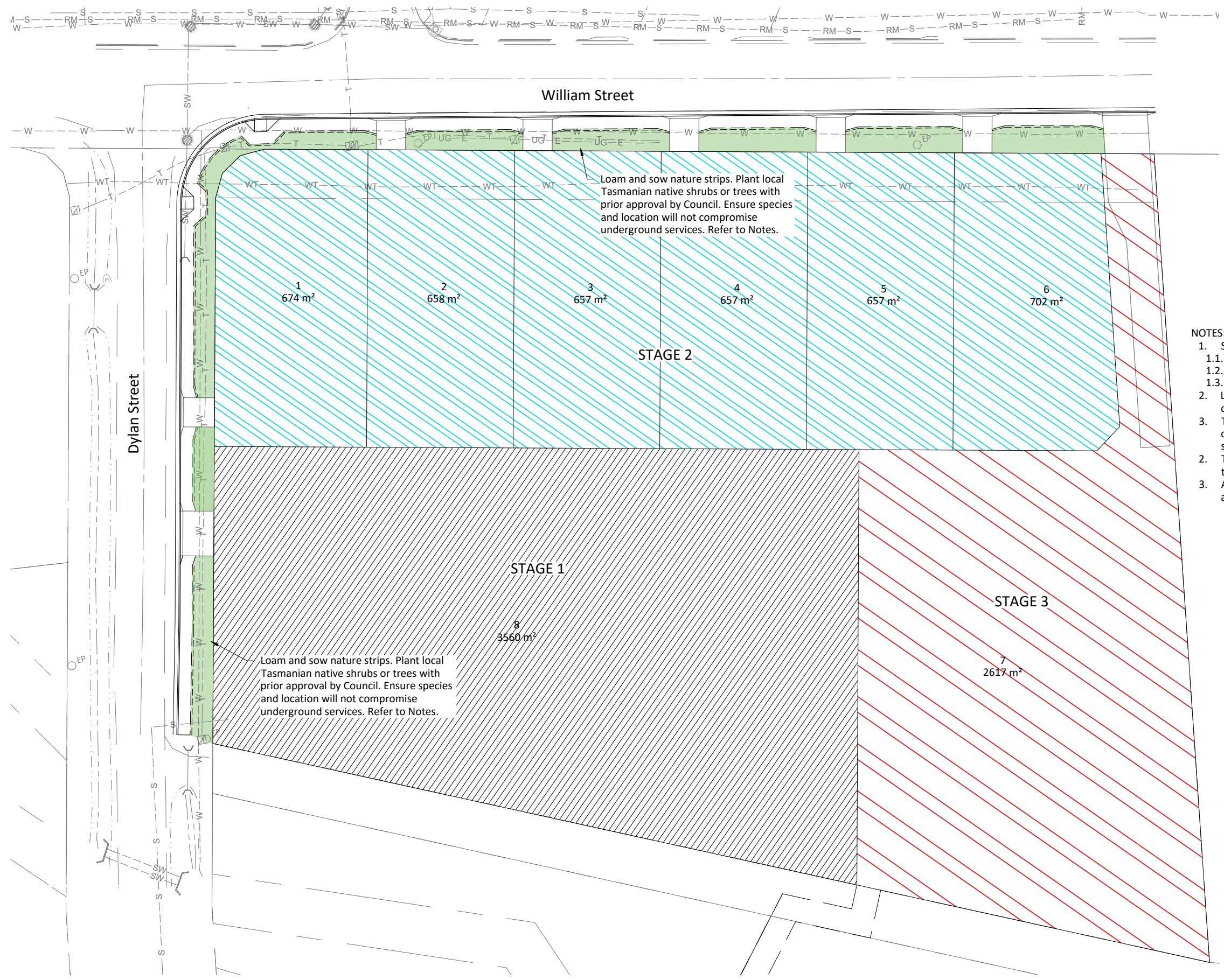
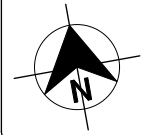
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Project	1 Dylan Street, Brighton 8 Lot Subdivision

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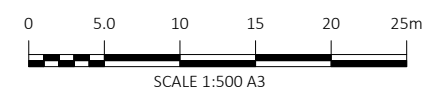
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- NOTES:**
1. Subdivision of 1 Dylan Street to be staged:
    - 1.1. Stage 1 - Lot 8
    - 1.2. Stage 2 - Lots 1 to 6
    - 1.3. Stage 3 - Lot 7
  2. Landowner consent required from owners of 3 Dylan Street and 5 Dylan Street.
  3. The Contractor shall verify the location and depth of all services prior to commencing on site.
  2. The Contractor shall be liable for any damage to service during landscape works.
  3. All trees shall be planted to avoid services, as nominated on planting plans.



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C	17/11/25	Staging Included	MB	MB	AD
B	31/07/25	Lot 7 & 8 Boundary Adjustment	MB	MB	JD
A	09/07/25	For Approval	HP	MB	AD

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Project	1 Dylan Street, Brighton 8 Lot Subdivision

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Drawing No.	C-1-17-01
Drawing Title	Landscaping and Staging Plan

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Rev	C

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






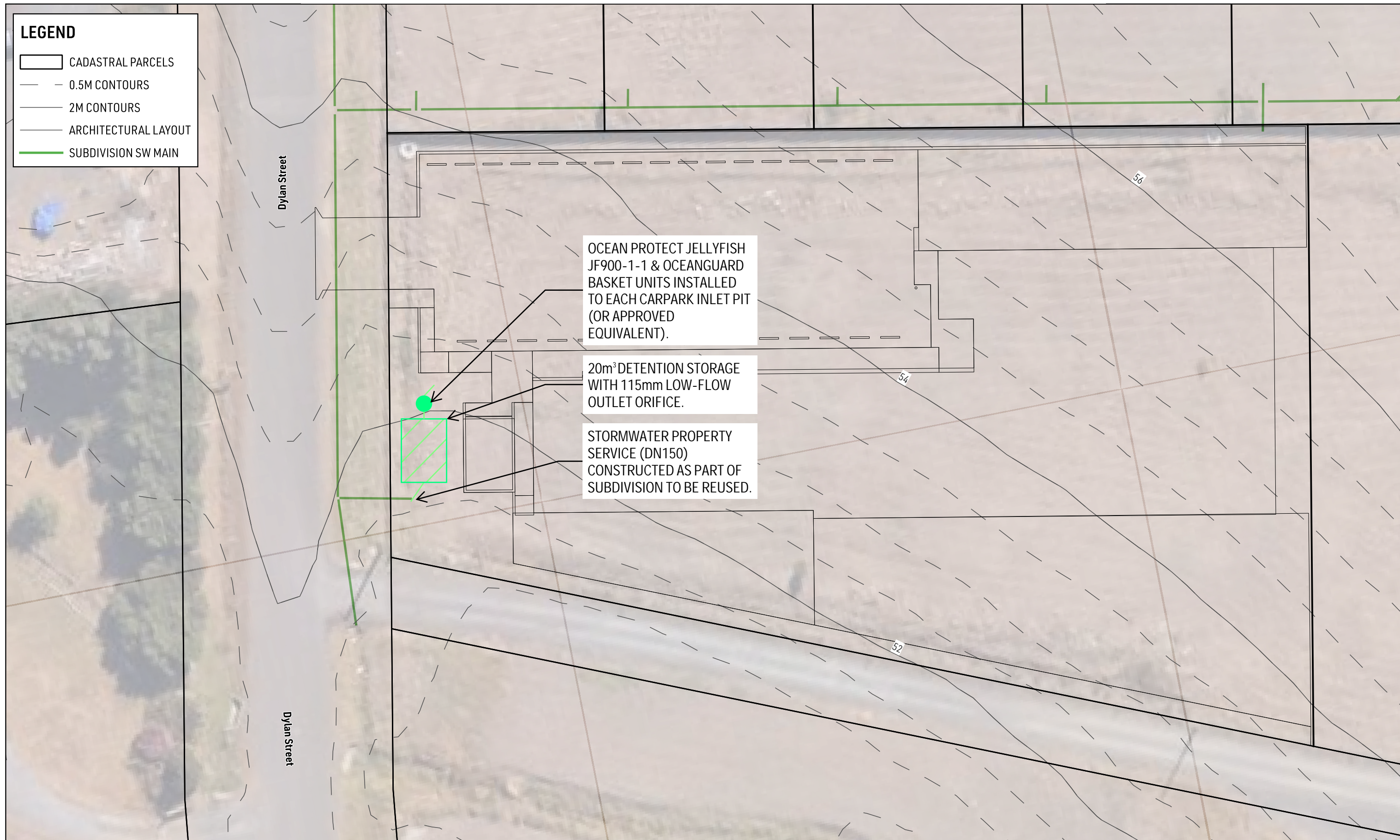
# APPENDIX





## Appendix C: Civil Concept Plans

# CONCEPT SW GENERAL ARRANGEMENT

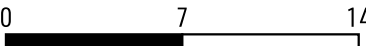
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-  CADASTRAL PARCELS
-  0.5M CONTOURS
-  2M CONTOURS
-  ARCHITECTURAL LAYOUT
-  SUBDIVISION SW MAIN



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CLIENT: DOURIAS MGH PTY LTD  
 PROJECT: 1 DYLAN STREET BRIGHTON CHILDCARE  
 DATE: 17/11/2025

PROJECT REFERENCE: 25015  
 REVISION: A  
 AUTHOR: M BURGESS  
 REVIEWED:





# APPENDIX

## Appendix D: Traffic Impact Assessment



**NEW CHILDCARE CENTRE,  
1 DYLAN STREET,  
BRIGHTON**

**TRAFFIC  
IMPACT  
ASSESSMENT**

**Hubble Traffic**

October 2025

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Version	Date	Reason for Issue
<b>Draft</b>	April 2025	Draft issued for client feedback
<b>Final</b>	October 2025	Final Issued

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## 1. Introduction

Tony Dourias (client) has engaged Hubble Traffic to prepare an independent Traffic Impact Assessment, to consider the traffic impacts from a new childcare centre at 1 Dylan Street, Brighton (development site).

A development application was submitted to Brighton Council (DA 2024/226), who have requested for an independent Traffic Impact Assessment to address Tasmanian Planning scheme C2.0 Parking and Sustainable Transport Code and C3.0 Road and Railway Assets Code.

This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019, and referred to the following information and resources:

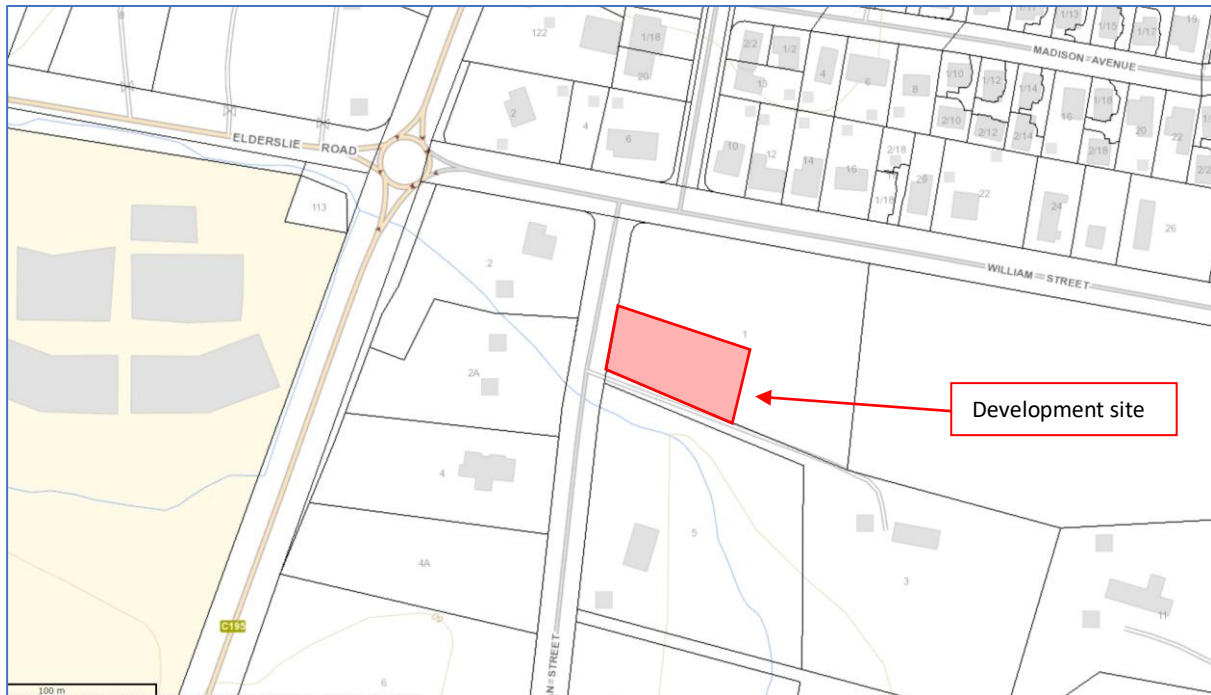
- Tasmanian Planning Scheme (Brighton Council)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards AS2890 parts 1, 2 and 6
- Austroads series of Traffic Management and Road Design
  - Part 4: Intersection and crossings, General
  - Part 4a: Unsignalised and Signalised Intersections
  - Part 12: Traffic Impacts of Development
- Department of State Growth crash database
- Autoturn Online Software
- Land Information System Tasmania Database

## 2. Site Description

Located at 1 Dylan Street, the development site is Lot 8, on the south-western corner of a recently subdivided parcel of land, with direct road frontage to Dylan Street.

According to Land Information System Tasmania (LIST) Database, the parcel of land is situated within a General Residential zone. The site is in close proximity to Brighton High School and within walking distance to the Brighton shopping precinct.

Diagram 2.0 – Extract from LIST Database



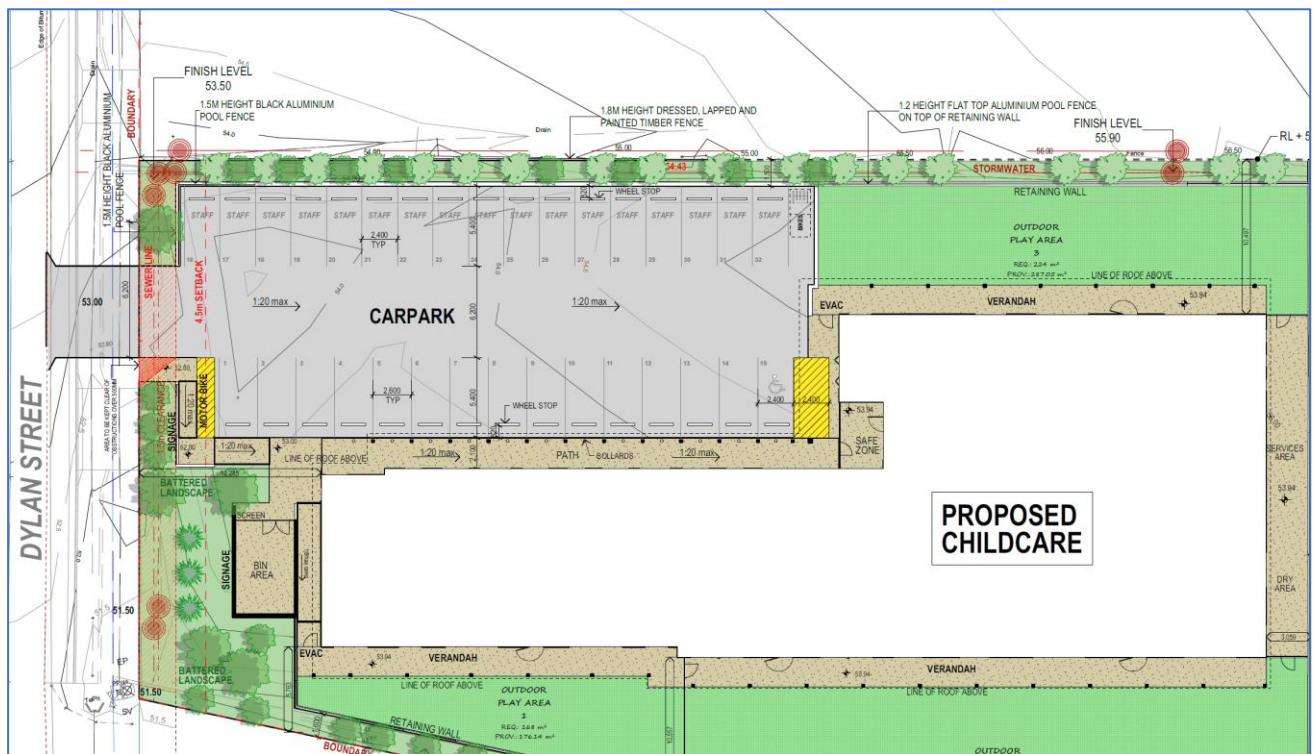
### 3. Development proposal

The development involves constructing a new single-storey building to operate as a childcare centre, with a two-way vehicular access onto Dylan Street and a car parking area accommodating 32 on-site spaces.

The childcare centre will cater for a maximum of 126 children, operating five days per week, from 6:30am to 6:30pm Monday to Friday.

The expected childcare operator (operator) indicates that up to 32 employees can be on-site at any given time, including those caring for children, reception staff, clerical workers, and a chef. Employees will work in staggered shifts, arriving between 6:30am and 11:00am, and leaving between 2:00pm and 7:00pm, with peak staffing between 11:00am and 2:00pm.

Diagram 3.0 – Development proposal



## 4. Trip generation by this development

A trip in this report is defined as a one-way vehicular movement from one point to another, excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

### 4.1 Staff trip generation

The operator provided details on the expected staff arrival and departure times to cover the 12-hour period during a typical day. Staff will arrive between 6:30am and 11:00am and leave between 2:00pm and 7:00pm, with a maximum of 32 staff members on-site from 11:00am to 2:00pm

Each staff member is expected to generate two daily trips. Based on the arrival and departure data in Table 4.1, eight staff members are expected to arrive during the morning peak hour (8am to 9am), generating eight trips. In the evening peak hour (4:30 to 5:30pm), nine staff members are expected to leave. For this traffic assessment, it is assumed that staff will generate ten trips in each peak hour period.

Table 4.1 – Number of employees arriving and leaving during a typical day

Time	Number of staff arriving	Number of staff leaving	Total number of staff on site
6:30 – 7:00am	3		3
7:00 – 8:00am	6		9
8:00 – 9:00am	8		17
9:00 – 10:00am	10		27
10:00 – 11:00am	5		32
2:00 – 3:00pm		3	29
3:00 – 4:00pm		7	22
4:00 – 5:00pm		9	13
5:00 – 6:00pm		8	5
6:00 – 7:00pm		5	0
<b>Total</b>	<b>32</b>	<b>32</b>	

## 4.2 Childcare trip generation

To assist with determining the number of trips likely to be generated by this development, manual traffic survey data obtained during the morning and afternoon periods at an existing childcare facility catering for 50 children has been used. The manual traffic surveys and site observations found:

- Most children arrive and are collected using private motor vehicles, with most trips involving a single child. For this assessment, each child generates four daily trips: two at drop-off and two at pick-up time.
- The main arrival and collection activity occurred over a period of 2 hours and 30 minutes during both the morning and afternoon periods.
- A vehicle would occupy a car parking space for an average of eight minutes.
- During arrival and collection periods, there was a steady movement of vehicles. On average, vehicles occupied two parking spaces and generated a maximum demand of four car parking spaces.

Based on the development providing 126 childcare places, it is estimated to generate 504 daily trips, with 100 of these likely to occur during the morning and evening peak periods. It is important to note each vehicle generates two trips in both the morning and evening periods: one entering the site and one leaving.

Table 4.2 – Total daily and peak hour trips generation

Number	Daily trips	Morning peak hour			Evening peak hour		
		Total	In	Out	Total	In	Out
126 childcare places	504	100	50	50	100	50	50

## 4.3 Trip generation summary

This assessment predicts that the development is likely to generate 568 daily trips at when operating at full capacity. The daily number of trips is less significant than the number of trips during peak hours when the surrounding road network is busy. It is estimated that 110 trips will occur during each peak hour period, as illustrated in Table 4.3

Table 4.3 – Trip generation summary

Number	Daily trips	Morning peak hour			Evening peak hour		
		Total	In	Out	Total	In	Out
126 childcare places	504	100	50	50	100	50	50
32 staff	64	10	10	0	10	0	10
<b>Total</b>	<b>568</b>	<b>110</b>	<b>60</b>	<b>50</b>	<b>1</b>	<b>50</b>	<b>60</b>

#### 4.4 Occupancy rate for childcare facilities

Childcare occupancy rates in Australia can be impacted by illness outbreaks, such as seasonal flu or other contagious conditions. These illnesses often lead to temporary absences as children and staff stay home to recover, which can reduce occupancy rates for short periods. Urban Economics published a report on the occupancy rates of childcare centres in Australia, demonstrating facilities operated less than their capacity, averaging around 80 percent occupancy rate per day, as illustrated in the table 4.4.

Table 4.4 – Occupancy rate for childcare facilities in Australian (Urban Economic Dec 2018)

Market	Monday %	Tuesday %	Wednesday %	Thursday %	Friday %
<b>NSW</b>	74	85	86	85	75
<b>VIC</b>	72	84	83	84	73
<b>QLD</b>	63	75	77	77	66
<b>WA</b>	64	79	77	79	67
<b>SA</b>	61	75	76	76	65
<b>ACT/TAS/NT</b>	72	82	81	82	71

With childcare facilities typically operating at 80 percent capacity, trip generation is significantly reduced to 454 daily trips, with peak hour trips decreasing from 100 to 88. However, this assessment will be conducted using a worst-case scenario, when the facility is operating at full capacity.

## 5. Existing traffic Conditions

Dylan Street is a local residential street that forms a junction with William Street, a local collector road, with both roads located within the Brighton municipality. The nearest arterial road is Brighton Road, which is accessible from William Street, via a roundabout.

### 5.1 Dylan Street characteristics

Dylan Street extends from William Street in a north to south orientation providing no-through traffic. The road has a straight horizontal alignment and is situated within mostly flat terrain, with gentle vertical grades. There is limited development along the road, which has approximately 11 dwellings

Adjacent to the development site, the road has been constructed to a rural standard, with a 6.2 metre wide bitumen surface, 0.5 metre gravel shoulder on each side, and a shallow table drain on the western side. Delineation of the straight road alignment is provided through guide posts, accompanied with street lighting.

In absence of speed limit signs, the default 50 km/h urban speed limit would apply by regulation.

Photograph 5.1 – Dylan Street standard



## 5.2 William Street characteristics

William Street runs from west to east, extending westerly from the Brighton Road roundabout to Munday Street. The road has a straight horizontal alignment, operating with gentle vertical grades.

On the northern side of the road are residential dwellings, while the southern side remains undeveloped. The road has an eight-metre wide sealed surface, concrete kerb and channel, and street lighting. The northern side has a 1.5-metre wide footpath, while the southern side has a narrow gravel shoulder and grassy verge. On-street parking on the northern side allows for two-way traffic flow.

In absence of speed limit signs, the default 50 km/h urban speed limit would apply by regulation.

Photograph 5.2 – William Street standard



### 5.3 Dylan and William Street junction

Dylan Street intersects William Street at ninety-degrees forming a standard T-junction, with no Give Way sign or marked holding line.

The junction has an asphalt surface that is in reasonably good condition, with a wide junction throat to accommodate the swept path of turning vehicles. Dylan Street has a slight vertical grade approaching William Street but does not create any operational impacts.

The junction does not have any dedicated turning lanes and operates under a 50 km/h speed limit.

Photograph 5.3 – Dylan Street and William Street junction



## 5.4 Sight distance at junction of Dylan and William Street

The development will include a new access onto Dylan Street, with all development traffic having to turn at the intersection of Dylan and William Streets.

It is important that drivers have Safe Intersection Sight Distance (SISD) when using the junction, which is the highest sight distance parameter. Austroads Guide to Road Design provides guidance on sight distance and specifies an SISD of 90 metres for a 50 km/h speed environment, based on a driver reaction time of 1.5 seconds and an observation time of three seconds.

On-site measurements of the available sight distance were taken based on the driver leaving the access being 1.1 metres above the access surface, and an approaching vehicle being 1.2 metres high.

The available sight distance exceeded 100 metres in both directions, enabling vehicles to enter and leave Dylan Street safely and efficiently, without impacting other road users.

Photograph 5.4A – Available sight distance to the left



Photograph 5.4B – Available sight distance to the right



## 5.5 Brighton Road, Elderslie Road and William Street roundabout

The majority of the traffic generated by the development is expected to travel through the roundabout at the intersection of Brighton Road, Elderslie Road, and William Street. This single lane roundabout was implemented due to the construction of the new high school.

The geometrical layout of the roundabout is of a high standard, with adequate sight distance for motorists on all approaches, providing safe and efficient operation. Delineation is provided through appropriate road markings, signage, and street lighting.

## 5.6 Traffic Activity

In evaluating the traffic impact from the development, it is important to understand the current traffic flow on the surrounding road network. Recent manual traffic surveys were undertaken at the Brighton Road, Elderslie Road, and William Street roundabout on Tuesday, 11th February 2025.

The surveys revealed that Brighton Road has a consistent traffic flow, with slightly higher two-way traffic flows captured in the evening peak compared to the morning peak. Elderslie Road was found to be moderately trafficked during both peak periods, with less than 450 two-way vehicles captured.

On the date of the manual surveys, William Street was closed to traffic, resulting in no vehicle movements being captured. To account for this, vehicle movements for William Street have been extracted from a previous traffic survey conducted by Hubble Traffic and added to the observed data.

A manual survey was also undertaken to align with school pick-up at Brighton High School; however, this data has not been used as the evening peak hour captured a higher flow using the roundabout.

Table 5.6 captures the two-way flow on the surrounding roads, with the traffic data and turning movements for the roundabout available in Appendix A.

Table 5.6 – Summary of traffic flows on the surrounding road network

Roundabout	Road	Peak hour two-way flows	
		Morning	Evening
Brighton Road, Elderslie Road and William Street	Brighton Road (North)	758	988
	William Street (East)	96	117
	Brighton Road (South)	908	1,145
	Elderslie Road (West)	392	420

## 5.7 Traffic safety near the development site

State Growth maintains a database of reported road crashes, a check of this database for the last five completed years revealed no crashes located within 200 metres of the development site.

## 6. Impact from traffic generated by this development

As determined in Section 4 of this report, the development site has the potential to generate up to 568 daily trips, with 110 trips likely to occur during the morning and evening peak hours. This estimate is based on the childcare facility operating at full capacity, which is unlikely. It is more probable that the facility will operate at around 80 percent capacity.

Level of Service (LOS) is a quantifiable assessment of the factors that contribute to the traffic performance, which includes traffic density, gaps in traffic streams, expected delays, and queues. The RTA Guide provides performance criteria for urban traffic lanes (diagram 6.2) and junctions (diagram 6.3), with five levels from A to E.

LOS A provides the highest level of traffic performance, where motorists are not expected to incur traffic delays or queues, with ample gaps in the traffic stream for vehicles to turn freely and safely without disrupting other users. For busy arterial urban roads, LOS D during weekday peak hours is considered acceptable because increasing traffic capacity to accommodate short intense peaks is not practical due to infrastructure costs.

### 6.1 New trip assignment

When assigning the new trips to the surrounding road network, the location of existing residential dwellings, which are mostly to the north and west of the Brighton Road roundabout, has been considered.

In evaluating a worst-case scenario, this assessment assumes all trips generated by the development site will pass through the Brighton Road roundabout. It is acknowledged that a small number of traffic movements may use William Street, but this traffic is not expected to cause any adverse impact as William Street is lightly trafficked, with less than 120 two-way vehicles.

The traffic flow data captured from the manual surveys has also been used to determine the new trip distribution for Brighton and Elderslie Roads.

Table 6.1 – Trip distribution

Peak period	Direction	Number of trips	Brighton Road		Elderslie Rd	William St #
			North	South		
Morning peak hour	Leaving	50	20% (10 trips)	60% (30 trips)	20% (10 trips)	50 trips
	Arriving	60	45% (27 trips)	30% (18 trips)	25% (15 trips)	60 trips
Evening peak hour	Arriving	50	25% (12 trips)	55% (28 trips)	20% (10 trips)	50 trips
	Leaving	59	50% (29 trips)	25% (15 trips)	25% (15 trips)	59 trips

# William Street between Dylan Street and Brighton Road

## 6.2 Lane capacity and level of service for surrounding roads

In evaluating the impact of additional vehicles on Brighton Road, Elderslie Road, and William Street, it is important to understand the Level of Service (LOS) motorists are currently receiving. This can be done through a comparison of the peak hour traffic flow with diagram 6.2 from the RTA Guide for urban environments.

Diagram 6.2 – Extract from the RTA Guide

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

From the manual traffic surveys, William Street and Elderslie Road are operating at a high level of traffic efficiency, between LOS A and B. This means that the traffic flow is free flowing, motorists have freedom to select their own operating speed, and there should be sufficient gaps in the traffic stream to enable vehicles to enter and leave, without causing adverse impacts.

Brighton Road typically functions at LOS C or D during peak times. Given that Brighton Road is an arterial route connecting with the Midland Highway, this level of traffic performance is deemed acceptable.

The additional trips have been assigned to the surrounding road network, with the table below demonstrating that the development will intensify the directional traffic flows, but the level of traffic performance will not deteriorate. This means the development is not expected to cause adverse traffic impact to the surrounding road network.

Table 6.2 – Comparison of traffic performance on the surrounding roads

	Brighton Road				Elderslie Road				William Street			
	Morning		Evening		Morning		Evening		Morning		Evening	
	NB	SB	NB	SB	EB	WB	EB	WB	EB	WB	EB	WB
Existing flows	334	574	743	402	217	175	163	257	24	72	70	47
Level of Service	B	C	D	C	B	A	A	B	A	A	A	A
<b>With development</b>	<b>352</b>	<b>604</b>	<b>771</b>	<b>417</b>	<b>232</b>	<b>185</b>	<b>173</b>	<b>272</b>	<b>84</b>	<b>122</b>	<b>120</b>	<b>106</b>
<b>Level of Service</b>	<b>B</b>	<b>D</b>	<b>D</b>	<b>C</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

### 6.3 Traffic efficiency at the surrounding road junctions

The simplest method to determine the traffic performance at a junction is to use SIDRA Intersection traffic modelling software, which uses gap acceptance theory to determine the average delay, queue lengths, and degree of saturation, which are all measures of traffic congestion and level of service. The RTA Guide provides five levels of service for junctions and roundabouts as shown in diagram 6.3.

Diagram 6.3 – RTA Guide for level of service at junctions, intersections, and roundabouts

**Table 4.2**  
**Level of service criteria for intersections**

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

A traffic model was developed within the SIDRA software with the recent peak hour traffic flows, to replicate the roundabout of Brighton Road, Elderslie Road, and William Street.

A model was not developed for the junction of William Street and Dylan Street, as the volume of traffic is less than 200 vehicles. Based on traffic experience, it is anticipated that this junction would operate at the highest level of traffic efficiency. Furthermore, additional trips generated by the development will not adversely impact the level of traffic efficiency motorists are receiving at this junction.

Traffic modelling indicates that the Brighton Road roundabout is operating at the highest level of traffic performance, LOS A, with motorists not incurring any notable delays or traffic queues. The additional trips have been assigned to the roundabout, with the modelling indicating the development will intensify the traffic flow but will not deteriorate the traffic efficiency motorists are currently receiving.

As the local area continues to grow and develop, traffic flows are expected to increase. The incremental traffic growth has been modelled at the roundabout, based on a 1.5 percent growth per annum. Table 6.3 illustrates the impact of this traffic growth, indicating that the roundabout has ample spare capacity to accommodate incremental growth over the next 10 years, with modelling indicating that the roundabout is expected to continue to operate at LOS A.

This traffic analysis clearly demonstrates that the roundabout has traffic capacity to accommodate the traffic intensification caused by the development, and spare traffic capacity to cater for future growth in the area. Printouts of traffic modelling can be found in Appendix B.

Table 6.3 – Traffic modelling comparison between existing and with development traffic

Roundabout	Scenario	Period	Total vehicles	DOS	Worst delay	LOS	Max queue
Brighton Rd, Elderslie Rd and William St	Existing	Morning peak	1,134	0.398	12.1 secs	A	19.7 metres
	With development		1,249	0.437	12.3 secs	A	22.3 metres
	1.5% growth		1,444	0.519	13.3 secs	A	28.8 metres
	Existing	Evening peak	1,405	0.578	12.3 secs	A	37.3 metres
	With development		1,520	0.634	12.9 secs	A	42.2 metres
	1.5% growth		1,758	0.753	14.3 secs	A	65.6 metres

#### 6.4 Impact on residential amenity

A new development in residential areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide has considered this matter and provided an environmental performance standard, as detailed in extract 6.4.

With Dylan Street and William Street being lightly trafficked, the additional peak hour trips mean the streets will continue to operate with less than 200 vehicles per hour respectively, which is within the environmental goal for residential amenity.

Extract 6.4 – RTA Guide performance standards for residential streets

Environmental capacity performance standards on residential streets			
Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
300 maximum			
Collector	Street	50	300 environmental goal
			500 maximum

**Note:** Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

## 7. Development layout and internal road arrangements

### 7.1 Upgrade of Dylan Street

As part of the land subdivision of Dylan Street, the section of road adjacent to the development site will be upgraded to an urban standard. This upgrade will comply with the Local Government Association of Tasmania (LGAT) standard drawings for urban roads TSD-R06-v3, as Dylan Street is a local no-through road with a length greater than 150 metres.

The road will have a bitumen surface, measuring 8.9 metres between kerb faces, concrete kerb and channel, 1.5 metre wide concrete footpaths along both sides, and street lighting.

### 7.2 Vehicular access to the development site

The street upgrade will include a new vehicular access to the development site. This access will be at least 5.5 metres wide to accommodate two-way traffic flow and will be designed to comply with LGAT standard drawings for urban driveways TSD-R09-v3. The access will incorporate compliant grades across the footpath and along the driveway into the development site car parking module.

Photograph 7.2 – Proposed location of new access



### 7.3 Sight distance leaving the development site

At the proposed access location, Dylan Street has a straight horizontal road alignment, providing motorists with unrestricted sight lines in both directions.

The urban default 50 km/h speed limit applies along Dylan Street. However, due to the William Street junction, vehicles approaching from William Street must turn into Dylan Street, which limits their operating speed to a maximum of 30 km/h. The Austroads Guide to Road Design provides guidance on sight distance and specifies an SISD for a 30 km/h speed environment as 47 metres.

On-site measurements of the available sight distance were taken based on the driver leaving the access being 1.1 metres above the access surface, and an approaching vehicle being 1.2 metres high. The available sight distance is 60 metres to the right and exceeds 100 metres to the left.

With the available sight distance exceeding the SISD for the prevailing operating speed, vehicles will be able to enter and leave Dylan Street safely and efficiently, without impacting other road users.

Photograph 7.3A – Available sight distance to the right



Photograph 7.3B – Available sight distance to the left

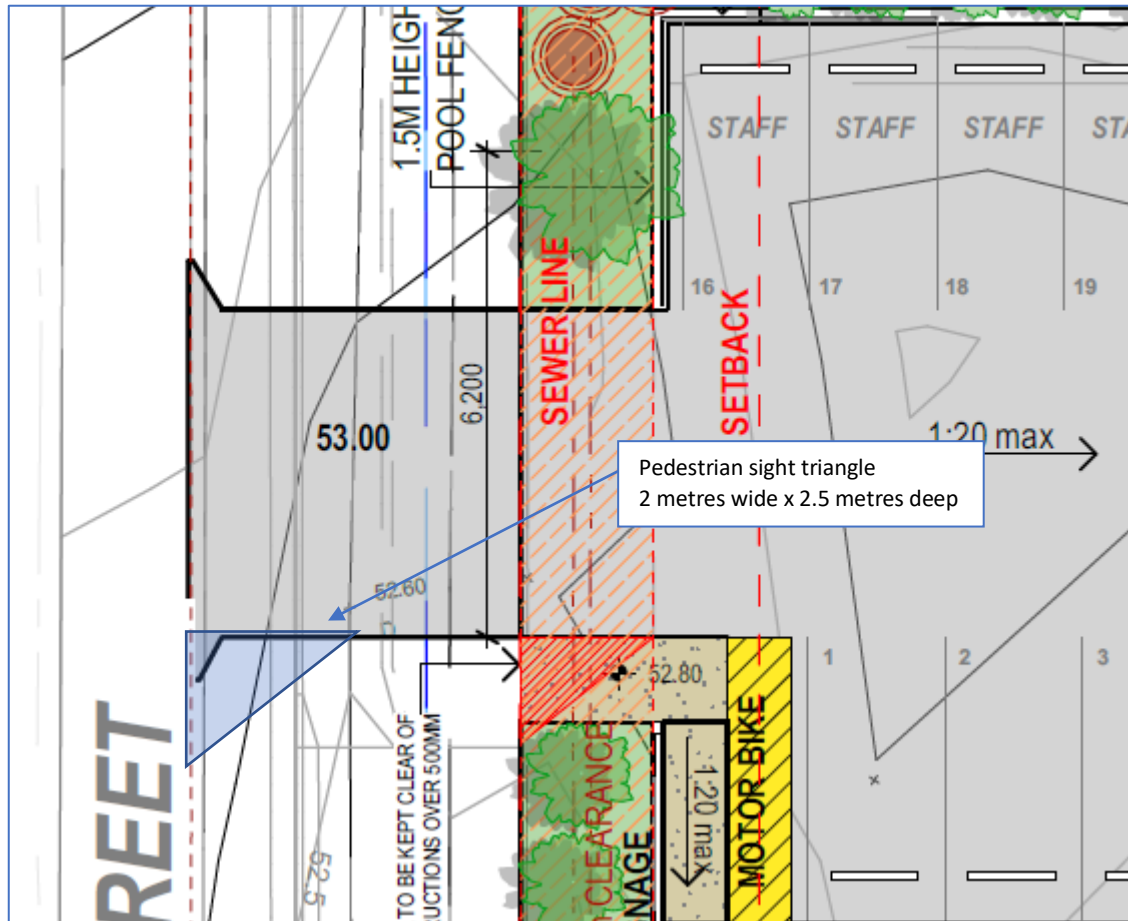


## 7.4 Pedestrian sight distance

It is important for drivers leaving the development site to have clear sight lines to pedestrians using the new footpath along Dylan Street. These sight lines will be maintained by ensuring there are no physical obstacles within the pedestrian sight triangle.

Diagram 7.4 demonstrates the pedestrian sight triangle for a driver leaving the site, as defined in the Standard figure 3.3.

Diagram 7.4 – Pedestrian sight triangle



## 7.5 Number of parking spaces

According to Table 6.2 of the planning scheme, a childcare facility falls under Educational and Occasional Care use, requiring one parking space per employee as per Table C2.1 of the planning scheme. With the development operating with a maximum of 32 employees at any one time, it is required to provide 32 on-site car parking spaces.

In total, the development will provide 32 on-site car parking spaces, meeting the required number under the planning scheme. Of these 32 parking spaces, 17 spaces will be designated for employees only, with the remaining 15 parking spaces to be used by both employees and parents, dropping off and picking up children.

As shown in table 4.1, peak employee presence occurs around midday, with an estimated 17 employees present during the primary parent drop-off and pick-up periods. This indicates that there will be sufficient parking spaces available for parents to use during those times.

As indicated earlier childcare are unlikely to operate at full capacity, and are more likely to operate around 80 percent, further demonstrating the number of parking spaces on-site will be able to meet the reasonable demand.

## 7.6 Dimensions of on-site car parking spaces

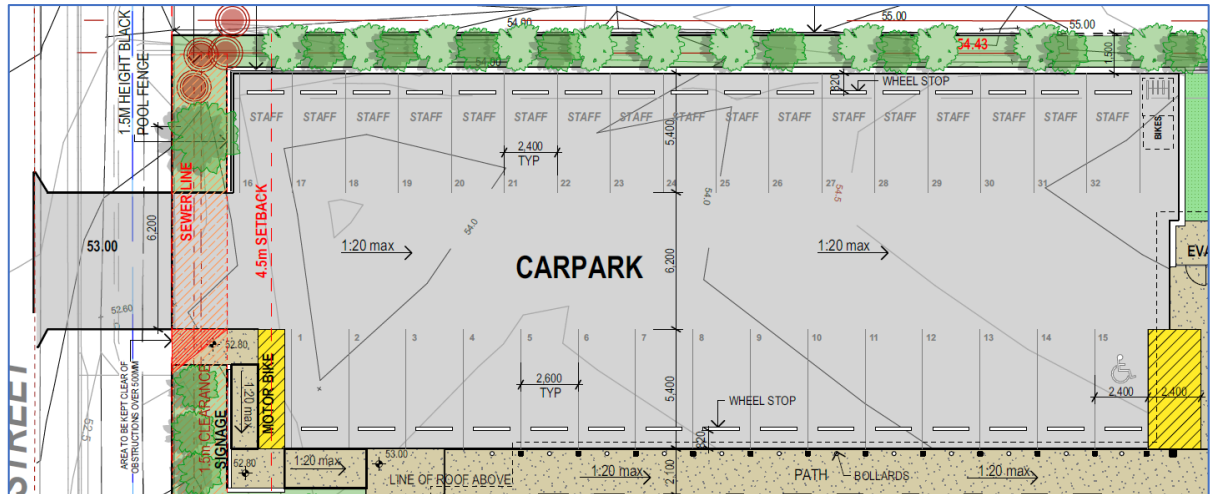
All on-site car parking spaces have been designed to comply with dimensions specified within the Standard, as either user class 1A, suitable for employees, or user class 3, suitable for short-term parking.

The spaces designated for employees, will measure a minimum of 2.4 metres wide, 5.4 metres long, and supported with a minimum 5.8 metre manoeuvring area. While the remaining spaces will be a minimum of 2.6 metres wide, 5.4 metres long, and supported with a minimum 5.8 metre manoeuvring area, suitable to be used by both employees and parents.

Where a parking space is located adjacent to a vertical obstruction higher than 150 millimetres, an additional 0.3 metres of width will be provided between the space and the obstruction. If there is a vertical obstruction on both sides, 0.3 metres will be provided on both sides of the space.

At the end of the proposed parking layout is a blind aisle, the aisle will be extended by an additional one metre, aiding vehicle manoeuvrability for the last parking spaces. All on-site parking spaces will be delineated with appropriate pavement markings and supported with wheel stops where appropriate.

Diagram 7.6 – Layout of parking spaces



### 7.7 Gradient of parking spaces

Each parking space will be designed to be situated on a gradient of less than five percent, in both longitudinal and transverse directions, complying with Section 2.4.6 of the Standard.

### 7.8 Car parking manoeuvrability

The car park design incorporates a 6.2 metre wide manoeuvring aisle, which means there will be sufficient manoeuvring area behind all on-site parking spaces to allow vehicles to enter and leave efficiently, complying with the Standard for both user class 1A and 3.

Vehicle swept path software has been used to demonstrate the swept path of a B85 vehicle entering and leaving a selection of the parking spaces, with the swept paths available in Appendix C.

### 7.9 Other parking requirements

#### Motorcycle parking spaces

Table C2.4 of the planning scheme prescribes that one on-site motorcycle parking space is required when more than 20 parking spaces are provided. In this instance the 32 parking spaces requires one motorcycle parking space, which will be provided within the parking module.

### Bicycle parking spaces

Table C2.1 of the planning scheme, specifies that Educational and Occasional Care use requires one bicycle space per five employees. The development will provide six on-site bicycle parking spaces, meeting the required number for 32 employees.

### Accessible parking spaces

According to the National Construction Code, a childcare use fits within the building classification 9b, which requires one accessible space per 50 spaces.

One accessible parking space with a shared zone will be provided and located as close as possible to the entrance of the building.

## 7.10 Internal driveway layout

The design incorporates a main internal driveway extending from Dylan Street and terminating at the end of the parking spaces. The driveway will be constructed with a concrete surface, with a suitable camber to direct surface water to kerbing, feeding into an approved stormwater drainage system.

The width of the internal driveway will be a minimum of 6.2 metres wide, accommodating two-way traffic flow. A ramp connecting the Dylan Street with the internal driveway will be a minimum of six metres wide, with kerbing either side of the driveway, providing 0.3 metres of separation from any vertical obstruction.

## 7.11 Internal gradients

Even though the developer has not provided civil plans, the driveway crossover will adhere to LGAT standard drawings TSD-R09-v3 for urban driveways. The grades connecting the crossover with the internal parking aisle will comply with Section 2.5.3 of the Standard for internal gradients. This approach ensures that on-site grades will not negatively affect vehicles entering, circulating, and leaving the site.

### 7.12 Pedestrian access

Internal pedestrian pathways have been provided in the design, to connect the main entrance with the new Dylan Street footpath and parking spaces. The internal pathways will be a minimum of one metre wide and constructed with a hard-wearing concrete surface.

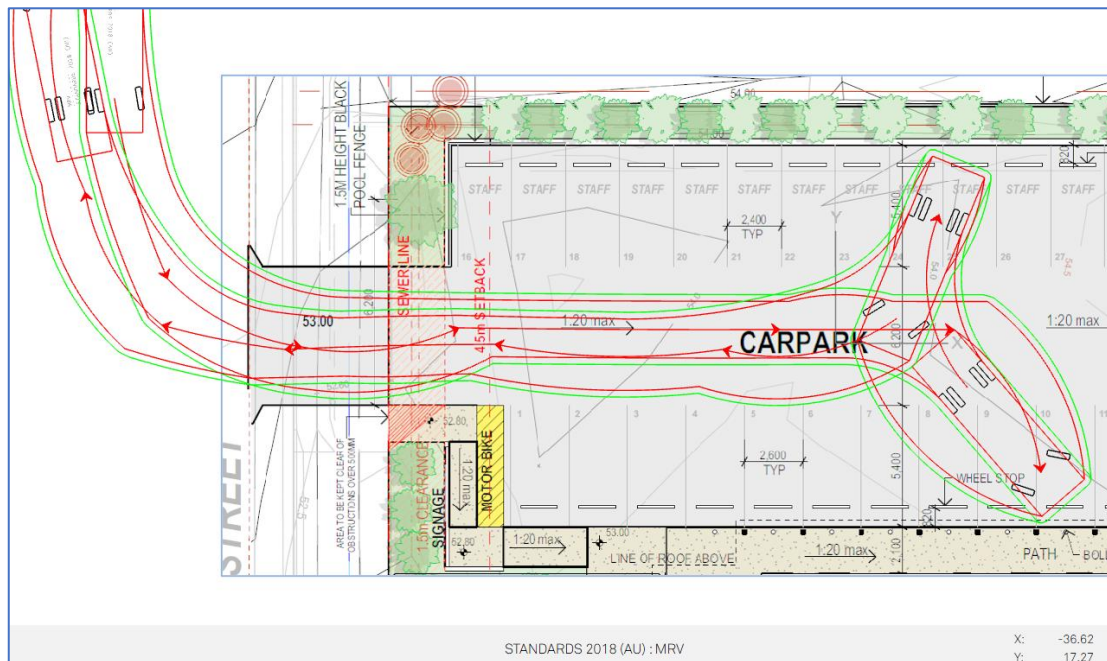
The pathway will be separated from the parking spaces by bollards and wheel stops, while kerbing will be used to separate the pathway from the internal driveway. Overall, pedestrians will be provided with a high level of safety, enabling them to move around the site in a safe and convenient manner, meeting the objective of the planning scheme.

### 7.13 Waste collection

A private waste collection service will be engaged, with collections scheduled outside normal business hours to ensure the on-site parking module is unoccupied at the time of service. The driveway access provides sufficient width to accommodate a standard waste collection vehicle (8.8 m in length), enabling safe entry and exit. Within the parking module, the paved area allows for full turning movements, facilitating turnaround manoeuvres without reversing.

This arrangement enables the waste collection vehicle to enter, manoeuvre, and exit the site in a forward direction, consistent with the operational and safety objectives of the planning scheme. The accompanying swept path diagram confirms compliance with vehicle circulation requirements and demonstrates the adequacy of the internal layout.

Diagram 7.13 – Swept path of medium rigid vehicles (8.8 metres long)



## 7.14 Access for emergency vehicles

The internal layout has been designed to accommodate occasional heavy vehicle movements, including emergency services vehicles. These vehicles typically have dimensions comparable to a medium rigid vehicle (approximately 8.8 m in length). The driveway provides sufficient width to enable forward entry by such vehicles.

In the unlikely event that all on-site parking spaces are occupied during an emergency response, the vehicle may be required to reverse out. Given the infrequency and urgency of such movements, this is considered operationally acceptable and consistent with the intent of the planning scheme to ensure emergency access, without compromising general site functionality.

## 7.15 Safety barriers

If any parking space or internal driveway is elevated above the ground surface by more than 600 millimetres, an approved safety barrier will be implemented.

## 8. Planning scheme

### 8.1 C2.0 Parking and Sustainable Transport Code

#### C2.5.1 Car parking numbers

Table C2.1 of the planning scheme prescribes that an Education or Occasional Care use requires one space per employee. The development site will provide 32 on-site car parking spaces, complying with the acceptable solution.

#### C2.5.2 Bicycle parking numbers

Table C2.1 of the planning scheme prescribes that an Education or Occasional Care use requires one space per five employees. The development site will provide six bicycle parking spaces, complying with the acceptable solution.

#### C2.5.3 Motorcycle parking numbers

Table C2.4 of the planning scheme prescribes that a use requiring 32 on-site car parking spaces, requires one motorcycle parking space. A dedicated motorcycle parking space will be provided by the development, complying with the acceptable solution.

#### C2.5.4 Loading bays

As the floor area of the childcare facility is less than 1,000 square metres, a loading bay is not required, and this complies with the acceptable solution.

#### C2.6. Development standards

C2.6.1 Construction of parking areas.	The parking spaces and internal driveway will be constructed with a concrete surface, with appropriate camber to direct surface water to kerbing, feeding to an approved stormwater system. This design complies with the acceptable solution A1.
C2.6.2 Design and layout of parking areas.	The internal layout and parking areas have been designed to comply with the Standard, for both user class 1A and 3, ensuring vehicles can enter and leave the site in a forward-driving direction. There is sufficient manoeuvring width adjacent to all parking spaces, to enable vehicles to enter and leave efficiently. Parking spaces will be located on gradients not exceeding five percent. Each space will be delineated with pavement markings and supported with wheel stops, where applicable. One accessible parking space with a shared zone will be provided as

	close to the front entrance as possible. No overhead structures are expected over the parking spaces, ensuring appropriate vertical clearance is available. Any parking space or driveway situated 600 millimetres higher than the natural ground surface, will be protected by a safety barrier. Overall, the design complies with the acceptable solution A1.1(b) and A1.2.
C2.6.3 Number of accesses for vehicles.	A new vehicular access will be created onto Dylan Street, with sufficient width to accommodate two-way traffic flow, complying with the acceptable solution A1.
C2.6.4 Lighting of parking areas within the general business zone and central business zone	Appropriate lighting will be provided to the parking module to comply with the acceptable solution.
C2.6.5 Pedestrian access.	A minimum one metre wide pedestrian pathway will be provided, connecting the front entrance with the parking spaces and the new footpath along Dylan Street. This pathway will be constructed with a concrete surface and separated from the parking spaces and internal driveway by bollards and kerbing. Overall, pedestrians will be provided with a high level of service, complying with the acceptable solution of the planning scheme.
C2.6.6 Loading bays.	
C2.6.7 Bicycle parking and storage facilities	Bicycle parking spaces will be designed to comply with the planning scheme and Australian Standard 1158.3.1:2005, complying with the acceptable solution A1 and A2.
C2.6.8 Siting of parking and turning areas.	Not applicable for a general residential zone.

## 8.2 C3.0 Road and Railway Assets Code

### C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

The development will increase the use of the existing access by more than 20 percent and will need to be assessed against the performance criteria P1, ensuring that it can operate safely and efficiently.

Performance criteria	Assessment
Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:	
a) Any increase in the traffic caused by the use;	When operating at full capacity, the development site is estimated to generate 568 daily trips, with 110 trips expected during the peak hour periods. Given that childcare facilities typically operate at around 80 percent capacity, the actual traffic generation is expected to be significantly lower.
b) The nature of the traffic generated by the use;	The development is likely to generate light vehicle movements associated with urban living. These vehicles measure less than 5.5 metres in length, have good manoeuvrability and are compatible with the traffic operating on the surrounding road network.
c) The nature of the road;	Dylan Street is a local residential street, the section adjacent to the development site will be upgraded to a typical urban standard, with sufficient road width to accommodate on-street parking, while maintaining two-way traffic flow. This upgrade will ensure that the road is of a similar nature to the surrounding road network, which can accommodate the additional vehicles generated by the development. There is sufficient available sight distance for the prevailing speed of vehicles approaching the proposed new access onto Dylan Street, enabling vehicles to enter and leave the development site in a safe and efficient manner.
d) The speed limit and traffic flow of the road;	With no posted speed limit, the 50 km/h urban speed limit applies on Dylan Street. With less than 200 vehicles travelling through the William Street and Dylan Street junction in the peak periods, both roads are considered to be lightly trafficked. Traffic modelling at the Brighton Road, Elderslie Road and William Street roundabout indicates motorists are receiving a high level of traffic performance and efficiency, and the additional traffic generated by the development is not expected to cause any deterioration in traffic performance or have an adverse impact on traffic flow. There is also spare capacity at the roundabout to absorb incremental traffic growth as the local area continues to grow and develop, without causing any deterioration in the level of traffic efficiency and performance. Overall, this assessment determined the surrounding road network can easily absorb the development traffic without adversely impacting safety, traffic efficiency or residential amenity.
e) Any alternative access to a road;	None.

f) The need for the use;	The development will provide the local area with more childcare spaces, benefiting the local community.
g) Any traffic impact assessment; and	An independent traffic assessment found no reason for this development not to proceed.
h) Any written advice received from the rail or road authority.	Aware of none.

## 9. Conclusion

From a traffic engineering and road safety perspective, traffic generated from this development site is not expected to create any adverse safety, amenity, or traffic efficiency problems, as:

- the amount of traffic generated by the development is considered to be moderate and there is sufficient capacity within the surrounding road network to absorb these movements without impacting other users,
- the site will create a new vehicular access onto Dylan Street, which will have sufficient width to accommodate two-way traffic flow,
- this new access will have sufficient available sight distance, enabling vehicles to enter and leave the development site safely and efficiently,
- a sufficient number of on-site car parking spaces will be provided to meet the reasonable demand, minimising parking overflow,
- all parking spaces have been designed to comply with the Standard, ensuring that all vehicles can enter and leave the spaces in an efficient manner, and in a forward-driving direction,
- the parking module allows for large vehicles to enter, ensuring that emergency service vehicles can reach the buildings easily, and
- private waste collection service will be engaged to operate outside of normal business hours, when the parking module allows for the vehicle to turnaround, ensuring the vehicle will be able to enter and leave the site in a forward-driving direction.

This Traffic Impact Assessment found no reason for this development not to proceed.

## 10. Appendix A – Traffic surveys

### 10.1 Manual traffic surveys

Table 10.1A – Morning survey completed on Tuesday 11th of February

Time	Brighton Road (North)			William Street (East)			Brighton Road (South)			Elderslie Road (West)		
	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left
7:30 7:45	15	117	0	0	0	0	0	47	20	27	0	16
7:45 8:00	9	110	0	0	0	0	0	42	24	38	0	11
8:00 8:15	13	96	0	0	0	0	0	40	22	43	0	10
8:15 8:30	30	86	0	0	0	0	0	54	22	41	0	18
8:30 8:45	38	84	0	0	0	0	0	72	18	48	0	20
8:45 9:00	11	91	0	0	0	0	0	72	16	22	0	14
<b>Total</b>	<b>116</b>	<b>584</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>327</b>	<b>122</b>	<b>219</b>	<b>0</b>	<b>89</b>
<b>Peak total</b>	<b>92</b>	<b>357</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>238</b>	<b>78</b>	<b>154</b>	<b>0</b>	<b>62</b>

\*William Street was closed on this date, with all traffic required to detour using Brighton Road, Andrew Street and Augustus Road

Table 10.1B – School pick-up survey completed on Tuesday 11th of February

Time	Brighton Road (North)			William Street (East)			Brighton Road (South)			Elderslie Road (West)		
	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left
2:30 2:45	13	91	0	0	0	0	0	93	19	20	0	12
2:45 3:00	21	74	0	0	0	0	0	89	28	20	0	10
3:00 3:15	30	92	0	0	0	0	0	98	28	32	0	23
3:15 3:30	20	75	0	0	0	0	0	102	22	18	0	11
<b>Total</b>	<b>84</b>	<b>332</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>382</b>	<b>97</b>	<b>90</b>	<b>0</b>	<b>56</b>

\*William Street was closed on this date, with all traffic required to detour using Brighton Road, Andrew Street and Augustus Road

Table 12.1C – Evening survey completed on Tuesday 11th of February

Time	Brighton Road (North)			William Street (East)			Brighton Road (South)			Elderslie Road (West)		
	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left	Right	Straight	Left
4:00 4:15	31	85	0	0	0	0	0	126	38	28	0	18
4:15 4:30	28	57	0	0	0	0	0	142	46	18	0	19
4:30 4:45	18	65	0	0	0	0	0	128	45	21	0	17
4:45 5:00	14	75	0	0	0	0	0	128	31	21	0	19
5:00 5:15	16	83	0	0	0	0	0	138	34	36	0	7
5:15 5:30	18	81	0	0	0	0	0	134	36	22	0	18
<b>Total</b>	<b>125</b>	<b>446</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>796</b>	<b>230</b>	<b>146</b>	<b>0</b>	<b>98</b>
<b>Peak total</b>	<b>91</b>	<b>282</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>524</b>	<b>160</b>	<b>88</b>	<b>0</b>	<b>73</b>

\*William Street was closed on this date, with all traffic required to detour using Brighton Road, Andrew Street and Augustus Road

## 10.2 Brighton Road, Elderslie Road and William Street roundabout

The following diagrams illustrate the turning movements of motorists through the roundabout, based on manual survey data, with movements for William Street added from a previous manual survey.

Diagram 10.2A – Morning peak hour traffic movements

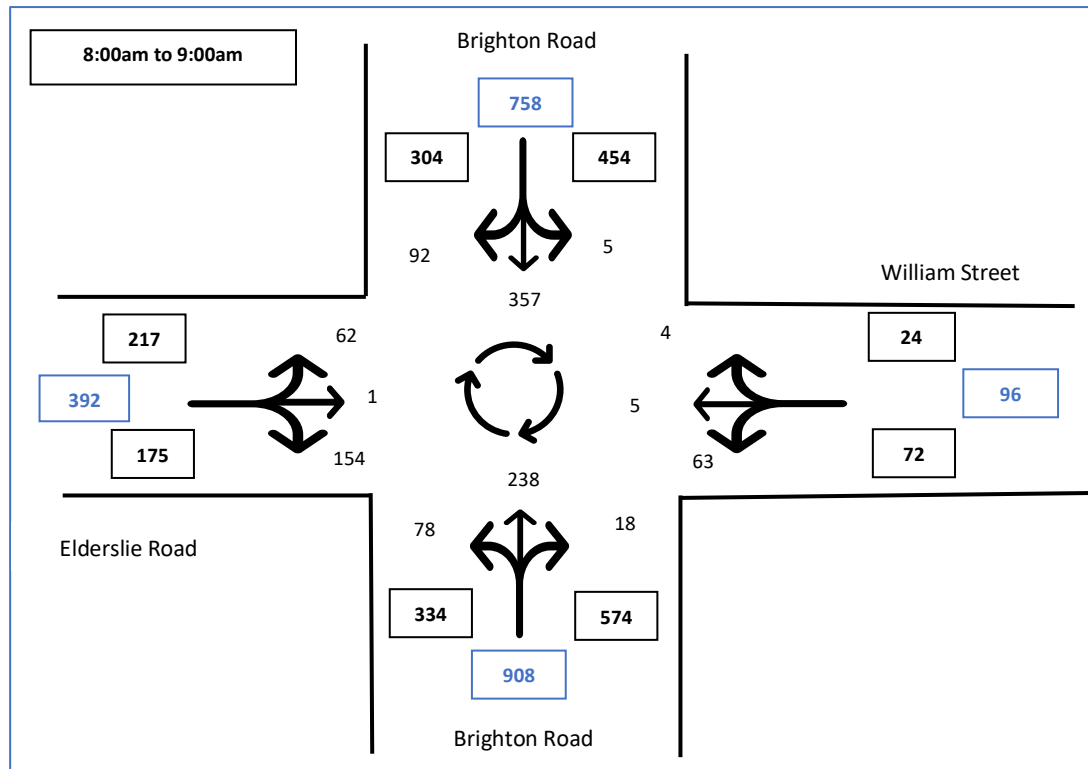
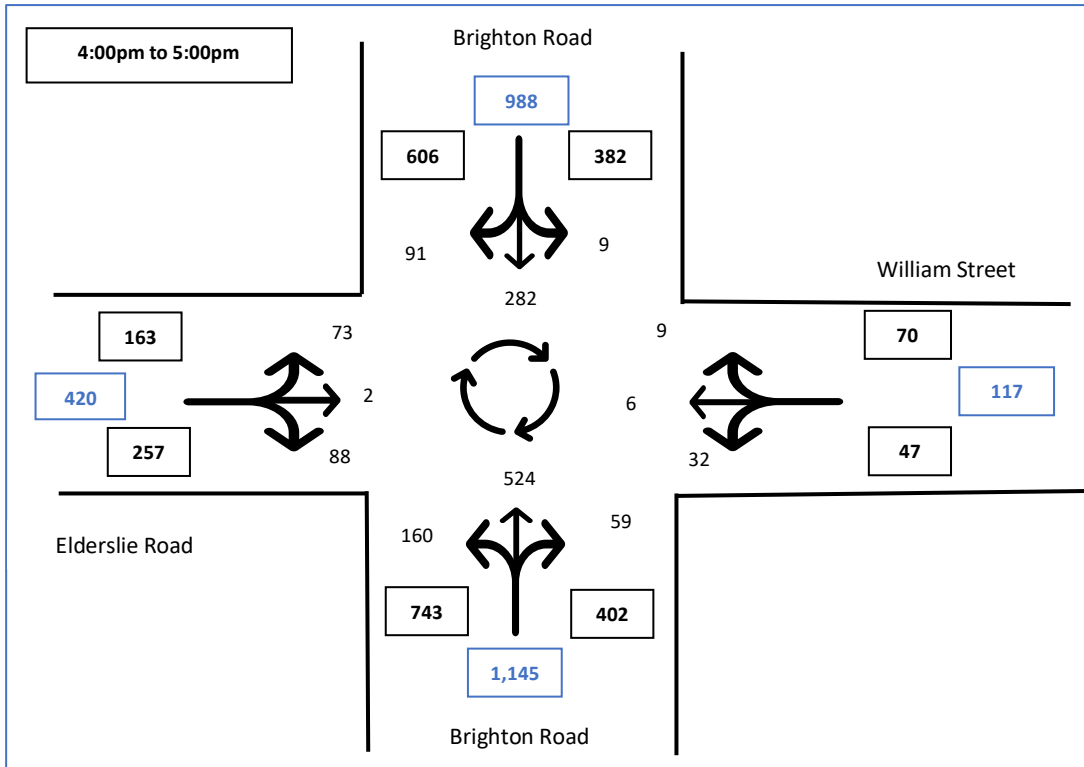


Diagram 10.2B – Evening peak hour traffic movements




### 10.3 Previous manual survey

Diagram 10.3 – Previous manual survey at Brighton Road, Elderslie Road, and William Street


<b>Brighton Road at Elderslie and William</b>													
<b>Brighton Road (south)</b>				<b>Brighton Road (north)</b>			<b>Elderslie Road</b>			<b>William Street</b>			<b>Total</b>
<b>Time</b>	<b>Left into Elderslie</b>	<b>Straight</b>	<b>Right into William</b>	<b>Left into William</b>	<b>Straight</b>	<b>Right into Elderslie</b>	<b>Left into Brighton Rd</b>	<b>Straight to William</b>	<b>Right to Brighton St (Hobart)</b>	<b>Left onto Brighton (Hobart)</b>	<b>Straight</b>	<b>Right onto Brighton</b>	
7.30 - 7.45	6	47	4	0	131	13	8	1	55	20	3	0	288
7.45 to 8.00	18	59	3	1	143	7	6	0	40	11	0	3	291
8.00 to 8.15	16	44	10	3	88	13	8	0	24	14	1	1	222
8.15 to 8.30	14	64	1	1	107	7	7	0	32	18	1	0	252
8.30 to 8.45	9	78	6	5	100	5	18	1	27	4	0	0	253
8.45 to 9.00	14	65	8	7	94	15	17	1	17	7	1	1	247
<b>Total peak hour</b>	<b>54</b>	<b>214</b>	<b>18</b>	<b>5</b>	<b>469</b>	<b>40</b>	<b>29</b>	<b>1</b>	<b>151</b>	<b>63</b>	<b>5</b>	<b>4</b>	<b>1053</b>
2.30 to 2.45	23	99	4	0	79	9	9	1	18	4	1	4	251
2.45 to 3.00	26	99	7	0	87	16	10	1	14	4	2	1	267
3.00 to 3.15	31	116	7	7	106	10	11	1	20	5	1	2	317
3.15 to 3.30	34	100	11	6	98	14	7	0	13	9	1	4	297
<b>Peak hour</b>	<b>114</b>	<b>414</b>	<b>29</b>	<b>13</b>	<b>370</b>	<b>49</b>	<b>37</b>	<b>3</b>	<b>65</b>	<b>22</b>	<b>5</b>	<b>11</b>	<b>1132</b>
4.30 to 4.45	37	150	10	1	67	17	14	1	27	5	0	0	329
4.45 to 5.00	35	133	14	2	79	12	12	0	16	8	2	3	316
5.00 to 5.15	47	120	18	4	85	11	9	0	20	12	3	2	331
5.15 to 5.30	33	125	17	2	60	13	13	1	15	7	1	4	291
5.30 to 5.45	25	105	12	4	76	15	5	0	14	9	2	1	268
5.45 to 6.00	25	123	14	2	67	9	9	0	15	11	1	3	279
<b>Total peak hour</b>	<b>152</b>	<b>528</b>	<b>59</b>	<b>9</b>	<b>291</b>	<b>53</b>	<b>48</b>	<b>2</b>	<b>78</b>	<b>32</b>	<b>6</b>	<b>9</b>	<b>1267</b>

## 11. Appendix B – Traffic modelling


### Morning peak – Existing flows

MOVEMENT SUMMARY								
 <b>Site: 101 [Dylan - Brighton and Willian existing morning]</b>								
New Site Site Category: (None) Roundabout								
Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: Brighton Road</b>								
1	L2	82	0.0	0.270	4.7	LOS A	1.7	12.0
2	T1	251	0.0	0.270	4.9	LOS A	1.7	12.0
3	R2	19	0.0	0.270	9.0	LOS A	1.7	12.0
Approach		352	0.0	0.270	5.1	LOS A	1.7	12.0
<b>East: William Street</b>								
4	L2	66	0.0	0.095	7.7	LOS A	0.6	3.9
5	T1	5	0.0	0.095	7.9	LOS A	0.6	3.9
6	R2	4	0.0	0.095	12.1	LOS B	0.6	3.9
Approach		76	0.0	0.095	8.0	LOS A	0.6	3.9
<b>North: Brighton Rd</b>								
7	L2	5	0.0	0.398	5.3	LOS A	2.8	19.7
8	T1	376	0.0	0.398	5.5	LOS A	2.8	19.7
9	R2	97	0.0	0.398	9.6	LOS A	2.8	19.7
Approach		478	0.0	0.398	6.4	LOS A	2.8	19.7
<b>West: Elderslie Rd</b>								
10	L2	65	0.0	0.214	5.6	LOS A	1.2	8.6
11	T1	1	0.0	0.214	5.9	LOS A	1.2	8.6
12	R2	162	0.0	0.214	10.0	LOS A	1.2	8.6
Approach		228	0.0	0.214	8.7	LOS A	1.2	8.6
All Vehicles		1134	0.0	0.398	6.5	LOS A	2.8	19.7


### Evening peak – Existing flows

MOVEMENT SUMMARY								
 <b>Site: 101 [Dylan - Brighton and Willian existing evening]</b>								
New Site Site Category: (None) Roundabout								
Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: Brighton Road</b>								
1	L2	168	0.0	0.578	5.0	LOS A	5.3	37.3
2	T1	552	0.0	0.578	5.3	LOS A	5.3	37.3
3	R2	62	0.0	0.578	9.4	LOS A	5.3	37.3
Approach		782	0.0	0.578	5.5	LOS A	5.3	37.3
<b>East: William Street</b>								
4	L2	34	0.0	0.055	6.5	LOS A	0.3	2.1
5	T1	6	0.0	0.055	6.8	LOS A	0.3	2.1
6	R2	9	0.0	0.055	10.9	LOS B	0.3	2.1
Approach		49	0.0	0.055	7.4	LOS A	0.3	2.1
<b>North: Brighton Rd</b>								
7	L2	9	0.0	0.328	5.0	LOS A	2.2	15.2
8	T1	297	0.0	0.328	5.3	LOS A	2.2	15.2
9	R2	96	0.0	0.328	9.4	LOS A	2.2	15.2
Approach		402	0.0	0.328	6.3	LOS A	2.2	15.2
<b>West: Elderslie Rd</b>								
10	L2	77	0.0	0.219	7.9	LOS A	1.4	9.5
11	T1	2	0.0	0.219	8.2	LOS A	1.4	9.5
12	R2	93	0.0	0.219	12.3	LOS B	1.4	9.5
Approach		172	0.0	0.219	10.3	LOS B	1.4	9.5
All Vehicles		1405	0.0	0.578	6.4	LOS A	5.3	37.3

Morning peak – Existing flows with development operating

<b>MOVEMENT SUMMARY</b>								
 <b>Site: 101 [Dylan - Brighton and Willian - Morning with development operating]</b>								
New Site Site Category: (None) Roundabout								
<b>Movement Performance - Vehicles</b>								
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: Brighton Road</b>								
1	L2	82	0.0	0.292	4.8	LOS A	1.9	13.1
2	T1	251	0.0	0.292	5.1	LOS A	1.9	13.1
3	R2	38	0.0	0.292	9.2	LOS A	1.9	13.1
Approach		371	0.0	0.292	5.4	LOS A	1.9	13.1
<b>East: William Street</b>								
4	L2	98	0.0	0.164	7.9	LOS A	1.0	6.9
5	T1	16	0.0	0.164	8.1	LOS A	1.0	6.9
6	R2	15	0.0	0.164	12.3	LOS B	1.0	6.9
Approach		128	0.0	0.164	8.4	LOS A	1.0	6.9
<b>North: Brighton Rd</b>								
7	L2	34	0.0	0.437	5.6	LOS A	3.2	22.3
8	T1	376	0.0	0.437	5.8	LOS A	3.2	22.3
9	R2	97	0.0	0.437	10.0	LOS A	3.2	22.3
Approach		506	0.0	0.437	6.6	LOS A	3.2	22.3
<b>West: Elderslie Rd</b>								
10	L2	65	0.0	0.235	5.8	LOS A	1.4	9.6
11	T1	17	0.0	0.235	6.1	LOS A	1.4	9.6
12	R2	162	0.0	0.235	10.2	LOS B	1.4	9.6
Approach		244	0.0	0.235	8.7	LOS A	1.4	9.6
All Vehicles		1249	0.0	0.437	6.9	LOS A	3.2	22.3

Evening peak – Existing flows with development operating

<b>MOVEMENT SUMMARY</b>								
 <b>Site: 101 [Dylan - Brighton and Willian - Evening with development operating]</b>								
New Site Site Category: (None) Roundabout								
<b>Movement Performance - Vehicles</b>								
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: Brighton Road</b>								
1	L2	168	0.0	0.634	5.5	LOS A	6.0	42.2
2	T1	552	0.0	0.634	5.8	LOS A	6.0	42.2
3	R2	92	0.0	0.634	9.9	LOS A	6.0	42.2
Approach		812	0.0	0.634	6.2	LOS A	6.0	42.2
<b>East: William Street</b>								
4	L2	49	0.0	0.125	6.7	LOS A	0.7	4.9
5	T1	22	0.0	0.125	7.0	LOS A	0.7	4.9
6	R2	40	0.0	0.125	11.1	LOS B	0.7	4.9
Approach		112	0.0	0.125	8.3	LOS A	0.7	4.9
<b>North: Brighton Rd</b>								
7	L2	22	0.0	0.354	5.3	LOS A	2.4	16.6
8	T1	297	0.0	0.354	5.6	LOS A	2.4	16.6
9	R2	96	0.0	0.354	9.7	LOS A	2.4	16.6
Approach		415	0.0	0.354	6.5	LOS A	2.4	16.6
<b>West: Elderslie Rd</b>								
10	L2	77	0.0	0.251	8.5	LOS A	1.6	11.5
11	T1	13	0.0	0.251	8.8	LOS A	1.6	11.5
12	R2	93	0.0	0.251	12.9	LOS B	1.6	11.5
Approach		182	0.0	0.251	10.8	LOS B	1.6	11.5
All Vehicles		1520	0.0	0.634	7.0	LOS A	6.0	42.2

Morning peak – Existing flows with development operating and 1.5% growth over 10 years

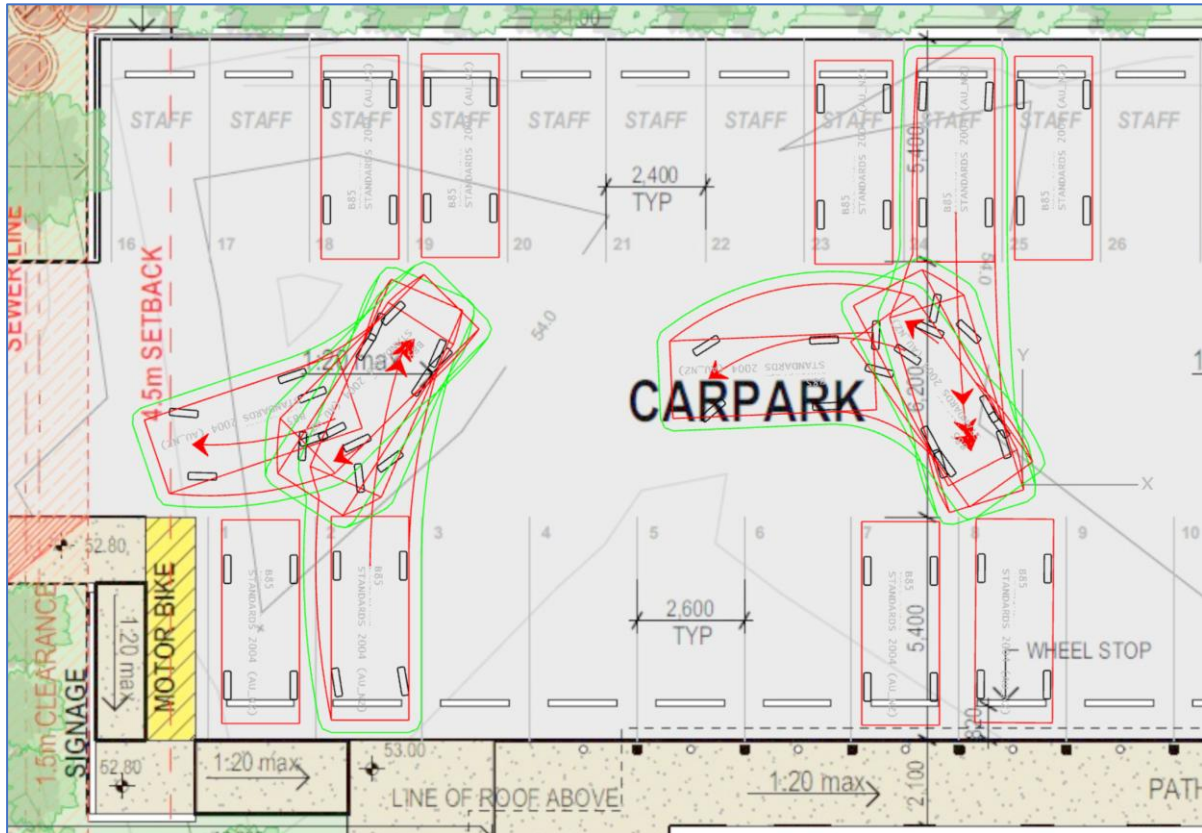
<b>MOVEMENT SUMMARY</b>									
Site: 101 [Dylan - Brighton and Willian - Morning with development and growth 1% for 10 yrs]									
New Site									
Site Category: (None)									
Roundabout									
<b>Movement Performance - Vehicles</b>									
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	
<b>South: Brighton Road</b>									
1	L2	96	0.0	0.346	5.0	LOS A	2.4	16.6	
2	T1	291	0.0	0.346	5.2	LOS A	2.4	16.6	
3	R2	44	0.0	0.346	9.4	LOS A	2.4	16.6	
Approach		431	0.0	0.346	5.6	LOS A	2.4	16.6	
<b>East: William Street</b>									
4	L2	114	0.0	0.211	8.9	LOS A	1.3	9.4	
5	T1	18	0.0	0.211	9.1	LOS A	1.3	9.4	
6	R2	17	0.0	0.211	13.3	LOS B	1.3	9.4	
Approach		148	0.0	0.211	9.4	LOS A	1.3	9.4	
<b>North: Brighton Rd</b>									
7	L2	39	0.0	0.519	6.0	LOS A	4.1	28.8	
8	T1	429	0.0	0.519	6.2	LOS A	4.1	28.8	
9	R2	113	0.0	0.519	10.4	LOS B	4.1	28.8	
Approach		581	0.0	0.519	7.0	LOS A	4.1	28.8	
<b>West: Elderslie Rd</b>									
10	L2	76	0.0	0.285	6.2	LOS A	1.8	12.3	
11	T1	20	0.0	0.285	6.5	LOS A	1.8	12.3	
12	R2	188	0.0	0.285	10.6	LOS B	1.8	12.3	
Approach		284	0.0	0.285	9.1	LOS A	1.8	12.3	
All Vehicles		1444	0.0	0.519	7.3	LOS A	4.1	28.8	

Evening peak – Existing flows with development operating and 1.5% growth over 10 years

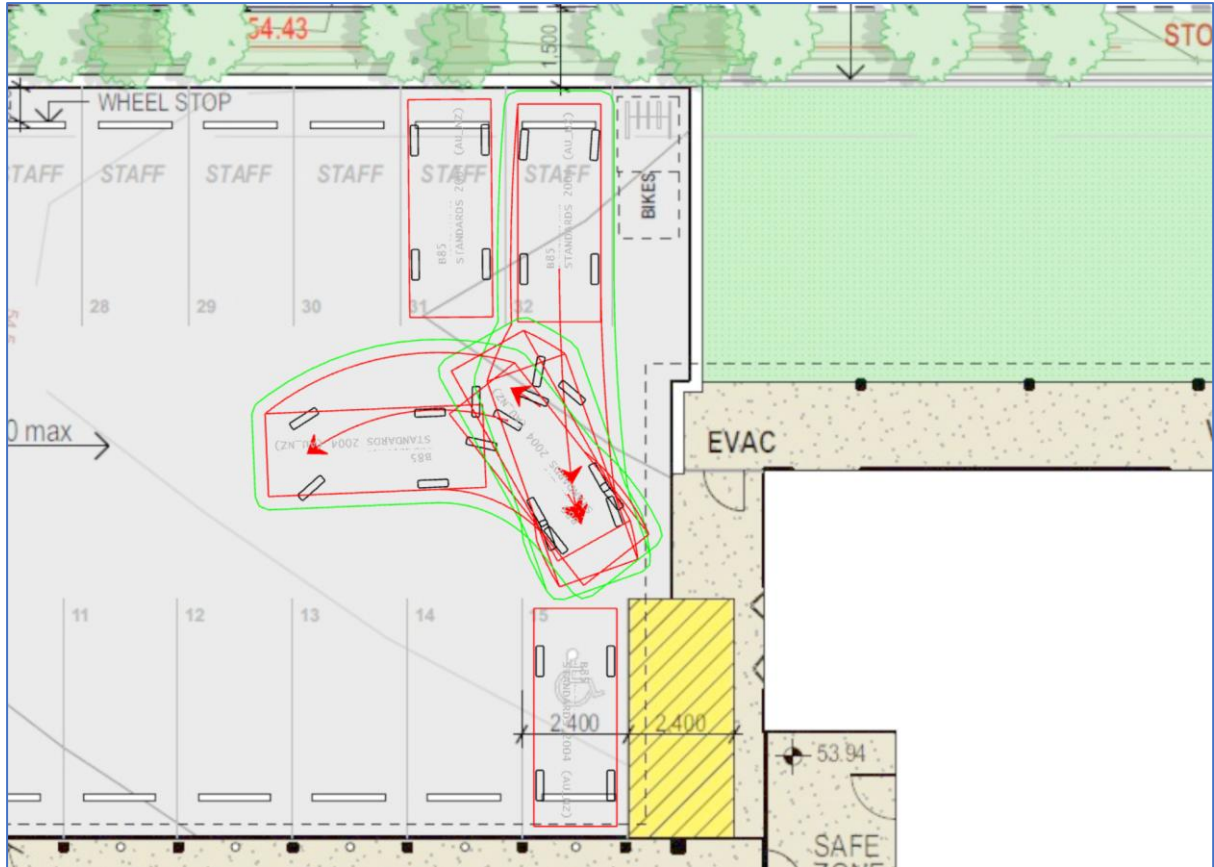
<b>MOVEMENT SUMMARY</b>									
Site: 101 [Dylan - Brighton and Willian - Evening with developmen, growth 1.5% for 10yrs]									
New Site									
Site Category: (None)									
Roundabout									
<b>Movement Performance - Vehicles</b>									
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	
<b>South: Brighton Road</b>									
1	L2	196	0.0	0.753	6.6	LOS A	9.4	65.6	
2	T1	640	0.0	0.753	6.9	LOS A	9.4	65.6	
3	R2	106	0.0	0.753	11.0	LOS B	9.4	65.6	
Approach		942	0.0	0.753	7.3	LOS A	9.4	65.6	
<b>East: William Street</b>									
4	L2	58	0.0	0.155	7.3	LOS A	0.9	6.4	
5	T1	25	0.0	0.155	7.5	LOS A	0.9	6.4	
6	R2	46	0.0	0.155	11.6	LOS B	0.9	6.4	
Approach		129	0.0	0.155	8.9	LOS A	0.9	6.4	
<b>North: Brighton Rd</b>									
7	L2	25	0.0	0.418	5.6	LOS A	3.0	21.0	
8	T1	338	0.0	0.418	5.9	LOS A	3.0	21.0	
9	R2	112	0.0	0.418	10.0	LOS B	3.0	21.0	
Approach		475	0.0	0.418	6.8	LOS A	3.0	21.0	
<b>West: Elderslie Rd</b>									
10	L2	89	0.0	0.347	9.9	LOS A	2.5	17.4	
11	T1	15	0.0	0.347	10.1	LOS B	2.5	17.4	
12	R2	107	0.0	0.347	14.3	LOS B	2.5	17.4	
Approach		212	0.0	0.347	12.1	LOS B	2.5	17.4	
All Vehicles		1758	0.0	0.753	7.9	LOS A	9.4	65.6	

## 12. Appendix C – Selection of swept paths

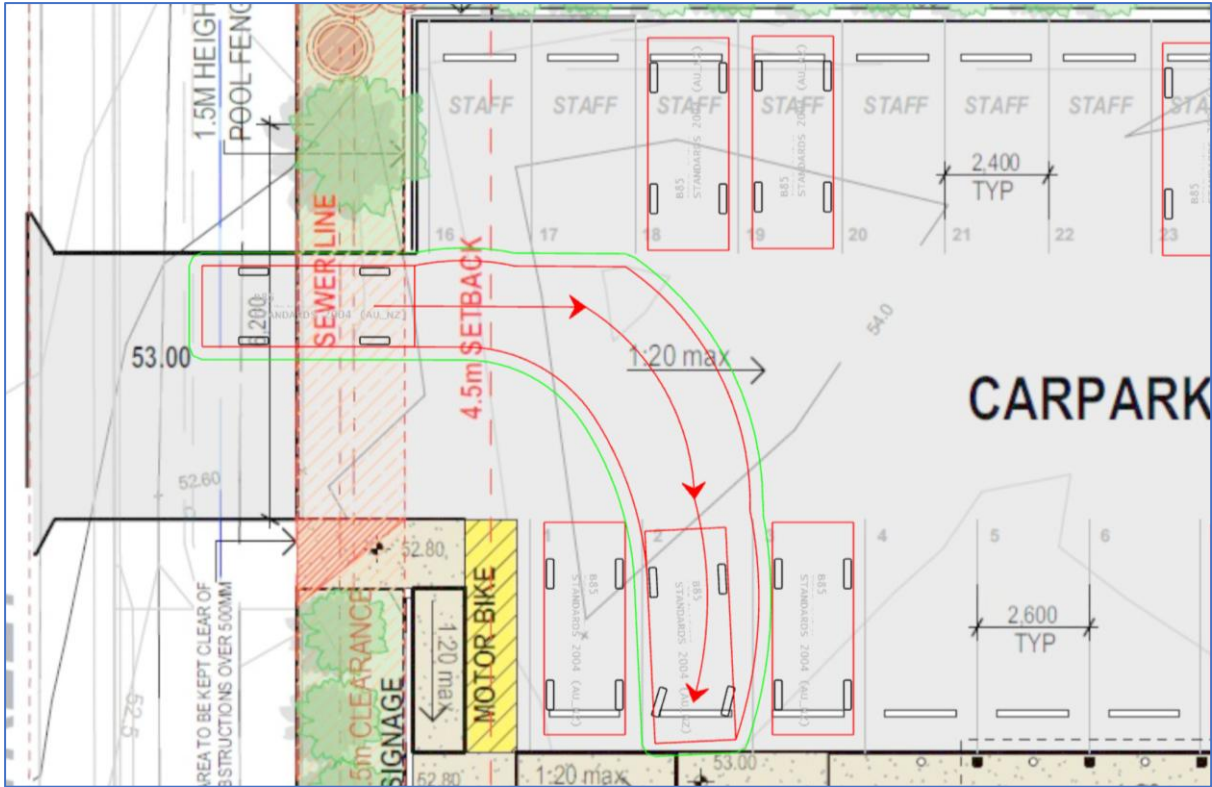
Swept path of B85 vehicle leaving parking spaces



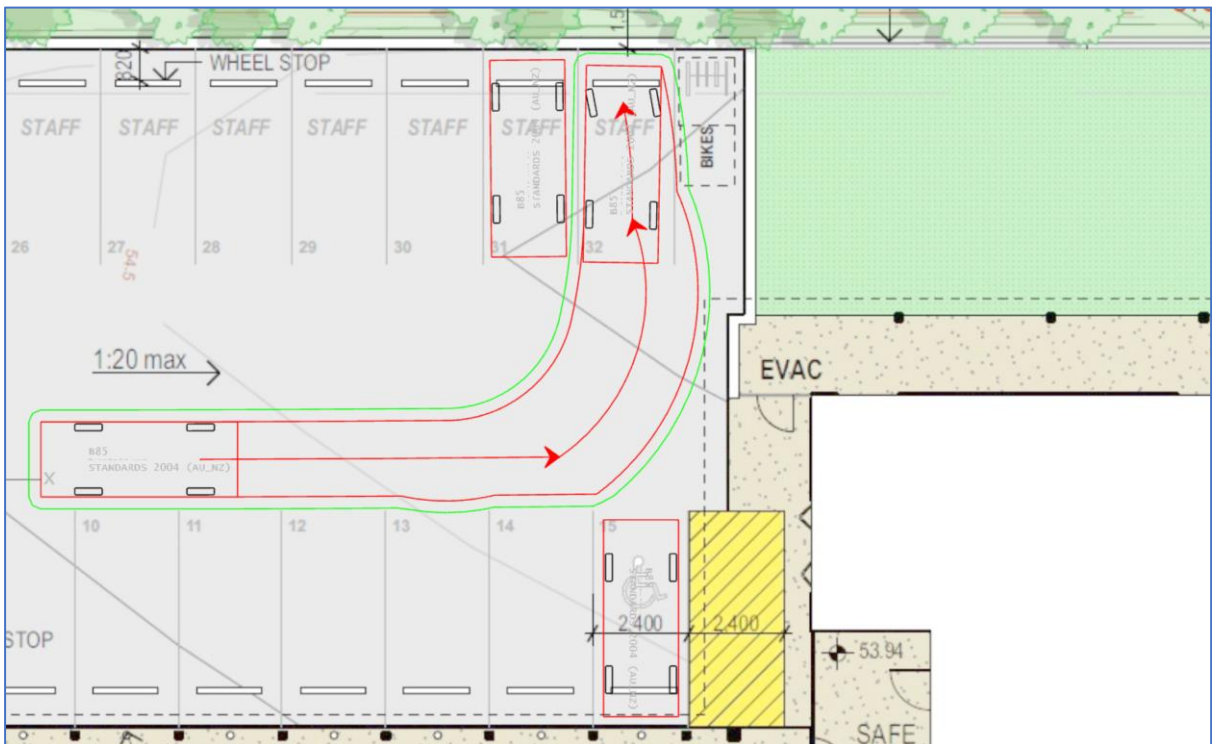
Swept path of B85 vehicle leaving parking spaces



Swept path of B85 vehicle entering parking spaces



Swept path of B85 vehicle entering parking spaces





# APPENDIX

## Appendix E: Fire Hydrant Brief

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Ref: 25081 (revision 00)  
30 October 2025

### **Performance Based Design Brief – Fire Hydrant System Brighton Childcare – 1 Dylan Street, Brighton**

Thank you for engaging Castellan Consulting Pty Ltd (Castellan) to provide a fire engineering performance solution for a Deemed-to-Satisfy (DtS) non-compliance with the National Construction Code – Volume 1 – 2022 (NCC).

The proposed building work is the construction of a new childcare centre at 1 Dylan Street, Brighton (the Property). Drawings for the proposed building work are provided at Attachment 1.00. The extent of the DtS non-compliance in the NCC is limited to the fire hydrant system. Otherwise, it is understood that the building work will be compliant with the DtS provisions of the NCC.

The DtS non-compliance relates to two aspects of the fire hydrant system being that;

1. Coverage to the building is not achieved from the street fire hydrants in Dylan Street, and
2. There may not be sufficient flow and pressure in the town main to support two feed hydrants operating simultaneously.

This correspondence is a performance-based design brief (Brief) that is a mandatory requirement preceding a Fire Engineering Report (FER). This provides stakeholders with an opportunity to provide preliminary feedback on the proposed performance solution. This correspondence has been written so that the Brief can be converted to the FER once comments have been received from stakeholders.

### **Background**

As shown on the drawing provided at Attachment 1.00, the building is a single storey structure with a floor area of approximately 1030m<sup>2</sup>. As the building exceeds 500m<sup>2</sup> in floor area, it is required to have



a fire hydrant system in accordance with Clause E1D2 of the NCC. The NCC provision requires compliance with the AS 2419.1:2021.

At Table 2.2.5(B) of AS 2419.1 there is a requirement for 2 hydrants to operate simultaneously for a Class 9 building with a floor area greater than 1,000m<sup>2</sup>. This threshold for 2 hydrants is exceeded by 30m<sup>2</sup> in this instance. Two hydrants are sufficient for a childcare building that is up to two storeys with a floor area of 5,000m<sup>2</sup>. The requirement for two hydrants is a relatively minor extension of the floor area where a single fire hydrant would be sufficient in accordance with the DtS provisions of the NCC.

**Table 2.2.5(B) — Number of fire hydrant outlets required to flow simultaneously — Class 2 to Class 9 buildings (excluding Class 7a open deck car parks)**

NCC building classification	Fire compartment floor area, m <sup>2</sup>	Number of fire hydrant outlets
<b>NON-SPRINKLER-PROTECTED BUILDINGS</b>		
2, 3, 5 and 9 (having a rise in storeys less than 2)	≤ 1 000	1
2, 3, 5 and 9 (having a rise in storeys less than 2)	> 1 000 ≤ 5 000	2
2, 3, 5 and 9 (having a rise in storeys of more than 2)	≤ 500	1
2, 3, 5 and 9 (having a rise in storeys of more than 2)	> 500 < 5 000	2
6, 7 and 8	≤ 500	1
6, 7 and 8	> 500 ≤ 5 000	2
All classes	> 5 000 ≤ 10 000	3

In this context, the DtS requirement is for two hydrants to provide some coverage to the building where there is coverage to the entire building where the fire brigade appliance is positioned 20m from a feed hydrant and the most distant part of the building is within 70m of the connection to the appliance. The feed fire hydrant/s need to deliver 10lps each at the same time with a residual pressure of 200kPa at the most hydraulically disadvantaged hydrant.

The position of the existing street hydrants near the Property are shown on the following image taken from the List website ([www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)). The asset ID from TasWater is provided for the two hydrants to assist with identifying the hydrants tested in the results provided at Attachment 2.00.

Also shown on the following image is the position of a new (proposed) street hydrant indicated by a blue 'H' on the same town main and between the two tested hydrants. The town main is a DN 100 PVC-U pipe. The proposed street hydrant is approximately 16m north of the property boundary closest to the hydrant A202748. The Property is outlined in orange in the image below.

The two hydrants providing coverage to the Property will be the proposed street hydrant and hydrant A202748. The coverage of these two hydrants is considered below.



Figure 1: Aerial image of the Property taken from the List website.

### Hydrant Coverage

The following image is extracted from the drawings provided at Attachment 1.00 with markups by Castellán.

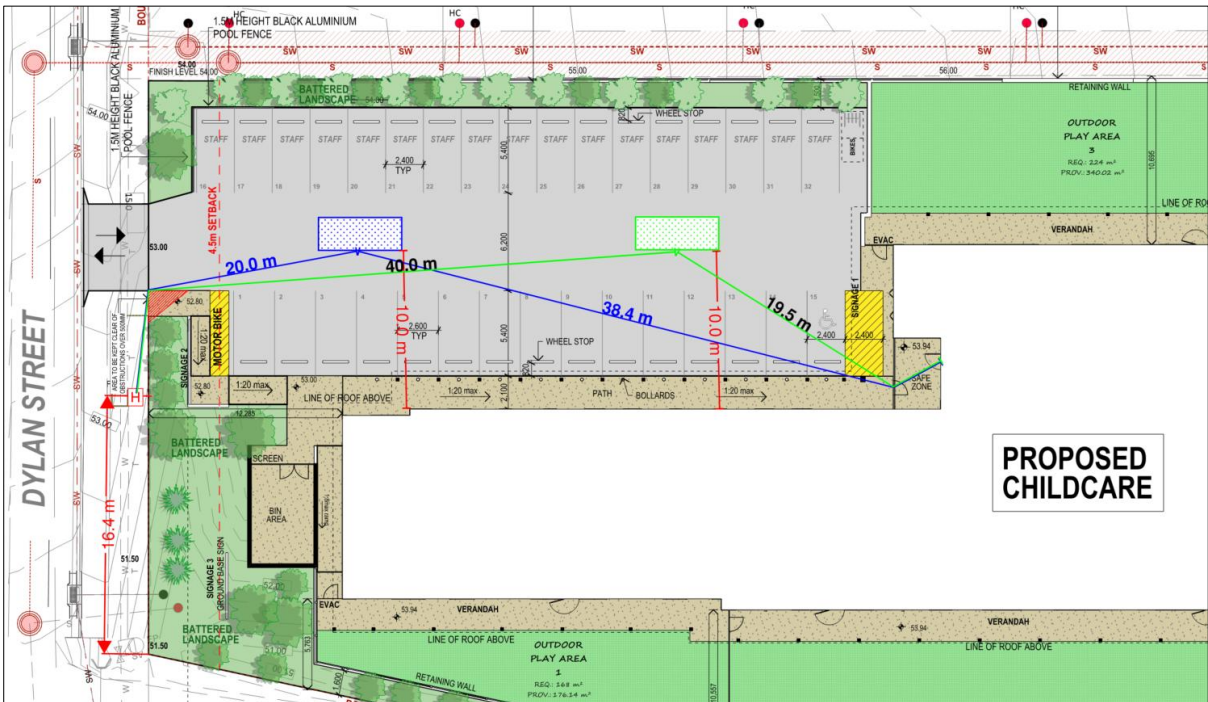


Figure 2: Hose lay measurement from hydrant to the internal door of the airlock.

The above image shows the position of the proposed street hydrant approximately 16m from the southwest corner of the title boundary. This will be the primary hydrant for the Property.

From this hydrant a blue rectangle is shown that is indicative of the position of the first responding appliance to a fire alarm from the Property. This position is approximately 20m from the proposed hydrant. From this position, approximately 10m from the external wall of the building, the length of the hose run from the appliance to the internal door to the airlock is approximately 39m.

Also shown is an alternative position for the appliance where two hose lengths are provided between the proposed hydrant to the appliance so that the appliance can be positioned closer to the building entrance. This alternative position for the appliance (the green rectangle) is approximately 20m from the internal door to the airlock. This position would require a performance solution in accordance with the NCC because it is more than 20m from the street hydrant.

Within the childcare centre, the hose lengths required for coverage are shown on the marked up extracted image below.



Figure 3: Hose lay measurement within the building (from the internal door of the air lock).

The longest hose lay measurement is to the staff room at the western end of the building where the distance from the internal door to the airlock to the most remote part of the building is approximately 56m. In combination with the distance from the appliance in a DtS compliant position (39m), the total hose length from the appliance is approximately 95m, 25m greater than the DtS permitted hose length.

For this western end of the building, the Client has agreed to provide an additional exit door from the staff room which would allow a substantially improved access to that part of the building. This revised design is to be shown in an updated drawing set to be included in the FER. This end of the building does not require a performance solution in that context.

For the eastern side of the building, the hose lay from the most remote part of Room 8 to the internal door to the airlock is approximately 40m. In combination with the distance from the appliance to the building (39m), this results in a total hose length of 79m. This exceeds the DtS requirement by approximately 9m.

The total distance to the Laundry is 84m from the appliance parked 20m from the proposed fire hydrant. Again, this exceeds the DtS requirement by approximately 14m.

For this part of the building the approach is to provide a performance solution using an additional hose length either;

- Between the hydrant and the appliance (the green rectangle position in Figure 2), or
- Downstream of the appliance.

In either case, the maximum distance from the hydrant to the most remote part of the Laundry, measured as a hose lay, is approximately 104m where the DtS provisions allow for a maximum distance of 90m. As described above, the extent of the non-compliance is approximately 14m.


### Hydrant Flow and Pressure

The results for the flow and pressure testing are provided at Attachment 2.00. Four tests were performed.

The more onerous tests are those where two hydrants were tested simultaneously as the DtS solution requires two hydrants to operate concurrently though this arises because of a relatively minor exceedance of the threshold of 1000m<sup>2</sup> floor area (30m<sup>2</sup>). While not expressly stated in the test report, subsequent discussions with TasWater have confirmed that the simultaneous testing was undertaken with the second hydrant following at maximum capacity (i.e. fully open). It is assumed that the second hydrant is achieving a flow of at least 10lps and this is a reasonable assumption based on the test results provided. There is not a lot of elevation difference between the tested hydrants, and they are producing similar results when running simultaneously.

For the hydrant closer to the Property (A202748), that TasWater test results indicate that 29lps is achieved with a residual pressure of 200kPa when the hydrant A202759 is experiencing open flow. Given that A202759 is achieving an open flow of 32lps when A202748 is also in open flow it is clear that the assumption that A202759 is flowing at 10lps or more is reasonable.

*Simultaneous.*




CUSTOMER REQUEST - FIRE HYDRANT TESTING FORM			
Service order	W16564184	Asset number	202748
Closest street address	3 DUNSTON DR. CANTON		
Report to be sent via Email <input type="checkbox"/>	Email / Postal address details (this section must be completed)**		
Report to be sent via Post <input type="checkbox"/>			
SECTION A – TEST DETAILS		SECTION B – HYDRANT TEST EQUIPMENT/PRESSURE GAUGES	
Asset number correct	<input checked="" type="radio"/> Yes <input type="radio"/> No	New number	
Test date & time	17/10/25 8:15AM		
Accessibility	<input checked="" type="radio"/> Good	<input type="radio"/> Poor	<input type="radio"/> Not accessible <sup>1</sup>
<sup>1</sup> Not Accessible: Unable to perform further activity. Create secondary action service order to rectify issue.			
Flow measuring device brand/type	Rowtech Hydratlow		
Serial number/s			
Date of last calibration			
SECTION C – HYDRANT TEST RESULTS		SECTION D – HYDRANT CONDITION ASSESSMENT	
Test point	Flow (L/s)	Pressure (kPa)	Clearly marked <input checked="" type="radio"/> Yes <input type="radio"/> No
No flow	0	790	Leaking <input type="radio"/> Yes <input type="radio"/> No
1 <sup>st</sup> pressure point	26	350	Hydrant condition
2 <sup>nd</sup> pressure point	29	200	<input checked="" type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
Fully open	32	0	1 Functional: Good condition. No Preventative Maintenance or Corrective Maintenance required.
			2 Functional: Minor defects. May require Corrective Maintenance but no Preventative Maintenance.
			3 Failing: Preventative Maintenance or Corrective Maintenance required to maintain function.
			4 Failing: Requires renewal, uneconomic to maintain.
			5 Failed: Asset unserviceable, urgent renewal required.
COMPLETED BY		COMMENTS	
Name	Don Davis		
Signature			
Date	17/10/25		
Please return completed form to <a href="mailto:tw.customerservice2@taswater.com.au">tw.customerservice2@taswater.com.au</a> for issuing to customer			
<small>Note: The test results referred to in this report were derived from values recorded at the actual time of the tests only. There are known diurnal variations in reticulation systems that are not measurable and both pressure and flow variations can be considerable – refer to Appendix F of AS1491.1:2005 Fire Hydrant Installations – Part 1: System design, installation and commissioning. Users of this data should therefore view the data as indicative performance results only, and if in doubt to the user, further testing should be considered.</small>			

Figure 4: Simultaneous flow/pressure test results for Hydrant A202748

Based on these results, it is apparent that the one hydrant (the proposed hydrant) is likely to produce sufficient flow and pressure to support an additional hose line given that the conservative demand for two hose lines is 20lps when 29lps is being achieved with a residual pressure of 200kPa.

In addition, it is also possible for a second responding appliance to connect to A202748 and achieve 10lps with a residual pressure of 200kPa if access to a second hydrant is necessary. Again, it is reiterated that the building would only need 1 hydrant to operate if the floor area were limited to 1000m<sup>2</sup>.

In this context, it is considered that a DtS compliant flow and pressure is likely to be achieved when the new hydrant is provided. A performance solution is not considered necessary for this aspect of the hydrant system.

### DtS Non-compliance and Performance Requirement Summary

The relevant non-compliance is summarised in the table below.

Table 1: Relevant performance requirements and objectives for the DtS non-compliance identified

DtS Non-compliance	Performance Requirement	Objective
Fire hydrant coverage is not achieved in accordance with Clause E1D2 of the NCC and an additional hose length is necessary to achieve coverage.	E1P3	Facilities for fire brigade intervention

However, compliance with the DtS provisions of the NCC is not mandatory. The mandatory elements of the NCC are the performance requirements. Compliance with the performance requirements can be achieved either by complying with the DtS provisions or by demonstrating that an acceptable level of performance is achieved by other means. The relevant performance requirement in this assessment is E1P3.

<p><b>E1P3</b></p> <p><b>Fire hydrants</b></p> <p style="text-align: right;">[2019: EP1.3]</p> <p>A fire hydrant system must be provided to the degree necessary to facilitate the needs of the <i>fire brigade</i> appropriate to—</p> <ul style="list-style-type: none"> <li>(a) fire-fighting operations; and</li> <li>(b) the <i>floor area</i> of the building; and</li> <li>(c) the <i>fire hazard</i>.</li> </ul> <p><b>Applications</b></p> <p>E1P3 only applies to a building where a <i>fire brigade</i> is available to attend.</p>
--

The relevant performance requirement requires a fire hydrant system ‘to the degree necessary’ to facilitate the needs of the TFS based on some defined considerations.

As such, it is necessary that the performance requirement requires an assessment against the needs of the TFS which is an indeterminate measure and arguably can only be satisfied by the TFS. Notwithstanding, the purpose of this Brief is to provide the TFS with a discussion that could form the basis for determining whether the proposed performance solution sufficiently facilitates their needs. As such, a qualitative absolute analysis will be undertaken, in consultation with the TFS.

The relevant stakeholders for this project are identified in the table below.

Table 2: Relevant stakeholders

Role	Organisation	Name
Client	Dourias MGH Pty Ltd	Tony Douris
Client Rep	AD Design + Consulting	Michael Burgess
Building Surveyor	TBA	TBA
Chief Officer	Tasmania Fire Service	TBA
Fire Engineer	Castellan	Ross Murphy

### Proposed Performance Solution

The proposed performance solution for this assessment is for the childcare centre to be compliant with the DtS provisions of the NCC for fire safety but for the fact that an additional hose length is required to achieve coverage to the eastern end of the proposed building.

It is noted that a fire detection and occupant warning system in accordance with Clause Tas E1D1 of the NCC which is monitored by the TFS is to be provided which will mean that there is an efficient alert provided to the responding fire brigade.

It is also noted that there are 2 volunteers fire brigade stations (Brighton and Bridgewater) within 6km of the Property. The additional time and effort required to set up the extra hose length is likely to be offset by the proximity of the responding brigade/s.



Figure 5: Google Maps image showing the route from the nearest fire station.

The additional features to be included in the FER are;

1. The new street hydrant as indicated on the drawings provided at Attachment 1.00,
2. The new access / egress to the building via the staff room to allow fire brigade access to the western end of the building.

No additional requirements are proposed in this performance solution.

## **Preliminary Assessment of Performance Solution**

In this Brief, it is tentatively considered that an acceptable arrangement for street fire hydrants is achieved by the street fire hydrants identified in this report (including the proposed new hydrant).

There will be two street hydrants in reasonably close proximity to the building. Having the first responding appliance turn out to the main entrance to the building (the location of the Fire Detection, Control and Indicating Equipment Panel) allows the Officer in Charge to liaise with the Chief Warden and interrogate the Panel if the location of the fire is not readily apparent on arrival. While this is occurring, the firefighting crew will be making connection to the street fire hydrant.

The fact that there is a monitored fire detection system with two brigade stations in close proximity, it is considered that the use of an additional hose length to achieve hydrant coverage to the eastern end of the building is likely to meet the operation requirements of the responding brigade.

In this context, the FER is likely to conclude that, subject to further input from the TFS, the proposed performance solution may meet the operational requirements of the fire brigade.

Yours sincerely,



**Ross Murphy**

Fire Engineer

Accreditation No. CC 457B

Attachment 1.00	Floor Plan of the Building
Attachment 2.00	Flow and Pressure Test Results
Attachment 3.00	<del>Engineering Certificate</del>

**ATTACHMENT 1.00**  
**DRAWINGS FOR THE BUILDING WORK**

**ATTACHMENT 2.00**  
**FLOW AND PRESSURE TEST RESULTS**

**STATIC TEST**

**Taswater**

**CUSTOMER REQUEST - FIRE HYDRANT TESTING FORM**

Service order: W16564184 Asset number: 202759

Closest street address: 1 DYMAN ST BREMONT

Report to be sent via Email  Email / Postal address details (this section must be completed)\*\*

Report to be sent via Post

SECTION A - TEST DETAILS			
Asset number correct	<input checked="" type="radio"/> Yes	<input type="radio"/> No	New number
Test date & time	<u>17/10/25</u>	<u>8:15 AM</u>	
Accessibility	<input checked="" type="radio"/> Good	<input type="radio"/> Poor	<input type="radio"/> Not accessible <sup>1</sup>
<sup>1</sup> Not Accessible: Unable to perform further activity. Create secondary action service order to rectify issue.			

SECTION B - HYDRANT TEST EQUIPMENT/PRESSURE GAUGES	
Flow measuring device brand/type	<u>Flowtech Hypraflow</u>
Serial number/s	
Date of last calibration	
	<u>65/100/150mm</u> face

SECTION C - HYDRANT TEST RESULTS					
Test point	Flow (L/s)	Pressure (kPa)			
No flow	<u>0</u>	<u>750</u>			
1 <sup>st</sup> pressure point	<u>31</u>	<u>350</u>			
2 <sup>nd</sup> pressure point	<u>32</u>	<u>200</u>			
Fully open	<u>32</u>	<u>0</u>			

SECTION D - HYDRANT CONDITION ASSESSMENT					
Clearly marked	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Leaking	<input type="radio"/> Yes	<input type="radio"/> No
Hydrant condition	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Functional: Good condition. No Preventative Maintenance or Corrective Maintenance required.				
2	Functional: Minor defects. May require Corrective Maintenance but no Preventative Maintenance.				
3	Failing: Preventative Maintenance or Corrective Maintenance required to maintain function.				
4	Failing: Requires renewal, uneconomic to maintain.				
5	Failed: Asset unserviceable, urgent renewal required.				

COMPLETED BY

Name: Don Davis

Signature: [Signature] Date: 17/10/25

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**Comments:** Static test

Note: The test results referred to in this report were derived from values recorded at the actual time of the tests only. There are known diurnal variations in reticulation systems that are not measurable and both pressure and flow variations can be considerable - refer to Appendix F of AS2491.1-2005 Fire Hydrant Installations - Part1: System design, installation and commissioning. Users of this data should therefore view the data as indicative performance results only, and if in doubt to the user, further testing should be considered.

Issue Date: 16/07/2021 Document No: TCSFOR16 Uncontrolled when printed Version No: 5.0 Page 1 of 1

**Residual test**

**Taswater**

**CUSTOMER REQUEST - FIRE HYDRANT TESTING FORM**

Service order: W16564184 Asset number: 202759

Closest street address: 1 DYMAN ST BREMONT

Report to be sent via Email  Email / Postal address details (this section must be completed)\*\*

Report to be sent via Post

SECTION A - TEST DETAILS			
Asset number correct	<input type="radio"/> Yes	<input type="radio"/> No	New number
Test date & time	<u>17/10/25</u>	<u>8:15 AM</u>	
Accessibility	<input checked="" type="radio"/> Good	<input type="radio"/> Poor	<input type="radio"/> Not accessible <sup>1</sup>
<sup>1</sup> Not Accessible: Unable to perform further activity. Create secondary action service order to rectify issue.			

SECTION B - HYDRANT TEST EQUIPMENT/PRESSURE GAUGES	
Flow measuring device brand/type	<u>Flowtech Hypraflow</u>
Serial number/s	
Date of last calibration	
	<u>65/100/150mm</u> face

SECTION C - HYDRANT TEST RESULTS		
Test point	Flow (L/s)	Pressure (kPa)
No flow	<u>0</u>	<u>750 kPa</u>
1 <sup>st</sup> pressure point	<u>27</u>	<u>350</u>
2 <sup>nd</sup> pressure point	<u>30</u>	<u>200</u>
Fully open	<u>32</u>	<u>0</u>

SECTION D - HYDRANT CONDITION ASSESSMENT				
Clearly marked	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Leaking	<input type="radio"/> Yes
Hydrant condition	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1	Functional: Good condition. No Preventative Maintenance or Corrective Maintenance required.			
2	Functional: Minor defects. May require Corrective Maintenance but no Preventative Maintenance.			
3	Failing: Preventative Maintenance or Corrective Maintenance required to maintain function.			
4	Failing: Requires renewal, uneconomic to maintain.			
5	Failed: Asset unserviceable, urgent renewal required.			

COMPLETED BY

Name: Don Davis

Signature: [Signature] Date: 17/10/25

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**Comments:** Residual test

Note: The test results referred to in this report were derived from values recorded at the actual time of the tests only. There are known diurnal variations in reticulation systems that are not measurable and both pressure and flow variations can be considerable - refer to Appendix F of AS2491.1-2005 Fire Hydrant Installations - Part1: System design, installation and commissioning. Users of this data should therefore view the data as indicative performance results only, and if in doubt to the user, further testing should be considered.

Issue Date: 23/07/2019 Document No: TCSFOR16 Uncontrolled when printed Version No: 4.0 Page 1 of 1

*Simultaneous test*

**Taswater**

**CUSTOMER REQUEST - FIRE HYDRANT TESTING FORM**

Service order: W 16564184 Asset number: 202759  
 Closest street address: 1 DYMAN ST BRICENTON

Report to be sent via Email  Email / Postal address details (this section must be completed)\*\*  
 Report to be sent via Post

SECTION A – TEST DETAILS				SECTION B – HYDRANT TEST EQUIPMENT/PRESSURE GAUGES	
Asset number correct	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	New number	Flow measuring device brand/type	<u>Flowtech MPM210W</u>
Test date & time	<u>17/10/25</u>		<u>8:55AM</u>	Serial number/s	
Accessibility	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Poor	<input type="checkbox"/> Not accessible <sup>1</sup>	Date of last calibration	
<sup>1</sup> Not Accessible: Unable to perform further activity. Create secondary action service order to rectify issue.				65/100/150mm face	

SECTION C – HYDRANT TEST RESULTS			SECTION D – HYDRANT CONDITION ASSESSMENT					
Test point	Flow (L/s)	Pressure (kPa)	Clearly marked	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Leaking	Yes	No
No flow	0	750	Hydrant condition	<input checked="" type="checkbox"/> 1	2	3	4	5
1 <sup>st</sup> pressure point	25.69	350	1 Functional: Good condition. No Preventative Maintenance or Corrective Maintenance required.					
2 <sup>nd</sup> pressure point	29.3	200	2 Functional: Minor defects. May require Corrective Maintenance but no Preventative Maintenance.					
Fully open	32	0	3 Failing: Preventative Maintenance or Corrective Maintenance required to maintain function.					
			4 Failing: Requires renewal, uneconomic to maintain.					
			5 Failed: Asset unserviceable, urgent renewal required.					

COMPLETED BY  
 Name: Don Davis  
 Signature: [Signature] Date: 17/10/25

COMMENTS  
Simultaneous test

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Note: The test results referred to in this report were derived from values recorded at the actual time of the tests only. There are known diurnal variations in reticulation systems that are not measurable and both pressure and flow variations can be considerable – refer to Appendix F of AS2491.1-2005 Fire Hydrant Installations – Part1: System design, installation and commissioning. Users of this data should therefore view the data as indicative performance results only, and if in doubt to the user, further testing should be considered.

*Simultaneous*

**Taswater**

**CUSTOMER REQUEST - FIRE HYDRANT TESTING FORM**

Service order: W 16564184 Asset number: 202748  
 Closest street address: 3 DYMAN ST BRICENTON

Report to be sent via Email  Email / Postal address details (this section must be completed)\*\*  
 Report to be sent via Post

SECTION A – TEST DETAILS				SECTION B – HYDRANT TEST EQUIPMENT/PRESSURE GAUGES	
Asset number correct	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	New number	Flow measuring device brand/type	<u>Flowtech MPM210W</u>
Test date & time	<u>17/10/25</u>		<u>8:55AM</u>	Serial number/s	
Accessibility	<input checked="" type="checkbox"/> Good	<input type="checkbox"/> Poor	<input type="checkbox"/> Not accessible <sup>1</sup>	Date of last calibration	
<sup>1</sup> Not Accessible: Unable to perform further activity. Create secondary action service order to rectify issue.				65/100/150mm face	

SECTION C – HYDRANT TEST RESULTS			SECTION D – HYDRANT CONDITION ASSESSMENT					
Test point	Flow (L/s)	Pressure (kPa)	Clearly marked	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Leaking	Yes	No
No flow	0	790	Hydrant condition	<input checked="" type="checkbox"/> 1	2	3	4	5
1 <sup>st</sup> pressure point	26	350	1 Functional: Good condition. No Preventative Maintenance or Corrective Maintenance required.					
2 <sup>nd</sup> pressure point	29	200	2 Functional: Minor defects. May require Corrective Maintenance but no Preventative Maintenance.					
Fully open	32	0	3 Failing: Preventative Maintenance or Corrective Maintenance required to maintain function.					
			4 Failing: Requires renewal, uneconomic to maintain.					
			5 Failed: Asset unserviceable, urgent renewal required.					

COMPLETED BY  
 Name: Don Davis  
 Signature: [Signature] Date: 17/10/25

COMMENTS

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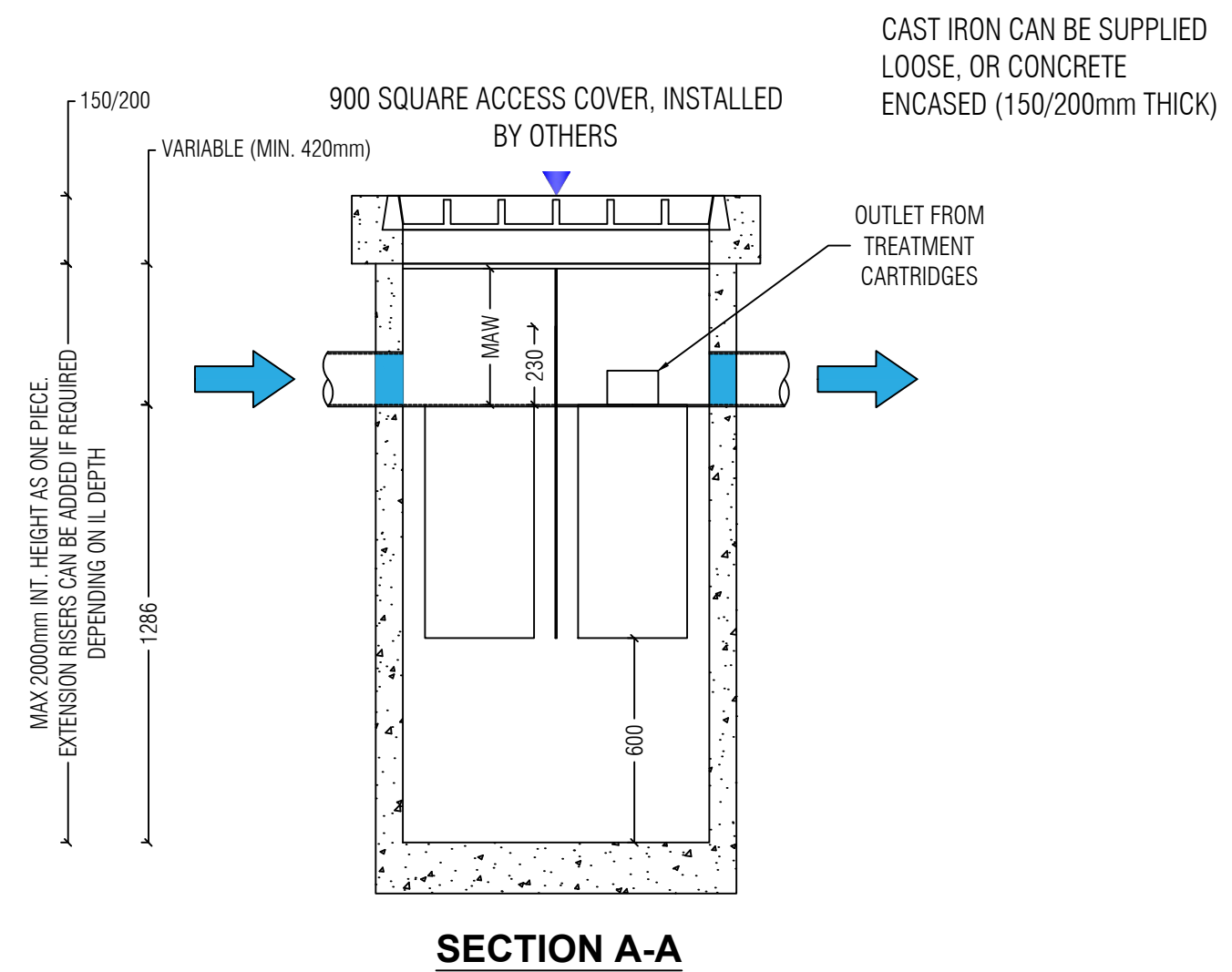
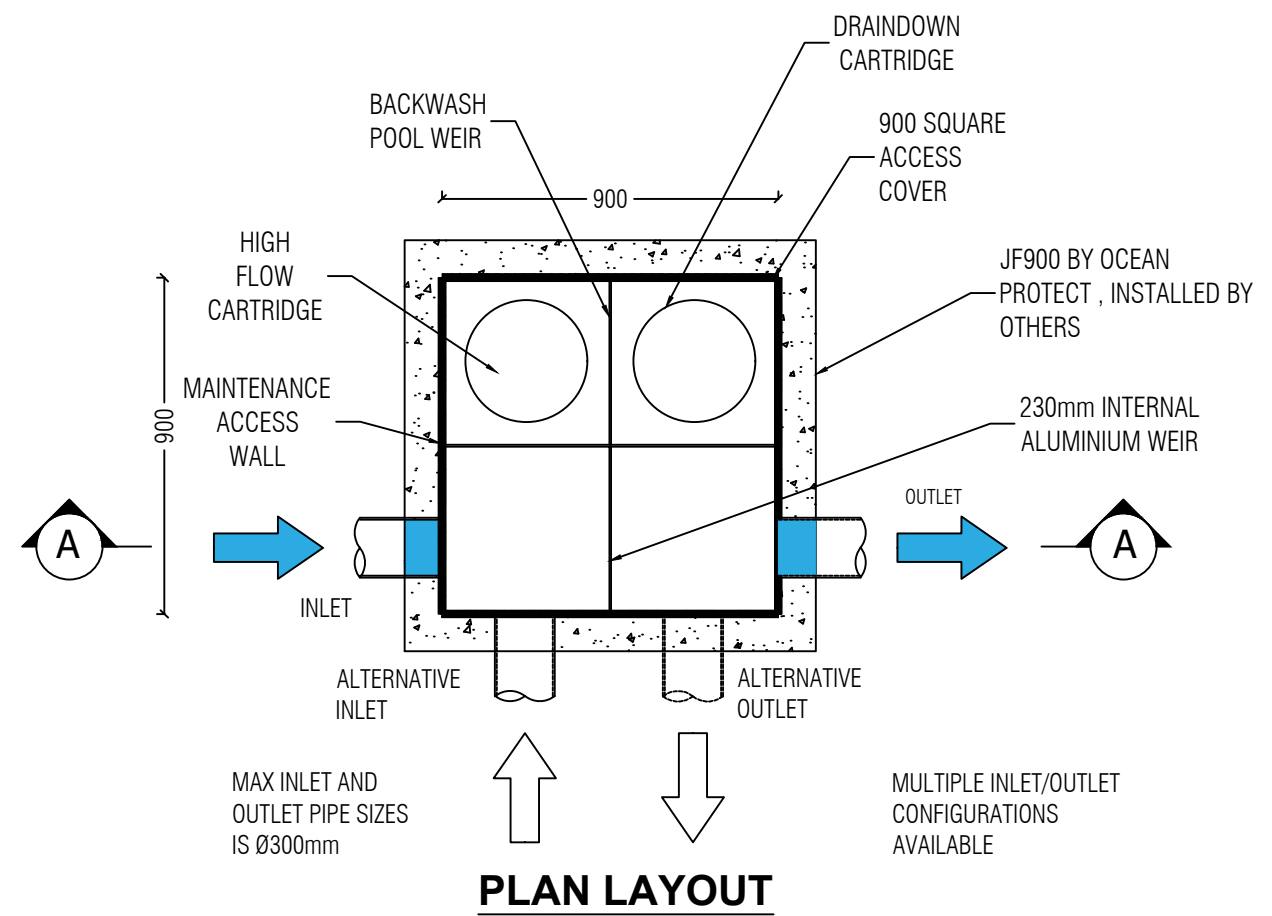
Note: The test results referred to in this report were derived from values recorded at the actual time of the tests only. There are known diurnal variations in reticulation systems that are not measurable and both pressure and flow variations can be considerable – refer to Appendix F of AS2491.1-2005 Fire Hydrant Installations – Part1: System design, installation and commissioning. Users of this data should therefore view the data as indicative performance results only, and if in doubt to the user, further testing should be considered.



# APPENDIX

## Appendix F: Stormwater Treatment Devices

NOT FOR CONSTRUCTION



**JELLYFISH DESIGN TABLE**

JELLYFISH TREATMENT FLOW IS A FUNCTION OF THE NUMBER OF CARTRIDGES AND THE DEVICE TOTAL HEAD DIFFERENTIAL. IF THE PIPE FLOW EXCEEDS THE TREATMENT FLOW THEN AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

REQUIRED DEVICE TOTAL HEAD DIFFERENTIAL [mm]	460	230
CARTRIDGE FLOW RATE FOR HIGH-FLOW / DRAINDOWN [L/s]	2.5 / 1.3	1.27 / 0.79
CARTRIDGE LENGTH [mm]	690	690
OUTLET INVERT TO STRUCTURE INVERT [mm]	1985	1985

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID	JF900-1-1		
WATER QUALITY FLOW RATE (L/S)	2.06		
# OF CARTRIDGES REQUIRED (HF - DD)	1-1		
CARTRIDGE SIZE	690		
PIPE DATA:	I.L.	MATERIAL	DIAMETER
INLET PIPE	[ ]	[ ]	[ ]
OUTLET PIPE	[ ]	[ ]	[ ]
LID WEIGHT	TBC		
PART A & B WEIGHT (SEPARATE)	TBC		

NOTE: TANK SUPPLIED IN TWO PARTS; PARTS A & B TO BE JOINED ON SITE

GENERAL NOTES

- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF THE PROJECT.
- PRECAST STRUCTURE SUPPLIED WITH CORE HOLES TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
- STRUCTURE AND ACCESS COVERS TO BE DESIGNED TO MEET AUSTRROADS T44 LOAD RATING WITH 0.0m TO 2.0m FILL MAXIMUM (CLASS D) UNLESS OTHERWISE NOTED. THE OUTLET PIPE INVERT ELEVATION. CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION. PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
- IF THE PEAK FLOW RATE, AS DETERMINED BY THE CERTIFYING ENGINEER, EXCEEDS THE TREATMENT FLOW RATE OF THE SYSTEM, AN UPSTREAM BYPASS STRUCTURE IS REQUIRE.
- ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
- SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
- DRAWING NOT TO SCALE.

INSTALLATION NOTES

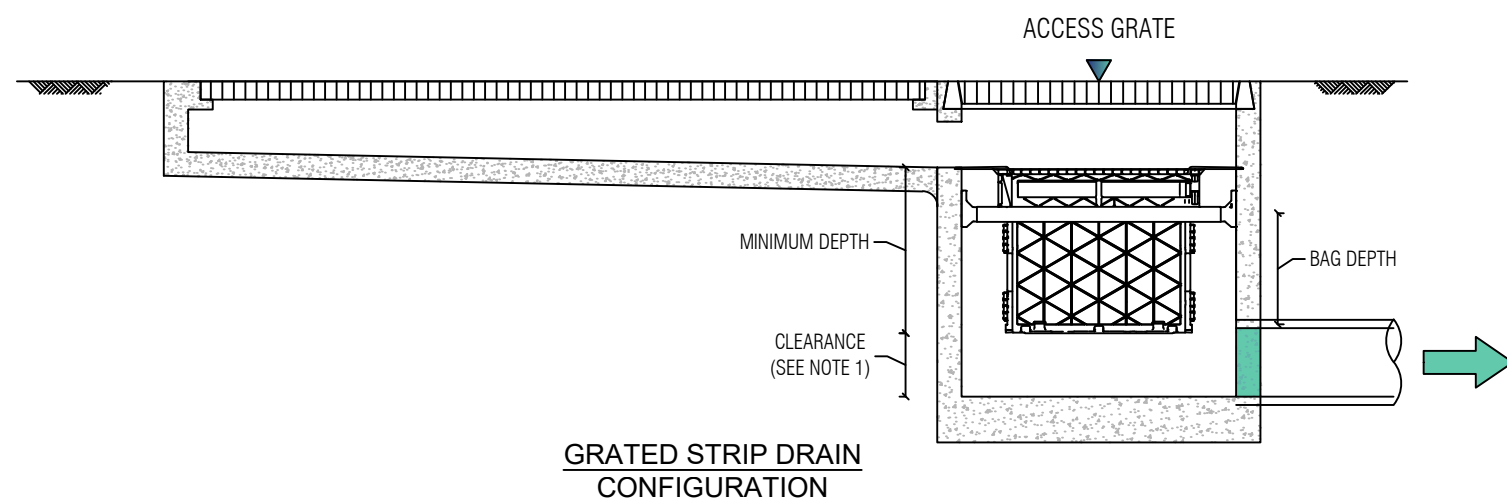
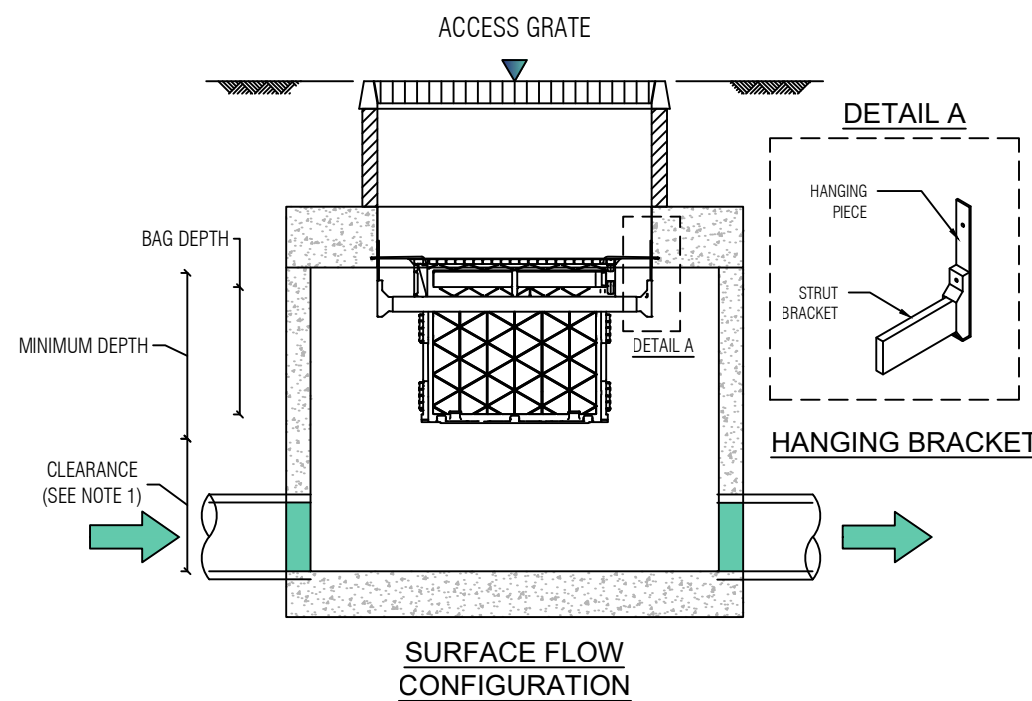
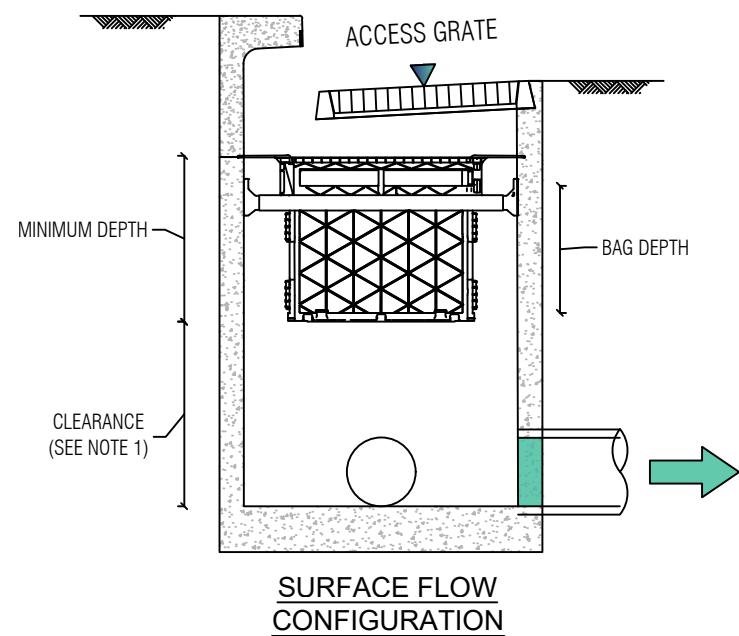
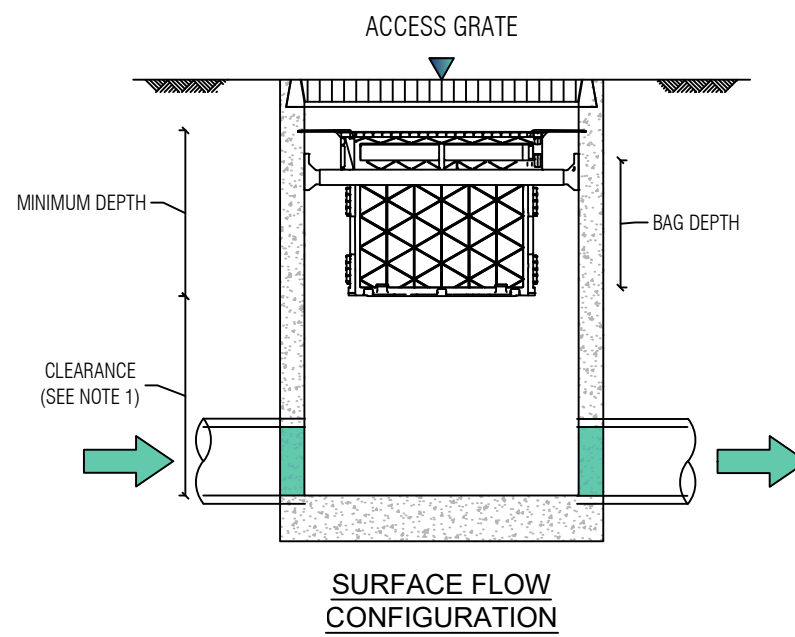
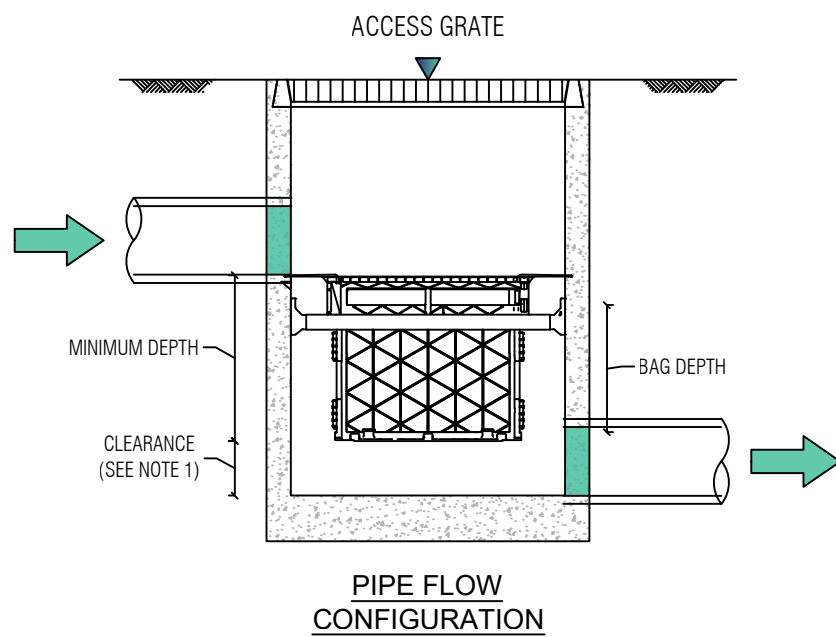
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATION AND SHALL BE SPECIFIED BY THE CERTIFYING ENGINEER.
- CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).
- CONTRACTOR TO INSTALL AND LEVEL THE STRUCTURE, APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- CARTRIDGE INSTALLATION, BY OCEANPROTECT, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT OCEAN PROTECT TO COORDINATE CARTRIDGE INSTALLATION WITH SITE COMPLETION.



OCEAN PROTECT  
JELLYFISH-1-1 900 SQUARE  
INTERNAL OFFLINE ARRANGEMENT

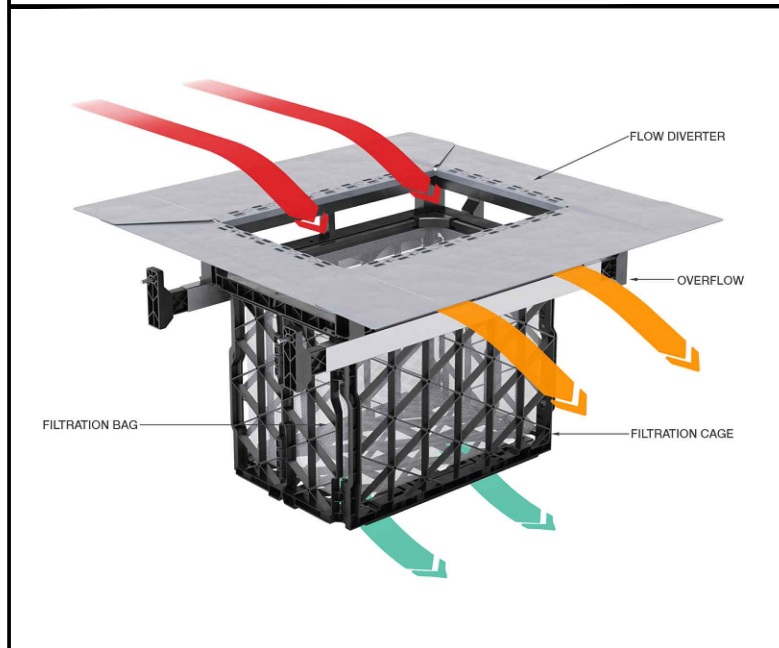
PHONE: 1300 354 722

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**OCEANGUARD**

PRODUCT ID	MAX. PIT DIMENSIONS (mm × mm)	MINIMUM DEPTH (mm)	BAG DEPTH (mm)
OG4	450 × 450	350	200
OG6-S	600 × 600	350	200
OG6-D	600 × 600	475	300
OG9-S	600 × 900	400	300
OG9-S	900 × 900	400	300
OG9-D	900 × 900	600	500
OG12-S	1200 × 1200	420	300
OG12-D	1200 × 1200	600	500



**GENERAL NOTES**

- CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
- OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:
  - 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING
  - COARSE BAG FOR TARGETING GROSS POLLUTANTS.
- DRAWINGS NOT TO SCALE.



PHONE: 1300 354 722

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OCEAN PROTECT  
OCEANGUARD  
TYPICAL ARRANGEMENTS  
SPECIFICATION DRAWING

# AD DESIGN + CONSULTING

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## Dang Van

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**From:** Josh Hay <Josh.Hay@tasnetworks.com.au>  
**Sent:** Friday, 15 August 2025 12:35 PM  
**To:** Dang Van  
**Cc:** Jak Murphy  
**Subject:** RE: Referral to TasNetworks - DA 2024/266 (1 Dylan Street, Brighton) - CN25-176888

**Follow Up Flag:** Flag for follow up  
**Flag Status:** Flagged

**Caution:** This is an external email and may be **malicious**. Please take care when clicking links or opening attachments.

Hi Dang,

Thank you for your email on 05/08/2025 referring to the proposed development at 1 Dylan St, Brighton (DA 2024/266).

Based on the information provided, the development is not likely to adversely affect TasNetworks' operations.

As you've stated, the significant cut & fill being proposed makes it difficult to be certain – however, the 1600mm setback from the boundary to the fence shown should provide adequate (1.5m) separation from the top of the proposed fence to the overhead LV conductor between PID 383662 & PID 383663 (shown below in yellow).

If it were possible, our preference would be to push the fence back by an additional 400mm (creating a total 2m setback from the boundary and fence) – but as proposed appears to meet Australian Standards.

Our asset engineering team has also asked me to advise that any trees being planted in that setback area (under the conductor) are to be selected for a total growth height of < 3 metres to avoid future vegetation management issues.



It is recommended that the customer or their electrician contact TasNetworks on 1300 137 008 if they have any questions regarding an upgrade they may require to their electricity supply due to this development.

Kind Regards,

**Josh Hay**

Customer Account Manager

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**From:** Dang Van <[dang.van@brighton.tas.gov.au](mailto:dang.van@brighton.tas.gov.au)>

**Sent:** Tuesday, 5 August 2025 11:44 AM

**To:** Council Referrals <[Council.Referrals@tasnetworks.com.au](mailto:Council.Referrals@tasnetworks.com.au)>

**Subject:** Referral to TasNetworks - DA 2024/266 (1 Dylan Street, Brighton) - CN25-176888