Brighton Council

ATTACHMENTS

PLANNING AUTHORITY

2 JULY 2024

Brighton going places

AllUrbanPlanning PTY LTD

Planning Assessment
24B & 38 Jetty Road Old Beach

10 April 2024

19 Mawhera Ave, Sandy Bay Tasmania 7005 Call 0400 109 582
Email frazer@allurbanplanning.com.au allurbanplanning.com.au

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1. Introduction

All Urban Planning Pty Ltd has been engaged by GIC Estates as Trustee for Squatter Unit Trust to prepare the following Planning Assessment for Multiple Dwellings at 24B & 38 Jetty Road, Old Beach under the provisions of the Brighton Local Provisions Schedule of the Tasmanian Planning Scheme (planning scheme).

Site & Surrounds

The proposal relates to CT 159864/3 and 159864/1. The site area (less the area of the access strips) is 1.72ha.

Figure 1– Site Plan (source annotated from theList)

Figure 2 – proposed site plan (Source: Prime Design)

Title Information

The proposal relates to the following land as shown in Figures 1 and 2 above.

Address	Title	Area	Owner
38 Jetty Road Old Beach	159864/3	1.525ha	GIC Estates Pty Ltd
24B Jetty Road Old Beach	159864/1	3121m^2	GIC Estates Pty Ltd

2. Proposal

The proposal is for retention of two existing houses and development of 51 additional dwellings. A total of 53 multiple dwellings consisting of 14 two-bedroom units, 32 three-bedroom units, and seven four-bedroom units.

Units will have 1 of 13 designs; Type: A, B1, B2, C, D, E, F1, F2, F3, F4, G, H1, H2 or I as designated on the site plans.

Existing house on 24B Jetty Road to be renamed Unit 11.

Existing house on 38 Jetty Road to be renamed Unit 32.

The proposal includes 126 carparking spaces including:

- two dedicated parking spaces for each dwelling consisting of either a single enclosed garage and uncovered parking space, double enclosed garage, or two dedicated uncovered parking spaces.
- 19 on-site visitor parking spaces.

The two titles will be adhered in conjunction with the proposal and access will be via the existing 31m frontage to 38 Jetty Road.

A number of communal waste storage areas are proposed for designated units around the site.

3. The Planning Scheme

Under Clause 6.10.1 of the planning scheme the planning authority must, in addition to the matters required by ss51(2) of the Act, take into consideration:

> *(a) all applicable standards and requirements in this planning scheme; and*
>
> *(b) any representations received pursuant to and in conformity with ss57(5) of the Act,*
>
> *but in the case of the exercise of discretion, only insofar as each such matter is relevant to the particular discretion being exercised.*

A standard is applicable if the site is within the relevant zone, specific area plan or an area where a site-specific qualification applies and the standard deals with a matter that could affect or be affected by the proposed development; cl.5.6.2.

A standard is defined to mean the objective for a particular planning issue and the means for satisfying that objective through either an acceptable solution or corresponding performance criterion.

Compliance with a standard is achieved by complying with either the acceptable solution or corresponding performance criterion; cl.5.6.3.

The objective of the standard may be considered to help determine whether the proposed use or development complies with the performance criterion of that standard; cl.5.6.4.

Zoning

The land is zoned General Residential.

The Zone Purpose Statements under Clause 8.1 are as follows:

8.1.1 To provide for residential use or development that accommodates a range of dwelling types where full infrastructure services are available or can be provided.

8.1.2 To provide for the efficient utilisation of available social, transport and other service infrastructure.

8.1.3 To provide for non-residential use that:

(a) primarily services the local community; and

(b) does not cause unreasonable loss of amenity through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off site impacts.

8.1.4 To provide for Visitor Accommodation that is compatible with residential character.

Local Area Objectives

There are no applicable local area objectives.

Use Table

The proposal involves multiple dwellings within the residential use class and is a permitted use within the zone.

Use Standards

There are no applicable use standards for this permitted residential use.

Development Standards for Dwellings

8.4.1 Residential density for multiple dwellings

Objective:

That the density of multiple dwellings:

(a) makes efficient use of land for housing; and

(b) optimises the use of infrastructure and community services.

Acceptable Solution	Performance Criteria
A1 *Multiple dwellings must have a site area per dwelling of not less than 325m².*	***P1*** *Multiple dwellings must only have a site area per dwelling that is less than 325m², if the development*

	will not exceed the capacity of infrastructure services and: *(a) is compatible with the density of existing development on established properties in the area; or* *(b) provides for a significant social or community benefit and is:* *(i) wholly or partly within 400m walking distance of a public transport stop; or* *(ii) wholly or partly within 400m walking distance of an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone, General Business Zone, Central Business Zone or Commercial Zone.*
Assessment: Complies with A1. The proposal for 53 dwellings on the 17,270m^2 site equates to a density of 325m^2 and complies with A1.	

8.4.2 Setbacks and building envelope for all dwellings

Objective:

The siting and scale of dwellings:

(a) provides reasonably consistent separation between dwellings and their frontage within a street;

(b) provides consistency in the apparent scale, bulk, massing and proportion of dwellings;

(c) provides separation between dwellings on adjoining properties to allow reasonable opportunity for daylight and sunlight to enter habitable rooms and private open space; and

(d) provides reasonable access to sunlight for existing solar energy installations.

Acceptable Solutions	**Performance Criteria**
A1 *Unless within a building area on a sealed plan, a dwelling, excluding garages, carports and protrusions that extend not more than 0.9m into the frontage setback, must have a setback from a frontage that is:* *(a) if the frontage is a primary frontage, not less than 4.5m, or, if the setback from the primary*	***P1*** *A dwelling must have a setback from a frontage that is compatible with the streetscape, having regard to any topographical constraints.*

frontage is less than 4.5m, not less than the setback, from the primary frontage, of any existing dwelling on the site; *(b) if the frontage is not a primary frontage, not less than 3m, or, if the setback from the frontage is less than 3m, not less than the setback, from a frontage that is not a primary frontage, of any existing dwelling on the site;* *(c) if for a vacant site and there are existing dwellings on adjoining properties on the same street, not more than the greater, or less than the lesser, setback for the equivalent frontage of the dwellings on the adjoining sites on the same street; or* *(d) if located above a non-residential use at ground floor level, not less than the setback from the frontage of the ground floor level.*	
Assessment: There are no buildings within 4.5m of the Jetty road frontage of the site and the proposal complies with A1.	
A2 *A garage or carport for a dwelling must have a setback from a primary frontage of not less than:* *(a) 5.5m, or alternatively 1m behind the building line;* *(b) the same as the building line, if a portion of the dwelling gross floor area is located above the garage or carport; or* *(c) 1m, if the existing ground level slopes up or down at a gradient steeper than 1 in 5 for a distance of 10m from the frontage.*	***P2*** *A garage or carport for a dwelling must have a setback from a primary frontage that is compatible with the setbacks of existing garages or carports in the street, having regard to any topographical constraints.*
Assessment: There are no garage or carports close to the site frontage and the proposal complies with A2.	
A3 *A dwelling, excluding outbuildings with a building height of not more than 2.4m and protrusions that extend not more than 0.9m horizontally beyond the building envelope, must:*	***P3*** *The siting and scale of a dwelling must:* *(a) not cause an unreasonable loss of amenity to adjoining properties, having regard to:*

(a) be contained within a building envelope (refer to Figures 8.1, 8.2 and 8.3) determined by: *(i) a distance equal to the frontage setback or, for an internal lot, a distance of 4.5m from the rear boundary of a property with an adjoining frontage; and* *(ii) projecting a line at an angle of 45 degrees from the horizontal at a height of 3m above existing ground level at the side and rear boundaries to a building height of not more than 8.5m above existing ground level; and* *(b) only have a setback of less than 1.5m from a side or rear boundary if the dwelling:* *(i) does not extend beyond an existing building built on or within 0.2m of the boundary of the adjoining property; or* *(ii) does not exceed a total length of 9m or one third the length of the side boundary (whichever is the lesser).*	*(i) reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property;* *(ii) overshadowing the private open space of a dwelling on an adjoining property;* *(iii) overshadowing of an adjoining vacant property;* *or* *(iv) visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property;* *(b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area; and* *(c) not cause an unreasonable reduction in sunlight to an existing solar energy installation on:* *(i) an adjoining property; or* *(ii) another dwelling on the same site.*

Assessment:

The accompanying 3D drapes of the building envelope confirm that the proposal involves some minor exceedances of the permitted building envelope under A3 and must therefore be assessed under P3.

Specifically:

- the ridge line of Units 23 and 24, located in the centre of the site, exceed the 8.5m permitted maximum under A3a)ii); and
- A portion of the eaves of unit 1 protrudes outside the 45 degree envelope under A3a)ii)

The 3D drape also shows that the eaves of Units 21, 40, 41, 42, 43, 45 and 46 each include a minor horizontal protrusion of less than 900mm and comply with A3.

P3 assessment:

Having regard to the above it is only the ridgelines of Units 23 and 24 and a portion of the eaves of Unit 1 that do not comply with the permitted building envelope under A3. All other impacts of the proposal are considered acceptable.

In relation to Units 23 and 24, because they are sited in the middle of the site the additional height will have no shadowing, privacy or visual impact to a dwelling on and adjoining property. No existing solar energy installation either on the site or adjoining will be impacted by the proposal. Therefore, to the extent that the proposal does not satisfy A3 in relation to these dwellings (Units 23 and 24), the proposal is considered to satisfy P3.

The minor variation to the permitted building envelope in relation to the eaves of Unit 1 (see Building Envelope Diagram 1 below) is not considered to have a tangible increased shadowing or visual impact to the adjoining properties to the south at 11 and 13 Coghlan Court (see aerial photo below).

The proposal is considered to satisfy P3.

BUILDING ENVELOPE DIAGRAM 1

Adjacent properties at 11 and 13 Coghlan Court.

8.4.3 Site coverage and private open space for all dwellings

Objective:

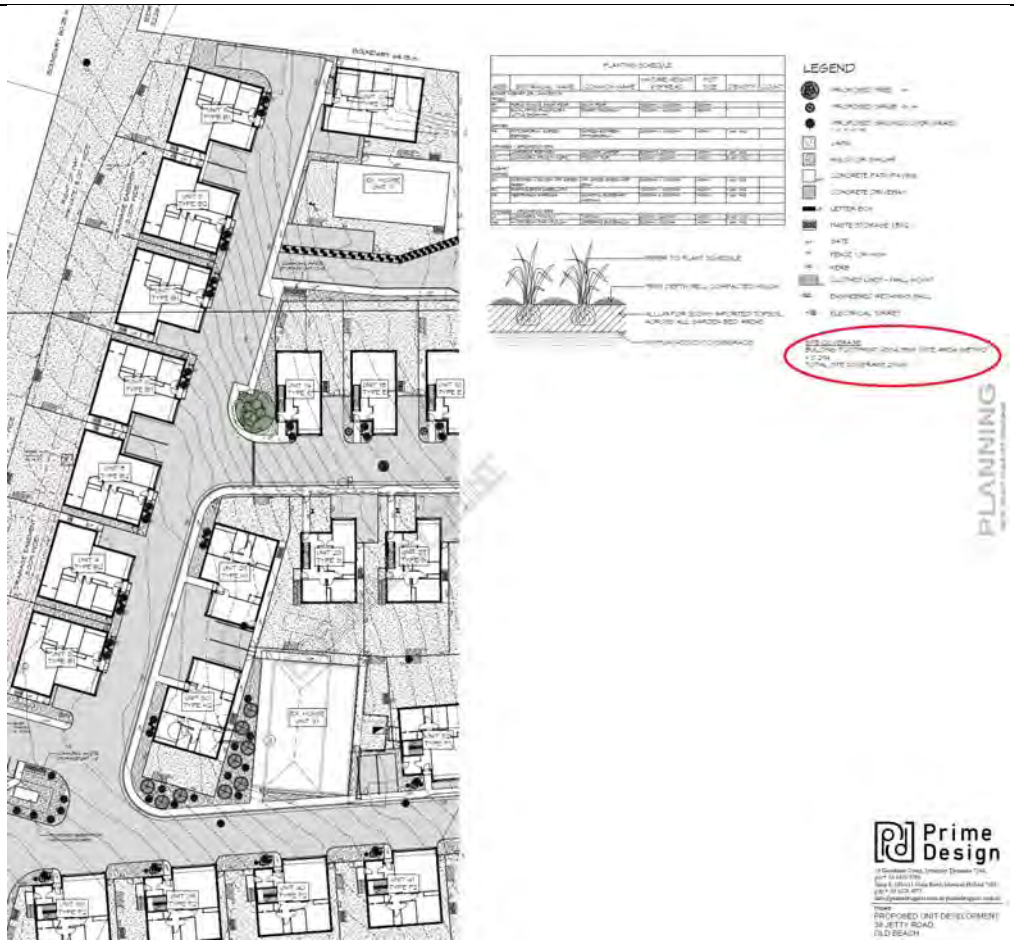
That dwellings are compatible with the amenity and character of the area and provide:

(a) for outdoor recreation and the operational needs of the residents;

(b) opportunities for the planting of gardens and landscaping; and

(c) private open space that is conveniently located and has access to sunlight.

Acceptable Solutions	**Performance Criteria**
A1 *Dwellings must have:* *(a) a site coverage of not more than 50% (excluding eaves up to 0.6m wide); and* *(b) for multiple dwellings, a total area of private open space of not less than 60m² associated with each dwelling, unless the dwelling has a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer).*	***P1*** *Dwellings must have:* *(a) site coverage consistent with that existing on established properties in the area;* *(b) private open space that is of a size and with dimensions that are appropriate for the size of the dwelling and is able to accommodate:* *(i) outdoor recreational space consistent with the projected requirements of the occupants and, for multiple dwellings, take into account any common open space provided for this purpose within the development; and* *(ii) operational needs, such as clothes drying and storage; and* *(c) reasonable space for the planting of gardens and landscaping.*
Assessment: The proposal complies as follows: • The proposal involves a total extent of roofed buildings of 4864m^2 on the 17270m^2. This equates to a site coverage of 28% and therefore comfortably complies with A1a). (*See drawings 05-06*)	



- The table of 'Lot Areas' on the Site plan sets out the Private Open Space Areas (garden areas) for each dwelling and confirms that all exceed 60m^2. The proposal therefore complies with A1b).

A2	***P2***
A dwelling must have private open space that: *(a) is in one location and is not less than:* *(i) 24m² or* *(ii) 12m², if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer);* *(b) has a minimum horizontal dimension of not less than:* *(i) 4m; or* *(ii) 2m, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than*	*A dwelling must have private open space that includes an area capable of serving as an extension of the dwelling for outdoor relaxation, dining, entertaining and children's play and is:* *(a) conveniently located in relation to a living area of the dwelling; and* *(b) orientated to take advantage of sunlight.*

1.8m above the finished ground level (excluding a garage, carport or entry foyer); *(c) is located between the dwelling and the frontage only if the frontage is orientated between 30 degrees west of true north and 30 degrees east of true north; and* *(d) has a gradient not steeper than 1 in 10.*	
Assessment: The proposal complies with A2 in that each dwelling has a private open space area of at least 24m^2 with a minimum dimension of 4m and a gradient not exceeding 1 in 10.	

8.4.4 Sunlight to private open space of multiple dwellings

Objective:

That the separation between multiple dwellings provides reasonable opportunity for sunlight to private open space for dwellings on the same site.

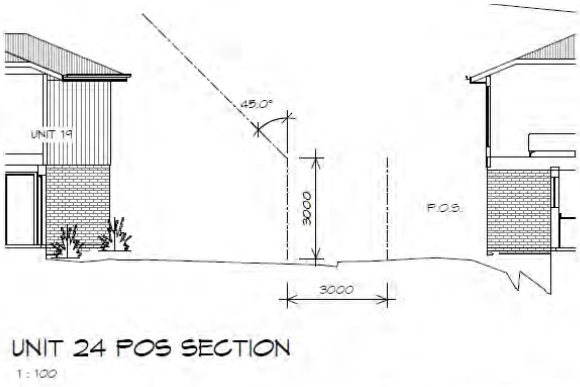
Acceptable Solutions	**Performance Criteria**
A1 *A multiple dwelling, that is to the north of the private open space of another dwelling on the same site, required to satisfy A2 or P2 of clause 8.4.3, must satisfy (a) or (b), unless excluded by (c):* *(a) the multiple dwelling is contained within a line projecting (see Figure 8.4):* *(i) at a distance of 3m from the northern edge of the private open space; and* *(ii) vertically to a height of 3m above existing ground level and then at an angle of 45 degrees from the horizontal;* *(b) the multiple dwelling does not cause 50% of the private open space to receive less than 3 hours of sunlight between 9.00am and 3.00pm on 21st June; and* *(c) this Acceptable Solution excludes that part of a multiple dwelling consisting of:* *(i) an outbuilding with a building height not more than 2.4m; or*	***P1*** *A multiple dwelling must be designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space, of another dwelling on the same site, which is required to satisfy A2 or P2 of clause 8.4.3 of this planning scheme.*

(ii) protrusions that extend not more than 0.9m horizontally from the multiple dwelling.	

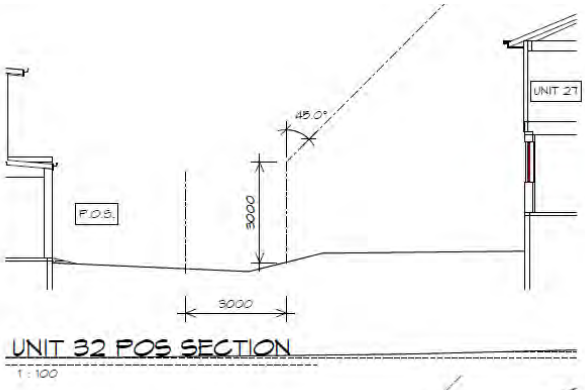
Assessment:

The proposal complies.

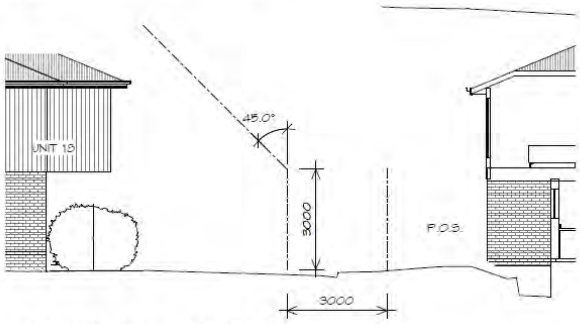
The accompanying sections on drawing 08 confirm (see examples below) that the POS areas are separated in accordance with the envelope setback (Figure 8.4) under A1a.



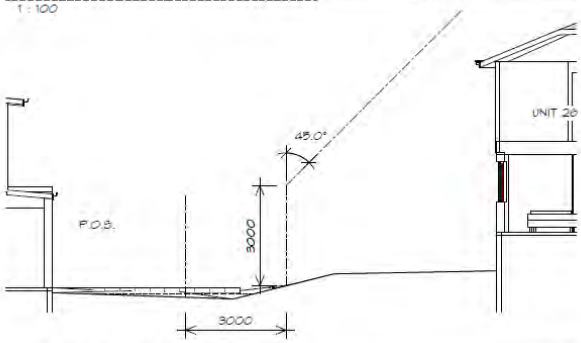
UNIT 24 POS SECTION
1 : 100



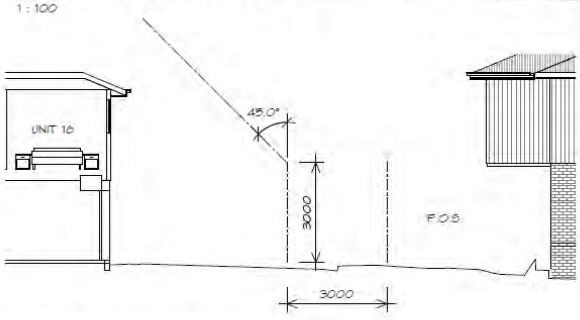
UNIT 32 POS SECTION
1 : 100



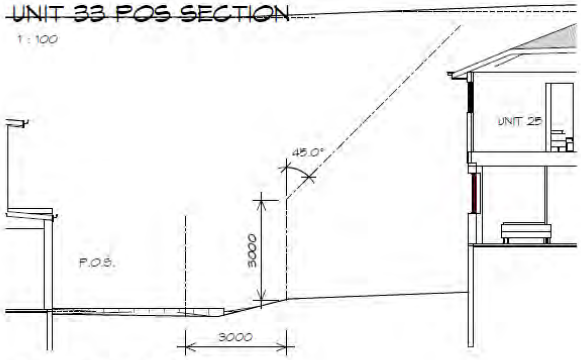
UNIT 25 POS SECTION
1 : 100



UNIT 33 POS SECTION
1 : 100



UNIT 26 POS SECTION
1 : 100



UNIT 34 POS SECTION
1 : 100

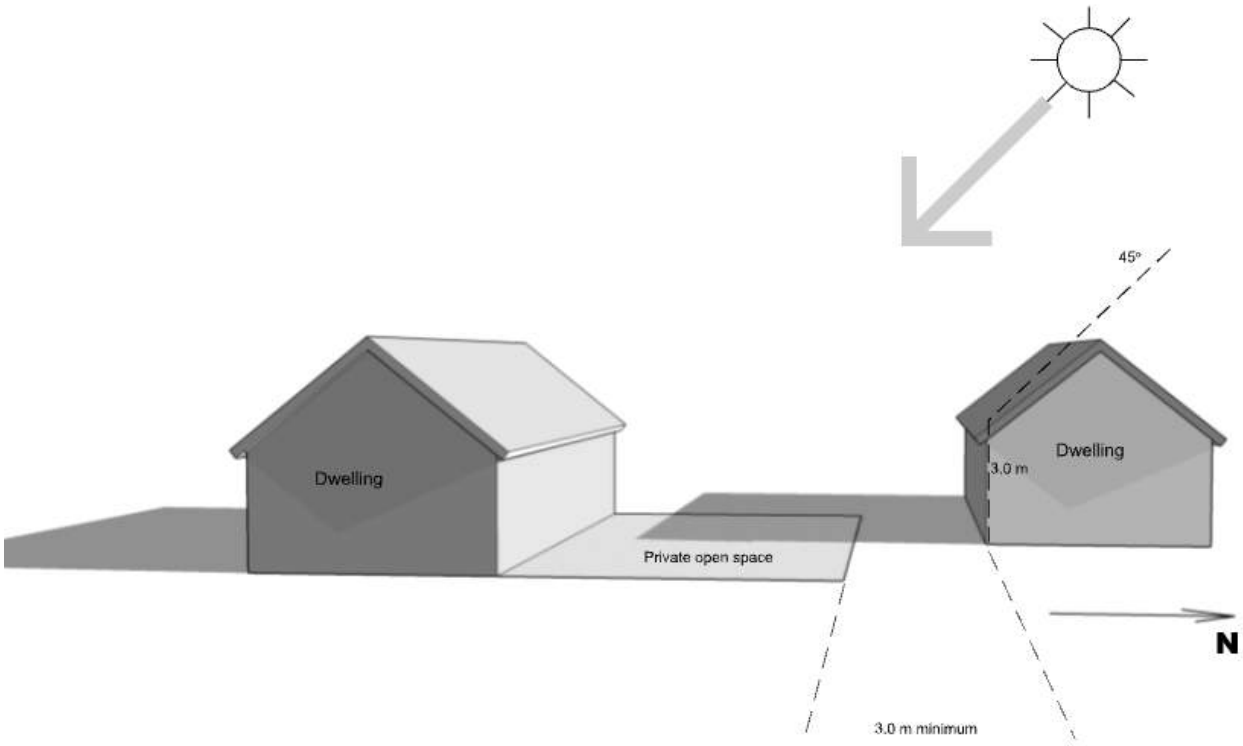


Figure 8.4 Separation from the private open space of another dwelling on the same site as required by clause 8.4.4 A1(a)

8.4.5 Width of openings for garages and carports for all dwellings

Objective:

To reduce the potential for garage or carport openings to dominate the primary frontage.

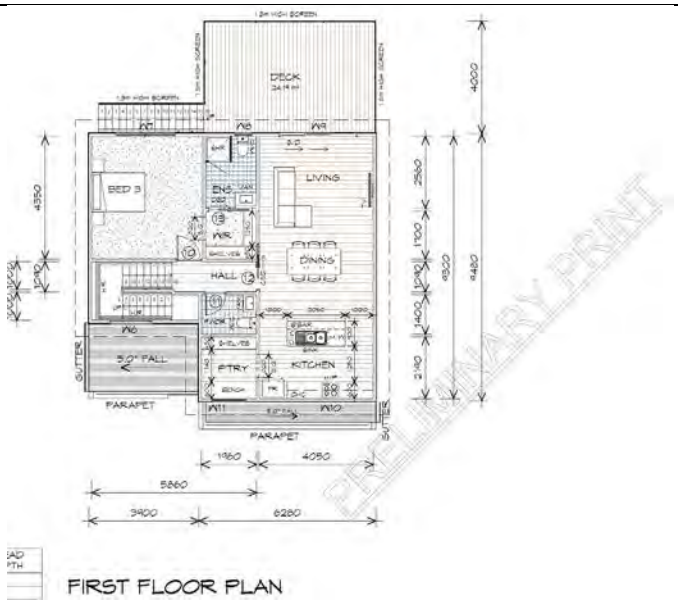
Acceptable Solutions	**Performance Criteria**
A1 *A garage or carport for a dwelling within 12m of a primary frontage, whether the garage or carport is free-standing or part of the dwelling, must have a total width of openings facing the primary frontage of not more than 6m or half the width of the frontage (whichever is the lesser).*	***P1*** *A garage or carport for a dwelling must be designed to minimise the width of its openings that are visible from the street, so as to reduce the potential for the openings of a garage or carport to dominate the primary frontage.*
Assessment: There are no garages within 12m of the frontage. The proposal complies.	

8.4.6 Privacy for all dwellings

Objective:

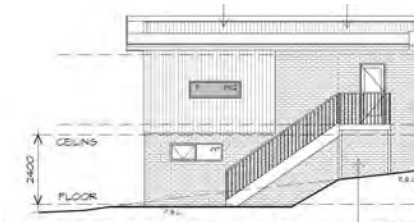
To provide a reasonable opportunity for privacy for dwellings.

Acceptable Solutions	Performance Criteria
A1 *A balcony, deck, roof terrace, parking space, or carport for a dwelling (whether freestanding or part of the dwelling), that has a finished surface or floor level more than 1m above existing ground level must have a permanently fixed screen to a height of not less than 1.7m above the finished surface or floor level, with a uniform transparency of not more than 25%, along the sides facing a:* *(a) side boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 3m from the side boundary;* *(b) rear boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 4m from the rear boundary; and* *(c) dwelling on the same site, unless the balcony, deck, roof terrace, parking space, or carport is not less than 6m:* *(i) from a window or glazed door, to a habitable room of the other dwelling on the same site; or* *(ii) from a balcony, deck, roof terrace or the private open space of the other dwelling on the same site.*	***P1*** *A balcony, deck, roof terrace, parking space or carport for a dwelling (whether freestanding or part of the dwelling) that has a finished surface or floor level more than 1m above existing ground level, must be screened, or otherwise designed, to minimise overlooking of:* *(a) a dwelling on an adjoining property or its private open space; or* *(b) another dwelling on the same site or its private open space.*
Assessment: A number of screen shots of the relevant plans and elevations are included below that demonstrate that the proposal complies with A1. The proposal includes the following decks/balconies: • First floor decks on Units 35, 36 and 37	



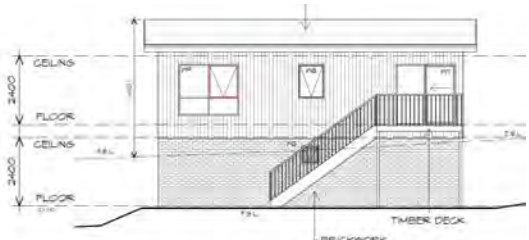
FIRST FLOOR PLAN

- stairs/landings associated with Units 20, 23, 24, 25, 26, 27 and 28



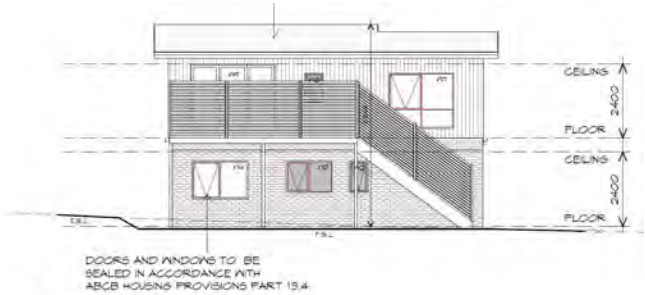
U20 SOUTHERN ELEVATION

- stairs and landings on Units 47-53.



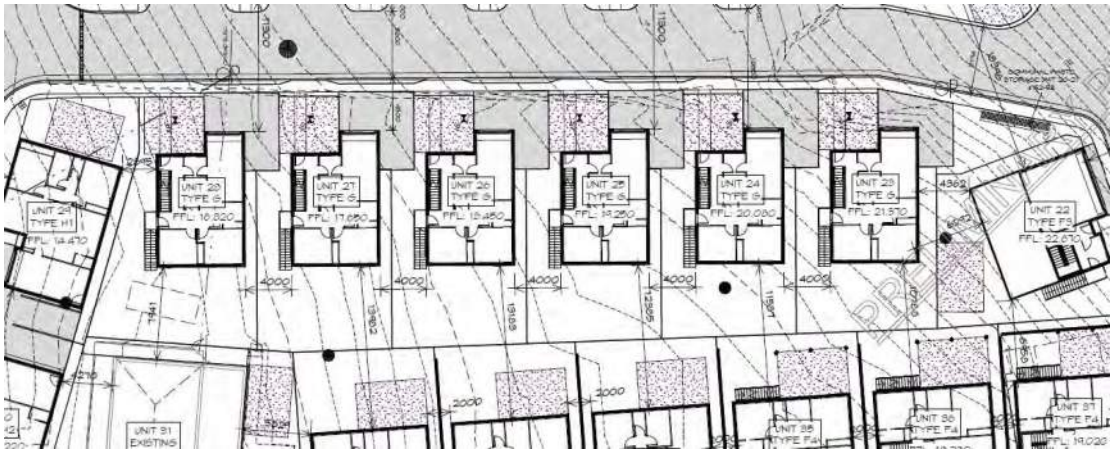
U51 NORTH EASTERN ELEVATION
1 : 100

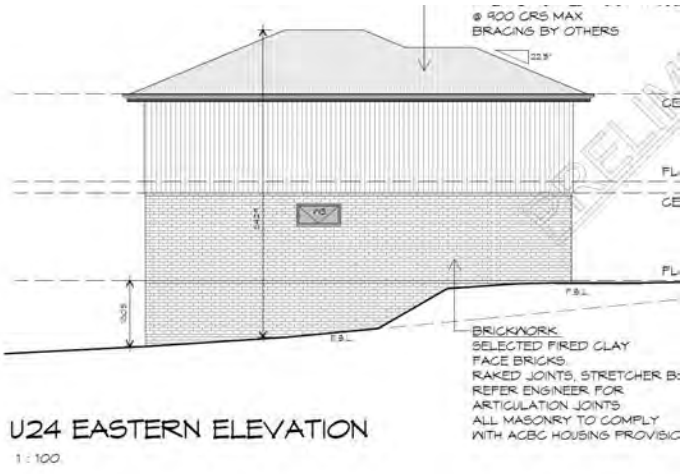
The decks on Units 35, 36 and 37 include fixed screens that comply with A1.



U35 NORTHERN ELEVATION

The landings Units 20, 23, 24,25,26,27 and 28 are arranged so that they don't correspond with windows on adjacent dwellings and therefore comply with A1c). Specifically, the eastern elevations of the corresponding dwellings do not include windows





The stairs/landings on Units 47-53 are sited low to the existing ground level such that their FFL is less than 1m above existing ground level. A1/P1 therefore does not apply.

A2	***P2***
A window or glazed door to a habitable room of a dwelling, that has a floor level more than 1m above	*A window or glazed door to a habitable room of a dwelling that has a floor level more than 1m above*

existing ground level, must satisfy (a), unless it satisfies (b): *(a) the window or glazed door:* *(i) is to have a setback of not less than 3m from a side boundary;* *(ii) is to have a setback of not less than 4m from a rear boundary;* *(iii) if the dwelling is a multiple dwelling, is to be not less than 6m from a window or glazed door, to a habitable room, of another dwelling on the same site; and* *(iv) if the dwelling is a multiple dwelling, is to be not less than 6m from the private open space of another dwelling on the same site.* *(b) the window or glazed door:* *(i) is to be offset, in the horizontal plane, not less than 1.5m from the edge of a window or glazed door, to a habitable room of another dwelling;* *(ii) is to have a sill height of not less than 1.7m above the floor level or have fixed obscure glazing extending to a height of not less than 1.7m above the floor level; or* *(iii) is to have a permanently fixed external screen for the full length of the window or glazed door, to a height of not less than 1.7m above floor level, with a uniform transparency of not more than 25%.*	*existing ground level, must be screened, or otherwise located or designed, to minimise direct views to:* *(a) a window or glazed door, to a habitable room of another dwelling; and* *(b) the private open space of another dwelling.*
Assessment: The proposal complies with A2 in that all windows that relate to a FFL more than 1m above existing ground level are either: • sited more than 3m from a side boundary or 4m from a rear boundary • are located so that they do not correspond with the window of another window of other dwellings on the site within 6m; • or have a sill height greater than 1.7m above FFL or an applied screen/fixed obscure glazing.	
A3 *A shared driveway or parking space (excluding a parking space allocated to that dwelling) must be separated from a window, or glazed door, to a*	***P3*** *A shared driveway or parking space (excluding a parking space allocated to that dwelling), must be screened, or otherwise located or designed, to minimise unreasonable impact of vehicle noise or*

habitable room of a multiple dwelling by a horizontal distance of not less than: *(a) 2.5m; or* *(b) 1m if:* *(i) it is separated by a screen of not less than 1.7m in height; or* *(ii) the window, or glazed door, to a habitable room has a sill height of not less than 1.7m above the shared driveway or parking space, or has fixed obscure glazing extending to a height of not less than 1.7m above the floor level.*	*vehicle light intrusion to a habitable room of a multiple dwelling.*
Assessment: To the extent that the proposal includes any ground floor windows within 2.5m of the shared driveway, these windows will be setback at least 1m from the edge of the driveway and will have fixed obscure glazing to comply with A3b). It is recommended that this be conditioned on the permit.	

8.4.7 Frontage fences for all dwellings

Objective:

The height and transparency of frontage fences:

(a) provides adequate privacy and security for residents;

(b) allows the potential for mutual passive surveillance between the road and the dwelling; and

(c) is reasonably consistent with that on adjoining properties.

Acceptable Solutions	**Performance Criteria**
No Acceptable Solution. [S5]	*A fence (including a free-standing wall) for a dwelling within 4.5m of a frontage must:* *(a) provide for security and privacy while allowing for passive surveillance of the road; and* *(b) be compatible with the height and transparency of fences in the street, having regard to:* *(i) the topography of the site; and* *(ii) traffic volumes on the adjoining road.*
Footnotes *[S5] An exemption applies for fences in this zone – see Table 4.6.*	

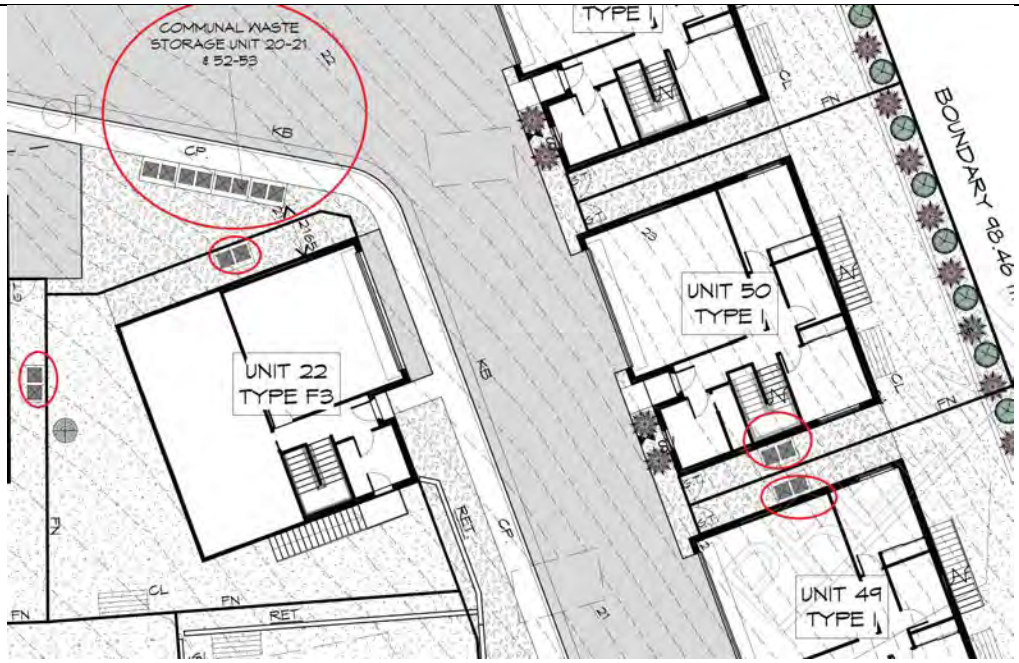
Assessment:
To the extent that the proposal may include a front fence it will comply with the exemption under Table 4.6.

8.4.8 Waste storage for multiple dwellings

Objective:

To provide for the storage of waste and recycling bins for multiple dwellings.

Acceptable Solutions	**Performance Criteria**
A1 *A multiple dwelling must have a storage area, for waste and recycling bins, that is not less than 1.5m² per dwelling and is within one of the following locations:* *(a) an area for the exclusive use of each dwelling, excluding the area in front of the dwelling; or* *(b) a common storage area with an impervious surface that:* *(i) has a setback of not less than 4.5m from a frontage;* *(ii) is not less than 5.5m from any dwelling; and* *(iii) is screened from the frontage and any dwelling by a wall to a height not less than 1.2m above the finished surface level of the storage area.*	***P1*** *A multiple dwelling must have storage for waste and recycling bins that is:* *(a) capable of storing the number of bins required for the site;* *(b) screened from the frontage and dwellings; and* *(c) if the storage area is a common storage area, separated from dwellings on the site to minimise impacts caused by odours and noise.*
Assessment: The proposed dwellings either include an area of at least 1.5m2 for exclusive bin storage use or access to a designated communal wheelie bin storage area (see Drawings 04 and 05).	



Example of the proposal for each dwelling to either have a designated bin storage area for exclusive use by that dwelling or access to a designated communal bin storage area.

The communal bin storage area for Units 20-21 and 52-53 is located within 5m of the side wall of Unit 22 and requires assessment under P1. In this case this storage area is considered to satisfy P1 in that it is located away from the Jetty Road frontage, has sufficient area for 2 bins for each dwelling (8) and is located and sufficiently separated to avoid odour and noise disturbance to nearby dwellings. This is particularly so given that the communal storage area is adjacent/below the garage area of Unit 22 and provides for only a small number dwellings (4 dwellings).

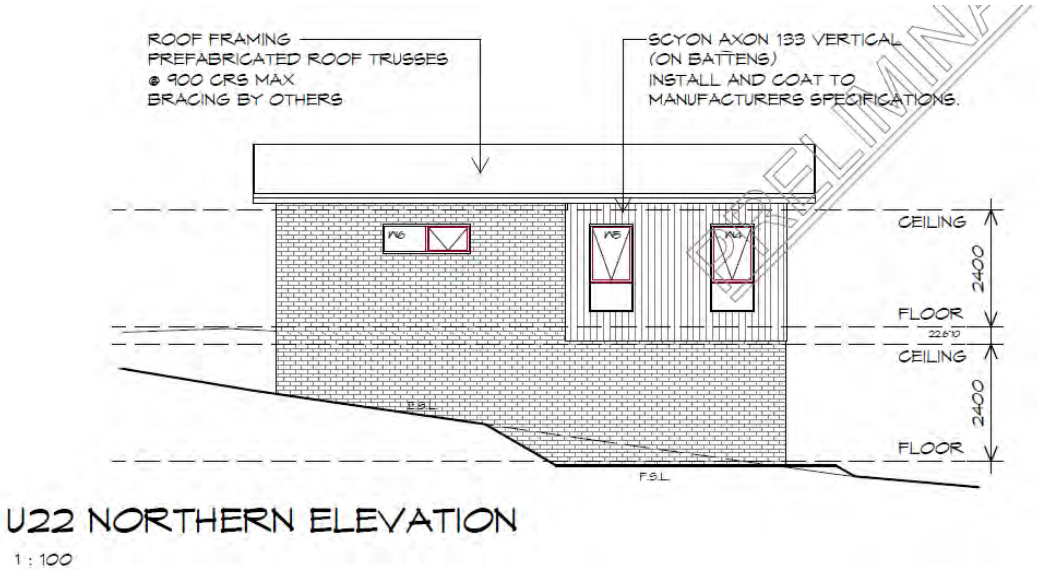


Diagram showing the northern elevation of Unit 22 that corresponds with the adjacent small communal bin storage areas for 4 dwellings.

Development Standards for Subdivision

8.6.1 Lot design

Objective:

That each lot:

(a) has an area and dimensions appropriate for use and development in the zone;

(b) is provided with appropriate access to a road;

(c) contains areas which are suitable for development appropriate to the zone purpose, located to avoid natural hazards; and

(d) is orientated to provide solar access for future dwellings.

Acceptable Solutions	**Performance Criteria**
A1 *Each lot, or a lot proposed in a plan of subdivision, must:* *(a) have an area of not less than 450m² and:* *(i) be able to contain a minimum area of 10m x 15m with a gradient not steeper than 1 in 5, clear of:* *a. all setbacks required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; and* *b. easements or other title restrictions that limit or restrict development; and* *(ii) existing buildings are consistent with the setback required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2;* *(b) be required for public use by the Crown, a council or a State authority;* *(c) be required for the provision of Utilities; or* *(d) be for the consolidation of a lot with another lot provided each lot is within the same zone.*	***P1*** *Each lot, or a lot proposed in a plan of subdivision, must have sufficient useable area and dimensions suitable for its intended use, having regard to:* *(a) the relevant requirements for development of buildings on the lots;* *(b) the intended location of buildings on the lots;* *(c) the topography of the site;* *(d) the presence of any natural hazards;* *(e) adequate provision of private open space; and* *(f) the pattern of development existing on established properties in the area.*
Assessment: The proposed amalgamated lot complies with A1.	
A2	***P2***

Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a frontage not less than 12m.	*Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be provided with a frontage or legal connection to a road by a right of carriageway, that is sufficient for the intended use, having regard to:* *(a) the width of frontage proposed, if any;* *(b) the number of other lots which have the land subject to the right of carriageway as their sole or principal means of access;* *(c) the topography of the site;* *(d) the functionality and useability of the frontage;* *(e) the ability to manoeuvre vehicles on the site; and* *(f) the pattern of development existing on established properties in the area,* *and is not less than 3.6m wide.*
Assessment: The proposed consolidated lot will have a frontage in excess of 12m and complies with A2.	
A3 *Each lot, or a lot proposed in a plan of subdivision, must be provided with a vehicular access from the boundary of the lot to a road in accordance with the requirements of the road authority.*	***P3*** *Each lot, or a lot proposed in a plan of subdivision, must be provided with reasonable vehicular access to a boundary of a lot or building area on the lot, if any, having regard to:* *(a) the topography of the site;* *(b) the distance between the lot or building area and the carriageway;* *(c) the nature of the road and the traffic;* *(d) the anticipated nature of vehicles likely to access the site; and* *(e) the ability for emergency services to access the site.*
Assessment: Complies	
A4	***P4***

Any lot in a subdivision with a new road, must have the long axis of the lot between 30 degrees west of true north and 30 degrees east of true north.	*Subdivision must provide for solar orientation of lots adequate to provide solar access for future dwellings, having regard to:* *(a) the size, shape and orientation of the lots;* *(b) the topography of the site;* *(c) the extent of overshadowing from adjoining properties;* *(d) any development on the site;* *(e) the location of roads and access to lots; and* *(f) the existing pattern of subdivision in the area.*
Assessment: The proposal does not involve a new road. This standard does not apply.	

4. Planning Scheme Codes

The site is within a mapped Bushfire-prone area but no other mapped overlays.

The proposal is considered in relation to the Bushfire Code and other relevant codes below.

Parking and Sustainable Transport Code

This Code applies to all use and development. The proposal is assessed against this code in the accompanying TIA and summarised below.

2.5 Use Standards

C2.5.1 Car parking numbers

Objective:

That an appropriate level of car parking spaces are provided to meet the needs of the use.

Acceptable Solutions	Performance Criteria
A1 *The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:* *(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;*	***P1*** *The number of on-site car parking spaces for uses, excluding dwellings, must meet the reasonable needs of the use, having regard to:* *(a) the availability of off-street public car parking spaces within reasonable walking distance of the site;*

(b) the site is contained within a parking precinct plan and subject to Clause C2.7; *(c) the site is subject to Clause C2.5.5; or* *(d) it relates to an intensification of an existing use or development or a change of use where:* *(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or* *(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.*	*(b) the ability of multiple users to share spaces because of:* *(i) variations in car parking demand over time; or* *(ii) efficiencies gained by consolidation of car parking spaces;* *(c) the availability and frequency of public transport within reasonable walking distance of the site;* *(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 development site is providing a total of 129 on-site car parking spaces, meeting the planning scheme minimum requirement, minimising the risk of overflow parking. The number of on-site car parking spaces complies with the acceptable solution of the planning scheme.	

2.6 Development Standards

C2.6.1 Construction of parking areas

Objective:

That parking areas are constructed to an appropriate standard.

Acceptable Solutions	Performance Criteria
A1 *All parking, access ways, manoeuvring and circulation spaces must:* *(a) be constructed with a durable all weather pavement;* *(b) be drained to the public stormwater system, or contain stormwater on the site; and* *(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.*	***P1*** *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:* *(a) the nature of the use;* *(b) the topography of the land;* *(c) the drainage system available;* *(d) the likelihood of transporting sediment or debris from the site onto a road or public place;* *(e) the likelihood of generating dust; and* *(f) the nature of the proposed surfacing.*
Assessment: The parking areas and internal driveways will be a concrete surface, with the driveways operating with a one-way camber to direct surface water to kerbing, which will be directed to an approved stormwater drainage system. The design complies with the acceptable solution A1.	

C2.6.2 Design and layout of parking areas

Objective:

That parking areas are designed and laid out to provide convenient, safe and efficient parking.

Acceptable Solutions	Performance Criteria
A1.1 *Parking, access ways, manoeuvring and circulation spaces must either:* *(a) comply with the following:*	***P1*** *All parking, access ways, manoeuvring and circulation spaces must be designed and readily identifiable to provide convenient, safe and efficient parking, having regard to:*

(i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6; *(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;* *(iii) have an access width not less than the requirements in Table C2.2;* *(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;* *(v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces;* *(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and* *(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or* *(b) comply with Australian Standard AS 2890- Parking facilities, Parts 1-6.* ***A1.2*** *Parking spaces provided for use by persons with a disability must satisfy the following:* *(a) be located as close as practicable to the main entry point to the building;* *(b) be incorporated into the overall car park design; and* *(c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities. [S35]*	*(a) the characteristics of the site;* *(b) the proposed slope, dimensions and layout;* *(c) useability in all weather conditions;* *(d) vehicle and pedestrian traffic safety;* *(e) the nature and use of the development;* *(f) the expected number and type of vehicles;* *(g) the likely use of the parking areas by persons with a disability;* *(h) the nature of traffic in the surrounding area;* *(i) the proposed means of parking delineation; and* *(j) the provisions of Australian Standard AS 2890.1:2004 - Parking facilities, Part 1: Off-street car parking and AS 2890.2 -2002 Parking facilities, Part 2: Off-street commercial vehicle facilities.*
Footnotes: *[S35] Requirements for the number of accessible car parking spaces are specified in part D3 of the National Construction Code 2016.*	
Assessment: The internal layout and parking areas have been designed to comply with the Australian Standard 2890.1:2004 for a residential property and parking space dimensions in the planning scheme, to ensure vehicles can easily manoeuvre within the development and enter and leave in a forward-driving direction.	

There is sufficient manoeuvring width adjacent to the parking spaces, to enable all vehicles to enter and leave efficiently. All parking spaces will be located on gradient less than five percent. The internal driveways will be wide enough to accommodate two-way traffic flow, except for the small spur driveway servicing units 12 and 13 that services four parking spaces, which will be a minimum of three metres wide, complying with the width specified in the planning scheme table C2.2 for the number of parking spaces served. The enclosed garages will comply with section 5.4 of the Australian Standard 2890.1:2004. The open parking spaces will be supported with wheel stops and delineated with road marking where appropriate. Overall, the design complies with the acceptable solution A1.1(a) and (b).

C2.6.3 Number of accesses for vehicles

Objective:

That:

(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;

(b) accesses do not cause an unreasonable loss of amenity of adjoining uses; and

(c) the number of accesses minimise impacts on the streetscape.

Acceptable Solutions	**Performance Criteria**
A1 *The number of accesses provided for each frontage must:* *(a) be no more than 1; or* *(b) no more than the existing number of accesses,* *whichever is the greater.*	***P1*** *The number of accesses for each frontage must be minimised, having regard to:* *(a) any loss of on-street parking; and* *(b) pedestrian safety and amenity;* *(c) traffic safety;* *(d) residential amenity on adjoining land; and* *(e) the impact on the streetscape.*
Assessment: The development site will operate with the existing access onto Jetty Road, and this complies with the acceptable solution A1 (a) and (b).	

C2.6.5 Pedestrian access

Objective:

That pedestrian access within parking areas is provided in a safe and convenient manner.

Acceptable Solutions	Performance Criteria
A1.1 *Uses that require 10 or more car parking spaces must:* *(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:* *(i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or* *(ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and* *(b) be signed and line marked at points where pedestrians cross access ways or parking aisles.* ***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.*	***P1*** *Safe and convenient pedestrian access must be provided within parking areas, having regard to:* *(a) the characteristics of the site;* *(b) the nature of the use;* *(c) the number of parking spaces;* *(d) the frequency of vehicle movements;* *(e) the needs of persons with a disability;* *(f) the location and number of footpath crossings;* *(g) vehicle and pedestrian traffic safety;* *(h) the location of any access ways or parking aisles; and* *(i) any protective devices proposed for pedestrian safety.*
Assessment: Dedicated pedestrian pathways will be provided to connect all units with the existing footpath along Jetty Road. The pathways will be a concrete surface, minimum of one metre wide and separated from the driveways by kerbing where possible. Where the pathway crosses the internal driveway, painted markings will be used to delineate pedestrian priority. A 10 km/h shared speed limit will be installed at the beginning of the site, to moderate the operating speed of vehicles. The design complies with the acceptable solution.	

C2.6.8 Siting of parking and turning areas

Objective:

That the siting of vehicle parking and access facilities in an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone, General Business Zone or Central Business Zone does not cause an unreasonable visual impact on streetscape character or loss of amenity to adjoining properties.

Acceptable Solutions	Performance Criteria
A1	***P1***

Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas must be located behind the building line of buildings, excluding if a parking area is already provided in front of the building line.	*Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas, may be located in front of the building line where this is the only practical solution and does not cause an unreasonable loss of amenity to adjoining properties, having regard to:* *(a) topographical or other site constraints;* *(b) availability of space behind the building line;* *(c) availability of space for vehicle access to the side or rear of the property;* *(d) the gradient between the front and the rear of existing or proposed buildings;* *(e) the length of access or shared access required to service the car parking;* *(f) the location of the access driveway at least 2.5m from a window of a habitable room of a dwelling;* *(g) the visual impact of the vehicle parking and access on the site;* *(h) the streetscape character and amenity;* *(i) the nature of the zone in which the site is located and its preferred uses; and* *(j) opportunities for passive surveillance of the road.*
Assessment: The proposal located in the General Residential Zone does not conflict with this Standard.	

Road and Railway Assets Code

This code applies to the proposed use and development that is adjacent to the East Derwent Highway and involves upgraded vehicle access. The proposal is assessed against this code in the accompanying TIA and summarised below.

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

Objective:

To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction

Use Standard	***Assessment***

A1.4 *Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than:* *(a) the amounts in Table C3.1; or* *(b) allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road.*	The proposed increase from 2 to 53 dwellings will involve an increase of more than the 40 vehicle movements per day under Table C3.1 and is to be assessed under P1.
P1 *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 traffic caused by the use;* *(b) the nature of the traffic generated by the use;* *(c) the nature of the road;* *(d) the speed limit and traffic flow of the road;* *(e) any alternative access to a road;* *(f) the need for the use;* *(g) any traffic impact assessment; and* *(h) any advice received from the rail or road authority*	The TIA confirms that the proposal satisfies P1 as follows: a) The 53 residential units are estimated to generate 324 daily vehicular trips, with 33 of these trips likely to occur during the morning and evening peak periods. The two existing residential units are already generating on average 15 daily vehicle trips, with two of these occurring during the morning and evening peak periods. b) The residential units are expected to generate light vehicles less than 5.5 metres in length. These types of vehicles are associated with urban residential living, have good manoeuvrability, and are compatible with the existing vehicles using the surrounding road network. c) Jetty Road is a local residential road, built to an urban standard, has sufficient width to accommodate two-way traffic movements, and can support on-street parking. The surrounding road network is of suitable standard to accommodate the minor increase in traffic flow. There is sufficient sight distance at the existing vehicular access to enable vehicles to enter and leave the development site in a safe and efficient manner. d) Jetty Road has a posted speed limit of 50 km/h. Recent manual traffic surveys found the road is lightly trafficked, with 102 two-way traffic flow in the morning peak and 140 in the evening peak. Traffic analysis of the surrounding road network, including traffic modelling conducted at the surrounding

	junctions and roundabout, indicates there is sufficient spare traffic capacity to absorb the increase in traffic, without causing adverse traffic impact, or reduction in traffic flow, or residential amenity. e) None f) Urban infill in established towns is an excellent method to increase the supply of housing, while optimising the current infrastructure and community facilities. g) An independent traffic assessment found no reason for this development not to proceed. h) No known advice.

Development Standards for Buildings or Works (C3.6)

Habitable buildings for sensitive uses within a road or railway attenuation area (C3.6.1)

Objective:

To minimise the effects of noise, vibration, light and air emissions on sensitive uses within a road or railway attenuation area, from existing and future major roads and the rail network.

Development Standard	***Assessment***
A1 *Unless within a building area on a sealed plan approved under this planning scheme, habitable buildings for a sensitive use within a road or railway attenuation area, must be:* *(a) within a row of existing habitable buildings for sensitive uses and no closer to the existing or future major road or rail network than the adjoining habitable building;* *(b) an extension which extends no closer to the existing or future major road or rail network than:* *(i) the existing habitable building; or* *(ii) an adjoining habitable building for a sensitive use; or* *(c) located or designed so that external noise levels are not more than the level in Table C3.2 measured in accordance with Part D of the Noise Measurement Procedures Manual, 2nd edition, July 2008.*	The East Derwent Highway, adjacent to the east of the site is a Category 3 road under the State Road Hierarchy with a speed limit of 80km/h. A 50m road attenuation area from the boundary with the highway therefore applies.  *Road attenuation area (Source: Figure 1.1 of the Traffic Noise Assessment, NVC, 8 April 2024).* The accompanying Traffic Noise Assessment has been prepared and demonstrates that measurements

	conducted at the worst-affected boundary to site resulted in an $L10_{18}$-hour of nominally 62.1 dBA_{adj}. This is below the criterion outlined in Table C.2 for roads, and the Acceptable Solution A1 under Clause C3.6.1 is therefore satisfied.

5. Conclusion

The proposal provides for a range of dwelling types and sizes on serviced residential land. It demonstrates the efficient use of this land consistent with the Purpose and density provisions of the General Residential Zone.

The proposal involves a small number of exceedances of the permitted building envelope for the zone. However, the proposal is considered to satisfy the relevant performance criteria under Clause 8.4.2 P3 in that the additional height is either located in the centre of the site, away from dwellings on adjoining properties (Units 24 and 25), or in the case of Unit 1, will not tangibly increase impact beyond a permitted development.

The proposal complies with the privacy and private open space provisions of the zone.

The proposal is accompanied by comprehensive Traffic and Noise assessments that confirm that the relevant provision of the Parking and Sustainable Transport and Road and Railway Assets Codes are satisfied.

The proposal is recommended for approval pursuant to Section 57 of the Act following public advertising.

I would be pleased to discuss or confirm as necessary.

Frazer Read

Principal

AllUrbanPlanning PTY LTD

20 May 2024

Jo Blackwell
Senior Planner
Brighton Council
1 Tivoli Road
OLD BEACH 7017

Dear JO,

Development Application DA 2024/00061 - 24B and 38 Jetty Road Old Beach

I refer to your request for further information, 14 May 2024 and respond to Item 3 – Building Envelope.

I understand that SJM Property Developments will coordinate a response to the other items in your request.

Item 3

Please see attached amended plans that now site Unit 1 entirely within the permitted building envelope.

I provide an updated response against Clause 8.4.2 A3/P3 as follows:

8.4.2 Setbacks and building envelope for all dwellings

Objective:

The siting and scale of dwellings:

(a) provides reasonably consistent separation between dwellings and their frontage within a street;

(b) provides consistency in the apparent scale, bulk, massing and proportion of dwellings;

(c) provides separation between dwellings on adjoining properties to allow reasonable opportunity for daylight and sunlight to enter habitable rooms and private open space; and

(d) provides reasonable access to sunlight for existing solar energy installations.

Acceptable Solutions	Performance Criteria
A3 *A dwelling, excluding outbuildings with a building height of not more than 2.4m and protrusions that extend not more than 0.9m horizontally beyond the building envelope, must:* *(a) be contained within a building envelope (refer to Figures 8.1, 8.2 and 8.3) determined by:* *(i) a distance equal to the frontage setback or, for an internal lot, a distance of 4.5m from the rear boundary of a property with an adjoining frontage; and* *(ii) projecting a line at an angle of 45 degrees from the horizontal at a height of 3m above existing ground level at the side and rear boundaries to a building height of not more than 8.5m above existing ground level; and* *(b) only have a setback of less than 1.5m from a side or rear boundary if the dwelling:* *(i) does not extend beyond an existing building built on or within 0.2m of the boundary of the adjoining property; or* *(ii) does not exceed a total length of 9m or one third the length of the side boundary (whichever is the lesser).*	***P3*** *The siting and scale of a dwelling must:* *(a) not cause an unreasonable loss of amenity to adjoining properties, having regard to:* *(i) reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property;* *(ii) overshadowing the private open space of a dwelling on an adjoining property;* *(iii) overshadowing of an adjoining vacant property;* *or* *(iv) visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property;* *(b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area; and* *(c) not cause an unreasonable reduction in sunlight to an existing solar energy installation on:* *(i) an adjoining property; or* *(ii) another dwelling on the same site.*
Assessment: The accompanying amended plans and 3D drapes of the building envelope confirm that the proposal involves some minor exceedances of the permitted building envelope under A3 and must therefore be assessed under P3. Specifically, the ridge line of Units 23 and 24, located in the centre of the site, exceed the 8.5m permitted maximum under A3a)ii).	

The 3D drape also shows that the eaves of Units 21, 40, 41, 42, 43, 45 and 46 each include a minor horizontal protrusion of less than 900mm and comply with A3.

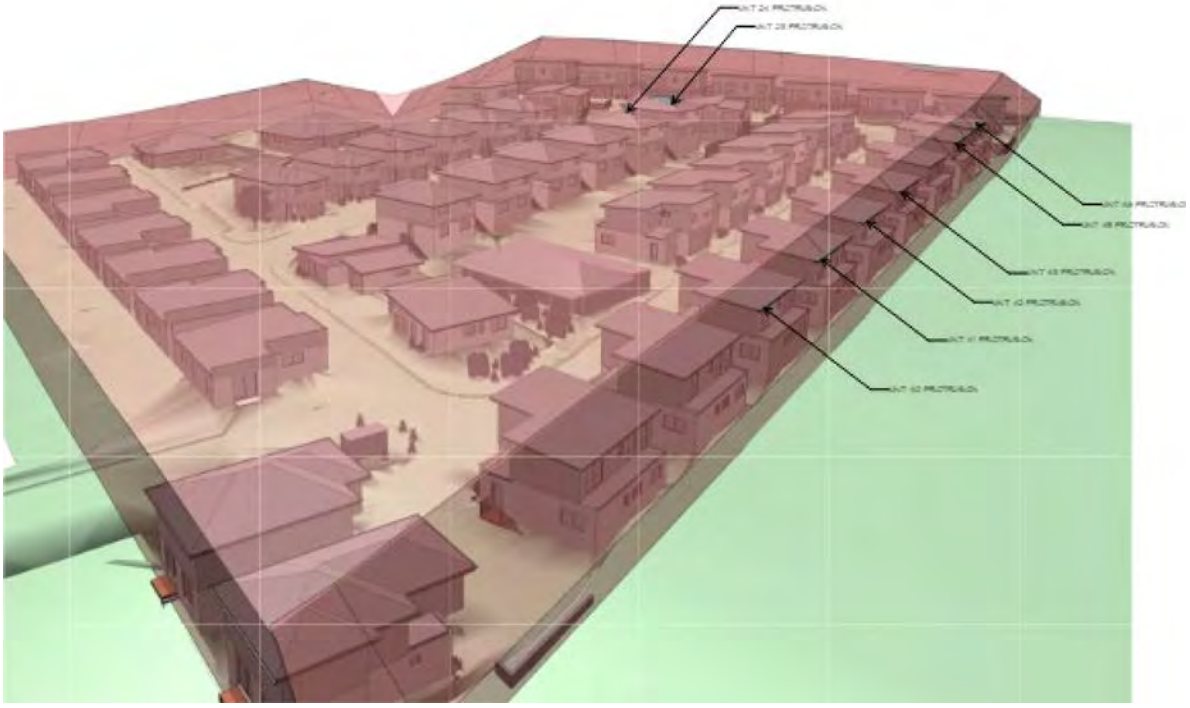
Unit 1 has now been amended to fit within the permitted envelope.

P3 assessment:

Having regard to subsequent full Court decision, *Boland v Clarence City Council 2021, TASFC 5*, it is understood that some regard may be had to the acceptable solution.

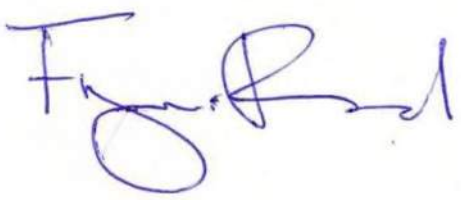
In this case, it is only the ridgelines of Units 23 and 24 that do not comply with the permitted building envelope under A3. All other impacts of the proposal are equal to or less than what can occur from the permitted building envelope under the acceptable solution A3. Those impacts are therefore considered acceptable.

In relation to Units 23 and 24, because they are sited in the middle of the site, the additional height will have no shadowing, privacy or visual impact to a dwelling on and adjoining property. No existing solar energy installation either on the site or adjoining will be impacted by the proposal. Therefore, to the extent that the proposal does not satisfy A3 in relation to these dwellings (Units 23 and 24), the proposal is considered to satisfy P3.



I would be pleased to discuss as necessary.

Yours sincerely,



Frazer Read
Principal
All Urban Planning Pty Ltd

TRAFFIC IMPACT ASSESSMENT

NEW RESIDENTIAL UNITS
24B AND 38 JETTY ROAD
OLD BEACH

Hubble Traffic

May 2024 Updated

Disclaimer: This report has been prepared based on and in reliance upon the information provided to Hubble Traffic Consulting by the client and gathered by Hubble Traffic Consulting during the preparation of the report. Whilst all reasonable skill, care and diligence has been used in preparation of the report, Hubble Traffic Consulting take no responsibility for errors or omissions arising from misstatements by third parties.

This report has been prepared specifically for the exclusive use of the client named in the report and to the extent necessary, Hubble Traffic Consulting disclaim responsibility for any loss or damage occasioned by use of or reliance upon this report, or the date produced herein, by any third party.

Version	Date	Reason for Issue
Final	8 April 2024	Issued to client
Updated	2 May 2024	Reflects RFI

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1. Introduction

SJM Property Developments has engaged Hubble Traffic on behalf of the developers, to prepare an independent Traffic Impact Assessment, to consider the traffic impacts from the provision of 53 new residential units at 24B, and 38 Jetty Road, Old Beach (development site).

This assessment has considered the amount of traffic this multi-unit development is likely to generate, and how the additional traffic movements will integrate into the surrounding road network.

The development has been assessed against the Tasmanian Planning Scheme C2 Parking and Sustainable Transport Code, C3 Road and Railway Assets Code, and the Australian Standard 2890.1:2004.

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:

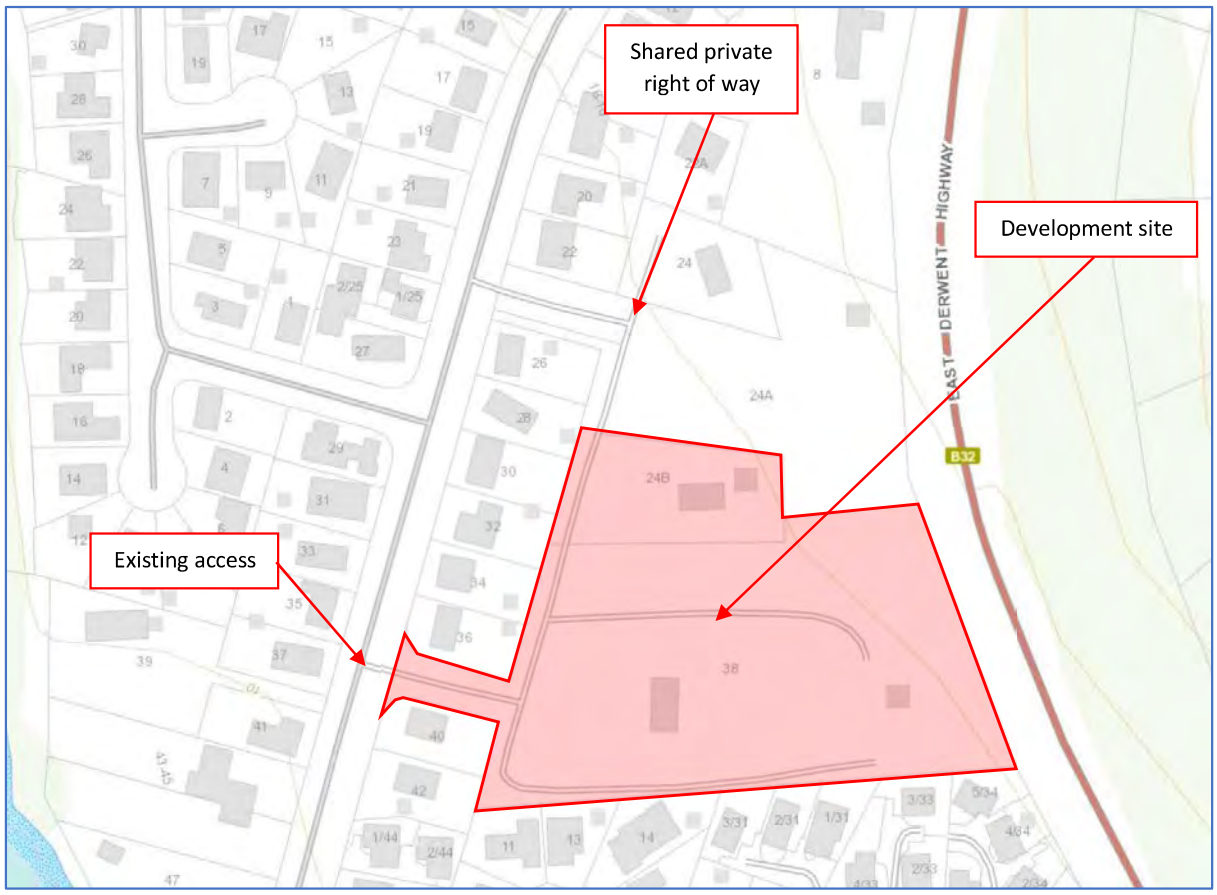
- Tasmanian Planning Scheme (Brighton Council)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards AS2890 parts 1, 2 and 6
- Austroads series of Traffic Management and Road Design
  - Part 4: Intersection and crossings, General
  - Part 4a: Unsignalised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

2. Site Description

Located at 24B, and 38 Jetty Road, Old Beach, the development site is a combination of two parcels of land, with each parcel occupied by a residential property. The land is situated behind existing properties on Jetty Road, within an established urban residential area, and under the planning scheme considered as am internal lot.

The property at 38 Jetty Road has an existing vehicular access with Jetty Road, while 24B relies on a private right of way shared with 24 and 24A Jetty Road.

Diagram 2.0 – Extract from Land Information System Tasmania (LIST) Database



3. Development proposal

The development proposal is to construct 53 residential units, while retaining the two existing residential dwellings. The residential units will consist of 14 two-bedroom units, 32 three-bedroom units, and seven four-bedroom units.

Each unit will have two dedicated parking spaces, consisting of either a single enclosed garage and uncovered parking space, double enclosed garage, or two dedicated uncovered parking spaces. As the site is considered an internal lot, the development will provide 19 on-site visitor parking spaces.

The existing driveway and access to 38 Jetty Road will be retained and upgraded to accommodate two-way traffic flow.

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.

To determine the number of trips likely to be generated by this development, reference has been taken from the RTA Guide to Traffic Generating Developments (RTA Guide), section 3.3 residential housing. For the purpose of this assessment the new units and existing dwellings will be referred to as units.

Table 4.0A –Requirements as per RTA section 3.3 update 4a - August 2013

Dwelling Density	Generation Rate
Low density residential dwellings in regional areas:	• Daily vehicle trips of 7.4 per dwelling, and • Weekday peak trips of 0.78 per dwelling.
Medium density residential units, smaller units (up to two bedrooms):	• Daily vehicle trips of 5 per unit, and • Weekday peak trips of 0.5 per unit.
Medium density residential units, larger units (three or more bedrooms):	• Daily vehicle trips of 6.5 per unit, and • Weekday peak trips of 0.65 per unit.

Table 4.0B – Predicted number of trips to be generated from the 55 residential units

Dwelling Type	RTA Generation rate	Number of units/dwellings	Daily trips	Peak trips
Two-bedroom unit	5 per day 0.5 per peak	14	70	7
Three-bedroom unit	6.5 per day 0.65 per peak	32	208	21
Four-bedroom unit		7	46	5
New trips		53	324	33
Existing dwelling	7.4 per day 0.78 per peak	2	14	2
Existing trips		2	14	2
Total additional trips generated			**338**	**35**

The existing two units (dwellings) are already generating 14 daily trips, with two trips occurring in the peak hour periods. While the 53 new units are predicted to generate additional 324 daily trips, with 33 of these occurring during the peak periods, and this number of trips will be used within this assessment.

5. Existing traffic Conditions

Jetty Road is a local access road maintained by the Brighton Council, which extends between East Derwent Highway (highway), creating two highway junctions (north and south). Fouche Avenue extends off Jetty Road to the south, providing an alternate access route to the highway, via a roundabout.

5.1 Jetty Road characteristics

Jetty Road has been constructed to an urban standard, with a sealed bitumen surface, concrete kerb, and guttering, 1.5 metre wide concrete footpaths along both sides, and street lighting.

At the development site, the road is 9.2 metres wide between kerb faces, with sufficient width to accommodate two-way traffic movements and on-street parking. There are no centreline markings, signifying the road does not have a major road function. Jetty Road has a posted speed limit of 50 km/h.

Photograph 5.1 – Jetty Road standard

5.2 Jetty Road and East Derwent Highway junctions

The highway is part of the State Road network, with all traffic generated by the development site must travel through one of the two junctions with Jetty Road, or the Fouche Avenue roundabout.

Jetty Road forms a north and south T-junction, both intersecting the highway at approximately 90 degrees, with give way signs reinforcing traffic priority for the highway. The highway is posted with 80km/h speed limit signs. To maximise traffic flow along the highway, turning treatments have been provided at both junctions.

Sight distance was measured on-site based on a driver being five metres back from the middle of the inside traffic lane, 1.05 metres above the road surface, with an approaching vehicle being 1.2 metres high. At the northern junction, available sight distance to the right was found to exceed 200 metres, and 180 metres to the left. The sight distance to the left limited by a slight vertical crest. At the southern junction, the available sight distance exceeds 200 metres in both directions.

Austroads Guide to Road Design (AGRD) provides guidance of Safe Intersection Sight Distance (SISD), based on the speed environment. For an 80 km/h speed limit the recommended SISD is 170 metres, this is based on a driver reaction time of 1.5 seconds, and three seconds observation time. This reaction time is considered appropriate for the environment, where drivers are expected to be operating in an alert driving state.

With the available sight distance exceeding 170 metres in both directions at each junction, there is sufficient sight distance for vehicles to turn at the junction in a safe and efficient manner, without causing adverse impact to other users.

Photograph 5.2A – Available sight distance to the left at the northern junction

Photograph 5.2B – Available sight distance to the right at the northern junction

Photograph 5.2C – Available sight distance to the left at the southern junction

Photograph 5.2D – Available sight distance to the right at the southern junction

5.3 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 following locations:

- Morrisby Road and Jetty Road junction,
- Jetty Road and Fouche Avenue junction
- Jetty Road and highway northern junction
- Jetty Road and highway southern junction and
- Fouche Avenue roundabout with the highway

From the survey data the peak hour for both the morning and evening periods has been extracted, with diagrams available in Appendix D.

5.4 Summary of traffic flows on surrounding roads

The traffic surveys found Fouche Avenue and Jetty Road are lightly trafficked, with less than 150 two-way traffic flows during the peak hour periods. While the two-way traffic flows along the Highway are significantly higher, with 1,265 two-way vehicles in the morning peak and 1,390 two-way vehicles in the evening peak.

5.5 Traffic safety near the development site

The Department of State Growth maintains a database of reported road crashes, a check of this database for the last five years, found two crashes reported on Jetty Road, both remote from the development site. Vehicle emerging from a driveway, resulting in property damage, and the other crash resulted in single vehicle not negotiating the curve south of the highway on approach to the southern highway junction. This crash resulted in a minor injury.

At the northern highway junction, four crashes, with three angle collisions, one requiring first aid at the scene, while the others resulted in property damage.

At the southern highway junction, three crashes, one unknown and the other two angle collisions resulting in property damage.

This number of crashes is not an over-representation of crashes for a busy highway, with no serious or fatal injuries, the highway junctions are providing an appropriate level of safety. This crash rate is not expected to change with this development operating.

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 324 additional daily trips, with 33 of these movements likely to occur during the morning and evening peak periods.

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 6.3) and junctions (diagram 6.2), 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 within the weekday peak hour periods are acceptable.

6.1 Trip assignment

It is common with residential properties, that 90 percent of the generated trips leave the site during the morning peak, with the opposite occurring in the evening peak.

In assigning the new trips to the surrounding road network, the trip distributions at the surrounding road junctions and roundabout have been used. The manual surveys indicate that during the morning peak period the majority of motorists use the northern junction when travelling north, and the Fouche Avenue roundabout when travelling south. During the evening peak, motorists returned to Jetty Road using both the northern, and southern junction.

The new trips generated by the development have been assigned to the surrounding road network based on the manual survey data, as shown in table 6.1.

Table 6.1 – Trip distribution

Peak period	Direction	Number of trips	East Derwent Highway		Fouche Avenue
			North junction	South junction	
Morning peak hour	Leaving	30	38% (11 trips)	10% (3 trips)	52% (16 trips)
	Arriving	3	36% (1 trip)	32% (1 trip)	32% (1 trip)
Evening peak hour	Arriving	30	43% (13 trips)	47% (14 trips)	10% (3 trips)
	Leaving	3	36% (1 trip)	42% (1 trip)	22% (1 trip)

6.2 Traffic impact at the surrounding road network 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.

Diagram 6.2 – RTA Level of service for intersections, junctions 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

Five traffic models have been developed within the SIDRA software to replicate the junctions of Jetty and Morrisby Roads, Jetty Road with Fouche Avenue, Jetty Road, and East Derwent Highway (north and south), and Fouche Avenue with East Derwent Highway roundabout. Recent peak hour traffic flows and the assignment of new trips generated by the development have been used.

Traffic modelling predicts additional traffic generated from the development will not have any adverse traffic impact to the local junctions. These local junctions are lightly trafficked, will continue to perform 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 north and south highway junctions and the Fouche roundabout. Traffic modelling has indicated the development will intensify the traffic flow, but will not deteriorate the traffic efficiency motorists are currently receiving.

Table 6.2 below summarises the traffic modelling at each of the local road junctions and State Road junctions and roundabout, demonstrating that the additional traffic generated by the development site will not deteriorate traffic efficiency.

Table 6.2 – Traffic modelling comparison at the five surrounding junctions and roundabout

Junction	Scenario	Period	Total vehicles	DOS	Worst delay	LOS	Max queue
Jetty Rd with Morrisby Rd	Existing	Morning peak	162	0.077	5.6 secs	A	1.9 metres
	With development		174	0.077	5.6 secs	A	1.9 metres
	Existing	Evening peak	159	0.046	5.8 secs	A	1.4 metres
	With development		173	0.046	5.8 secs	A	1.4 metres
Jetty Rd with Fouche Ave	Existing	Morning peak	99	0.036	5.7 secs	A	1.2 metres
	With development		118	0.046	5.8 secs	A	1.5 metres
	Existing	Evening peak	122	0.027	5.7 secs	A	0.5 metres
	With development		140	0.034	5.8 secs	A	0.5 metres
Jetty Rd with the highway north	Existing	Morning peak	1,286	0.466	34.3 secs	C	3.2 metres
	With development		1,298	0.466	34.8 secs	C	3.7 metres
	Existing	Evening peak	1,448	0.419	42.2 secs	C	4.0 metres
	With development		1,462	0.419	43.1 secs	D	4.1 metres
Jetty Rd with the highway south	Existing	Morning peak	1,259	0.471	33.7 secs	C	2.4 metres
	With development		1,263	0.471	33.9 secs	C	2.9 metres
	Existing	Evening peak	1,406	0.437	41.8 secs	C	4.0 metres
	With development		1,419	0.437	42.6 secs	D	4.3 metres
Fouche Ave with the highway roundabout	Existing	Morning peak	1,403	0.633	16.8 secs	B	41.8 metres
	With development		1,419	0.643	17.1 secs	B	42.7 metres
	Existing	Evening peak	1,345	0.545	13.2 secs	A	33.4 metres
	With development		1,348	0.547	13.2 secs	A	33.6 metres

6.3 Residential amenity impact

A new development in urban 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, which can be used to evaluate the likely impact on residential amenity. Extract 6.3 is from the RTA Guide and relates to urban environments, providing maximum peak hour goals.

To quantify the impact on Jetty Road and Fouche Avenue, data obtained from the manual surveys has been used and compared with the predicted two way traffic flow in Table 6.3. The new two-way traffic flows will be less than 200 vehicles per hour and is within the acceptable environment goal for a local residential street. This demonstrates that the development will not cause any adverse traffic impact to the amenity of existing residential properties along Jetty Road and Fouche Avenue.

Table 6.3 – Expected vehicle movements generated by this development

Road	Existing two-way traffic flow		Predicted two-way traffic flow	
	Morning peak period	Evening peak period	Morning peak period	Evening peak period
Jetty Road	102	140	135	173
Fouche Avenue	65	47	82	54

Extract 6.3 – 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 Existing vehicular access

The existing 5.5 metre wide vehicular access for the property at 38 Jetty Road, will be retained and widened to 6.4 metres to provide sufficient width to accommodate two-way traffic movements.

Photograph 7.1 – Existing vehicular access for 38 Jetty Road

7.2 Sight distance at the existing access with Jetty Road

SISD is based on the operating speed of approaching vehicles to the access and the gradient of the approach, with the approach speed normally taken as the posted speed limit. AGRD specifies that SISD for a 50 km/h speed environment is 90 metres, based on the driver having a reaction time of 1.5 seconds and observation time of three seconds.

On-site measurements of the available sight distance were taken based on the driver leaving the access being 1.05 metres above the access surface, and an approaching vehicle being 1.2 metres high. The available sight distance in both directions exceeds 100 metres.

With the available sight distance exceeding the SISD, vehicles will be able to enter and leave the development site in a safe and efficient manner, without impacting other road users.

Photograph 7.2A – Available sight distance to the right

Photograph 7.2B – Available sight distance to the left

7.3 Pedestrian sight distance

It is important that drivers leaving the development site have adequate sight lines to pedestrians using the footpath.

The existing footpath is located back of the kerb along Jetty Road, located five metres from the property line, and this provides separation between pedestrians using the footpath, and vehicles leaving the development site. The layout of the driveway access will ensure there is sufficient sight lines between drivers and pedestrians, complying with section 3.2.4 and figure 3.3 of the Australian Standard 2890.1:2004 (the Standard).

7.4 Number of parking spaces

All units will be provided with two dedicated parking spaces located within close proximity to each unit, plus 19 on-site visitor parking spaces. In total the development site will provide 129 on-site parking spaces to meet the reasonable demand, eliminating overflow parking.

7.5 Dimensions of parking spaces

The parking spaces within the development site have been designed to comply with both the dimensions specified in the planning scheme table C2.3 and the Standard, as user class 1A, suitable for residential or domestic use.

The single and double enclosed garages have been designed to comply with section 5.4 and figure 5.4 of the Standard. The Standard allows for the garage door to be made wider, which allows for the manoeuvring area behind the garage to be reduced, as the vehicle can commence to turn within the garage. Each enclosed garage door will be designed with the appropriate width, based on the manoeuvring area behind each garage.

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.

Uncovered parking spaces associated with each unit, will be designed as User Class 1A under the Standard, suitable for residential and domestic users. The parking spaces will be ninety degrees to the parking aisle, 2.4 metres wide, 5.4 metres long, and supported with a minimum parking aisle width of 5.8 metres.

Due to constraints along the main driveway, visitor parking spaces will be provided with additional width. These parking spaces will be 2.8 metres wide, 5.4 metres long, with a minimum 5.8 metre manoeuvring area, complying with the dimensions in the planning scheme table C2.3.

Two visitor parallel parking spaces are provided opposite unit 7, which will be a minimum of 2.1 metres wide and 6.3 metres long. As both spaces will operate as obstructed end spaces, an additional 0.3 metres of length will be provided to aid vehicle manoeuvrability. Where possible the parking spaces will be delineated with pavement markings and supported with wheel stops where practical.

7.6 Gradient of parking spaces

All parking spaces will have grades that comply with Section 2.4.6 of the Standard and shall not exceed five percent.

7.7 Tandem parking

To maximise the number of car parking spaces, a tandem parking space will be used for unit 11.

A tandem parking space is where the second parking space is situated between the garage and the internal road. This is an efficient way to increase the parking supply and is suitable when the parking space is allocated to the same unit, and there is sufficient manoeuvring area to accommodate vehicle shuffling, without adversely impacting other users, or traffic efficiency of the internal driveway.

The proposed tandem parking space is considered appropriate, as the spaces are allocated to the same unit, and located where the internal driveway is 5.5 metres wide, to ensure shuffling can be accommodated efficiently.

7.8 Car parking manoeuvrability

The design provides sufficient manoeuvring area behind all car parking spaces to allow for vehicles to enter and leave in an efficient manner, complying with either the Standard for user class 1A, suitable for residential and domestic users, or the planning scheme table C2.3.

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, including the visitor parking spaces, with the swept paths available in Appendix C.

7.9 Other parking requirements

As the development is providing 129 on-site car parking spaces, six dedicated motorcycle parking spaces will be provided, complying with planning scheme table C2.4

Bicycle and accessible parking spaces are not a requirement for residential units.

7.10 Internal driveway layout

The design incorporates an internal driveway extending from Jetty Road and circulating around the development site, creating a ring road, and allowing vehicles to circulate in a forward driving direction.

Off the internal driveway, four short spur driveways will be used to service units that do not have direct driveway access. The internal driveway will be a minimum of 5.5 metres wide, accommodating two-way traffic flow, with curve widening where necessary. The driveway pavement will have a one-way cross fall directing surface water to the kerb, then to an approved stormwater drainage system.

Each of the four spur driveways will be a minimum of 5.5 metres wide, with a turnaround facility at the end to accommodate a B99 vehicle.

To service units 12 and 13, a small driveway will be provided, which will be a minimum of three metres wide, flaring at the end of the driveway to provide sufficient width to allow a vehicle to turn around and leave in a forward-driving direction.

7.11 Vehicle turnaround facilities

Although the area around the end of the spur driveways is constrained, there will be sufficient width for a B99 vehicle to turnaround.

As the spur driveway leading to unit 1 only serves two units, the need for vehicles to undertake a turnaround is expected to be low, with a B99 vehicle likely required to undertake a five point turn. Alternatively, there is sufficient width outside of unit 2 to accommodate a B99 vehicle to undertake a three-point turn to turnaround.

Diagram 7.11A – B99 vehicle turning around at unit 1

Diagram 7.11B – B99 vehicle turning around outside of unit 2

The spur driveway terminating at units 21 and 53 serves four units, and the need for vehicles to undertake a turnaround is expected to be low. While the turnaround area is limited, vehicle swept path diagrams indicate a B99 vehicle can undertake a three-point turn, and a five-point turn if necessary.

Diagram 7.11C – B99 vehicle turning around at unit 21 and 53

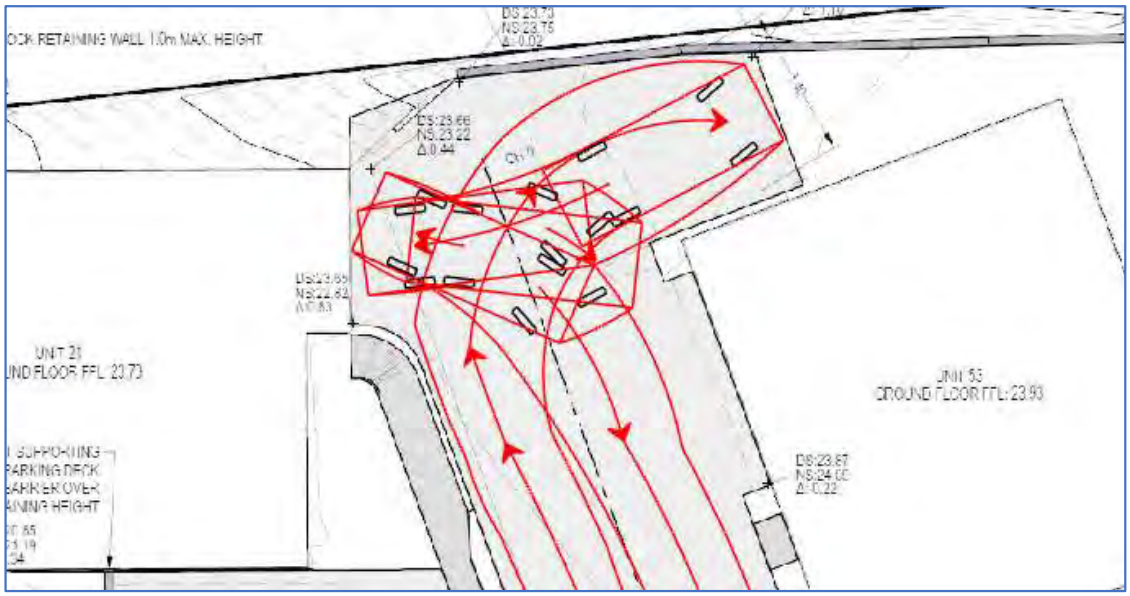


Diagram 7.11D – B99 vehicle turning around at unit 9

Diagram 7.11E – B99 vehicle turning around at unit 47

7.12 Internal gradients

The longitudinal section of the proposed internal driveway has been assessed against section 2.5.3 of the Standard, the maximum gradient along any of the driveways is 17.9 percent, which is acceptable for a residential property. Due to the natural topography of the land, the driveways will create sag or crest (summit) curves, throughout the property. To ensure vehicles have adequate ground clearance, the change in grade on the driveway will not exceed 12.5 percent for a summit, or 15 percent for sag curve.

A summary of the larger changes in grade is shown within the table below, indicating that all changes in grade are compliant to the Standard. Short curves will be provided at the location where the change in grade creates a sag curve or summit curve, and these curves are to assist with the vehicle's occupant comfort.

Table 7.12 – Summary of change in grades along the driveways

Road	Chainage	Gradient in	Gradient out	Change in gradient	Compliant
CL2	11.780	-1.091%	5.282%	6.373%	Yes
CL2	59.002	2.177%	7.357%	5.180%	Yes
CL3	2.450	-3.000%	7.053%	10.053%	Yes
CL3	4.558	7.053%	15.000%	7.947%	Yes
CL3	13.972	15.000%	7.000%	8.000%	Yes
CL3	95.000	14.500%	1.925%	12.575%	Yes
CL4	26.598	-1.320%	6.255%	7.575%	Yes
CL4	144.091	6.458%	17.989%	11.531%	Yes
CL4	152.460	13.961%	1.376%	12.585%	Yes
CL6	2.493	-1.794%	6.697%	8.491%	Yes
CL6	35.000	6.697%	1.000%	5.697%	Yes

7.13 Pedestrian access

Internal pathways will be provided throughout the site, will be a minimum one metre wide hard-wearing concrete surface, connect the units to the visitor parking spaces and the public footpath. Where possible the pathways will be separated from the driveways by kerbing where possible, and where the pathway crosses the internal road, it will be delineated with road markings, defining the pathway and pedestrian crossing areas. It is desirable for the pedestrian pathway to be located behind the visitor parking spaces, however due to the parking spaces located on an easement, this is not possible.

To enhance pedestrian safety, a 10 km/h shared zone speed limit sign will be posted at the beginning of the development. Under the Australian Road Rules 2019, a shared zone speed limit sign, is covered by road rule 24, which specifies where a shared zone sign is used, drivers must give way to any pedestrian within the zone. The proposed safety measures are expected to ensure pedestrians can move around the development site in a safe and convenient manner, meeting the objective of the planning scheme.

7.14 Waste collection

The design allows for a standard waste collection vehicle (8.8 metres long) to enter the site, drive around the ring driveway, collect the waste, and leave in a forward-driving direction. The vehicle will be required to reverse a short distance on the spur driveway that serves units 6 to 13, to a common waste collection point. Reversing is not expected to cause adverse impact, as the drivers are professional, the vehicles are fitted with a reversing camera.

The diagram below demonstrates the swept path of a medium rigid vehicle using the internal driveway, entering, circulating, and leaving in a forward-driving direction.

Diagram 7.14 – Swept path of medium rigid vehicle

7.15 Access for emergency vehicles

It is important that all units are accessible to fire emergency vehicles, and according to Tasmania Fire Service, their heavy pump vehicle has similar vehicle dimensions to a medium rigid vehicle, 8.8 metres in length.

The fire service vehicle is expected to enter and drive around the development site to reach all the units, and it is noted that the vehicle will need to reverse out of each spur driveway, which is acceptable given the likelihood of this movement being very low. With the fire service vehicle having similar dimensions to a medium rigid vehicle and the waste collection vehicle, it will be able to enter the site and leave in a forward-driving direction, as demonstrated in diagram 7.14 above.

8. Impact to highway traffic flow and future growth

In December 2022 Hubble Traffic undertook an assessment to consider the traffic impact of rezoning land off Old Beach Road, in particular the traffic performance of the highway, between Old Beach and the Bowen Bridge and major side road junctions.

As a direct consequence of this traffic analysis the road owner (Department of State Growth) engage traffic consultants to undertake a road corridor study to develop a future infrastructure plan to ensure the highway continue to provide suitable level of traffic performance. The study recognise rezoning of land within the Old Beach area is expected to occur within the near future, to meet the housing shortage and this will intensify highway traffic flows.

In the context of the road corridor study, this proposed unit development is a low traffic generator, with the additional peak hour traffic movements representing normal yearly traffic growth, which was considered under the traffic analysis. In summary, this development is not expected to cause any adverse impact to future growth in the Old Beach area.

9. Planning scheme

9.1 C2.0 Parking and Sustainable Transport Code

C2.5.1 Car parking numbers

The development site is providing a total of 129 on-site car parking spaces, meeting the planning scheme minimum requirement, minimising the risk of overflow parking. The number of on-site car parking spaces complies with the acceptable solution of the planning scheme.

C2.5.2 Bicycle parking numbers

Table C2.1 of the planning scheme prescribes that a residential use does not require bicycle parking spaces.

C2.5.3 Motorcycle parking numbers

Table C2.4 of the planning scheme prescribes that this use requires six motorcycle parking spaces, which will be provided by the development, complying with the acceptable solution.

C2.5.4 Loading bays

Not applicable for a residential development.

C2.6. Development standards

C2.6.1 Construction of parking areas.	The parking areas and internal driveways will be a concrete surface, with the driveways operating with a one-way camber to direct surface water to kerbing, which will be directed to an approved stormwater drainage system. The 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 Australian Standard 2890.1:2004 for a residential property and parking space dimensions in the planning scheme, to ensure vehicles can easily manoeuvre within the development and enter and leave in a forward-driving direction. There is sufficient manoeuvring width adjacent to the parking spaces, to enable all vehicles to enter and leave efficiently. All parking spaces will be located on gradient less than five percent. The internal driveways will be wide enough to accommodate two-way traffic flow, except for the small spur driveway servicing units 12 and 13 that services four parking spaces, which will be a minimum of

	three metres wide, complying with the width specified in the planning scheme table C2.2 for the number of parking spaces served. The enclosed garages will comply with section 5.4 of the Australian Standard 2890.1:2004. The open parking spaces will be supported with wheel stops and delineated with road marking where appropriate. Overall, the design complies with the acceptable solution A1.1(a) and (b).
C2.6.3 Number of accesses for vehicles.	The development site will operate with the existing access onto Jetty Road, and this complies with the acceptable solution A1 (a) and (b).
C2.6.4 Lighting of parking areas within the general business zone and central business zone	Sufficient lighting will be provided to light the parking spaces, internal driveways, and pedestrian pathways.
C2.6.5 Pedestrian access.	Assessed against the performance criteria below.
C2.6.6 Loading bays.	Not required for a residential development.
C2.6.7 Bicycle parking and storage facilities	Bicycle parking spaces are not required for a residential development.
C2.6.8 Siting of parking and turning areas.	Not applicable for a residential development.

C2.6.5 Pedestrian access

Under the acceptable solution, the planning scheme specifies footpaths should be separated from access ways or parking aisle, by either horizontal distance of 2.5 metres, or protective devices such as bollards, guard rails or planters. As these requirements are difficult to achieve within residential unit developments, this project will use barrier kerb to provide the separation, which is commonly used in urban streets to provide appropriate footpath separation.

As it is impractical to achieve the acceptable solution, this development will need to be assessed under the performance criteria P1.

Performance criteria	**Assessment**
Safe and convenient pedestrian access must be provided within parking areas, having regard to:	
a) the characteristics of the site;	An internal lot located within an established residential area, with vehicular access provided by a narrow right of way to Jetty Road.
b) The nature of the use;	Residential unit development, where pedestrians are likely to be occupants of the units or visitors, with no through pedestrian movement.
c) The number of parking spaces;	In total the development is providing 129 on-site car parking spaces and six motorcycle parking spaces.
d) The frequency of vehicle movements;	The development is predicted to generate a total of 338 daily vehicle movements, with 35 of these movements likely to occur during the peak periods, representing on average less than one vehicle movement per minute, per hour.

e) The needs of a person with a disability;	Where possible the gradients of the internal pedestrian pathways will be designed to meet the DDA code, however due to the natural topography of the land, this is not always achievable. It is assumed that a person with a disability will use their designated unit parking spaces.
f) The location and number of footpath crossings;	Within the development, five marked pedestrian crossings will be provided where pedestrians are required to cross the driveway. This number of crossings is necessary to ensure all units are connected with the footpath along Jetty Road.
g) Vehicle and pedestrian traffic safety;	The footpaths will be separated from the driveway by barrier kerb where practical, giving drivers a sense of restriction, and providing visible delineation and separation from the roadway. The operating speeds of vehicles will be moderated by implementing a 10 km/h shared zone speed limit, which provides priority to pedestrians, minimising the crash and severity risk. Where the pathway crosses the driveway, painted markings will be used to delineate pedestrian priority. Overall, pedestrians will be provided with safe and convenient access, applicable for a lightly trafficked residential unit development.
h) The location of any access ways or parking aisles; and	The internal layout includes a circulating driveway, with a number of short spur driveways, to provide efficient vehicular access to all units.
i) Any protective devices proposed for pedestrian safety.	Barrier kerbing where practicable, will be used to define and separate the footpaths from the driveways and parking aisles, and be of a similar treatment commonly used in urban residential streets. A 10 km/h shared speed limit will be used to moderate the operating speed of vehicles, and where the footpath crosses the driveway, marked crossings will be used to provide priority to pedestrians.

9.2 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
To ensure that the safety and efficiency of roads is not reduced by the creation of a new access and junctions.	
j) Any increase in the traffic caused by the use;	The 53 residential units are estimated to generate 324 daily vehicular trips, with 33 of these trips likely to occur during the morning and evening peak periods. The two existing residential units are already generating on average 15 daily vehicle trips, with two of these occurring during the morning and evening peak periods.
k) The nature and frequency of the traffic generated by the use;	The residential units are expected to generate light vehicles less than 5.5 metres in length. These types of vehicles are associated with urban residential living, have good manoeuvrability, and are compatible with the existing vehicles using the surrounding road network.
l) The nature of the road;	Jetty Road is a local residential road, built to an urban standard, has sufficient width to accommodate two-way traffic movements, and can support on-street parking. The surrounding road network is of suitable standard to accommodate the minor increase in traffic flow. There is sufficient sight distance at the existing vehicular access to enable vehicles to enter and leave the development site in a safe and efficient manner.
m) The speed limit and traffic flow of the road;	Jetty Road has a posted speed limit of 50 km/h. Recent manual traffic surveys found the road is lightly trafficked, with 102 two-way traffic flow in the morning peak and 140 in the evening peak. Traffic analysis of the surrounding road network, including traffic modelling conducted at the surrounding junctions and roundabout, indicates there is sufficient spare traffic capacity to absorb the increase in traffic, without causing adverse traffic impact, or reduction in traffic flow, or residential amenity.
n) Any alternative access;	None.
o) The need for the access or junction;	Urban infill in established towns is an excellent method to increase the supply of housing, while optimising the current infrastructure and community facilities.
p) Any traffic impact assessment; and	An independent traffic assessment found no reason for this development not to proceed.
q) Any written advice received from the road authority.	Aware of none.

10. Conclusion

From a traffic engineering and road safety perspective, additional 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 low and there is sufficient capacity within the surrounding road network to absorb these movements without impacting other users,
- traffic modelling of the surrounding junctions and roundabout predicts that there will be no deterioration in the level of traffic efficiency,
- the existing vehicular access with Jetty Road has sufficient sight distance, enabling vehicles to enter and leave the development site in a safe and efficient manner,
- there will be a sufficient number of on-site car parking spaces to meet the reasonable demand, eliminating parking overflow,
- the driveway will provide for two-way traffic flow, with dedicated turning bays provided at each spur driveway, ensuring all vehicles can enter and leave in a forward-driving direction,
- appropriate internal pathways will provide pedestrians with a high level of service, and
- the driveway has been designed to accommodate the swept path of medium rigid vehicle, which is suitable for waste collection and emergency service vehicles.

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

11. Appendix A – Manual traffic surveys

East Derwent Highway and Jetty Road northern junction

Morning traffic survey data

Time AM	East Derwent Highway				Jetty Road	
	Straight towards Hobart	Straight towards Bridgewater	Right into Jetty Road	Left into Jetty Road	Left onto the Highway	Right onto the Highway
7:30 – 7:45	256	76	7	1	5	2
7:45 – 8:00	271	92	13	2	11	5
8:00 – 8:15	228	76	8	1	8	4
8:15 – 8:30	147	56	3	3	8	3
8:30 – 8:45	190	71	3	2	10	2
8:45 – 9:00	179	105	7	2	5	3
Total	**1,271**	**476**	**41**	**11**	**47**	**19**

Evening traffic survey data

Time PM	East Derwent Highway				Jetty Road	
	Straight towards Hobart	Straight towards Bridgewater	Right into Jetty Road	Left into Jetty Road	Left onto the Highway	Right onto the Highway
4:00 – 4:15	133	183	13	8	12	4
4:15 – 4:30	112	224	9	11	6	3
4:30 – 4:45	144	217	11	20	8	3
4:45 – 5:00	102	193	10	9	13	0
5:00 – 5:15	107	189	12	8	4	3
5:15 – 5:30	101	217	21	18	9	1
Total	**699**	**1,223**	**76**	**74**	**52**	**14**

East Derwent Highway and Jetty Road southern junction

Morning traffic survey data

Time AM	East Derwent Highway				Jetty Road	
	Straight towards Hobart	Straight towards Bridgewater	Right into Jetty Road	Left into Jetty Road	Left onto the Highway	Right onto the Highway
7:30 – 7:45	271	79	2	1	3	0
7:45 – 8:00	275	89	2	5	2	4
8:00 – 8:15	240	78	1	6	3	4
8:15 – 8:30	131	53	1	2	0	5
8:30 – 8:45	165	68	1	2	1	8
8:45 – 9:00	167	101	3	4	3	3
Total	**1,249**	**468**	**12**	**20**	**12**	**24**

Evening traffic survey data

Time PM	East Derwent Highway				Jetty Road	
	Straight towards Hobart	Straight towards Bridgewater	Right into Jetty Road	Left into Jetty Road	Left onto the Highway	Right onto the Highway
4:00 – 4:15	159	218	3	15	2	3
4:15 – 4:30	101	211	3	10	2	5
4:30 – 4:45	119	213	3	8	3	6
4:45 – 5:00	91	211	6	9	2	3
5:00 – 5:15	97	201	3	11	4	5
5:15 – 5:30	81	219	1	9	1	6
Total	**648**	**1,273**	**19**	**62**	**14**	**28**

Jetty Road and Morrisby Road junction

Morning traffic survey data

Time AM	Jetty Road				Morrisby Road	
	Straight northbound	Straight southbound	Right into Morrisby Road	Left into Morrisby Road	Left onto Jetty Road	Right onto Jetty Road
7:30 – 7:45	3	5	5	0	8	16
7:45 – 8:00	3	10	1	0	12	10
8:00 – 8:15	4	6	5	1	10	23
8:15 – 8:30	3	5	3	1	8	12
Total	**13**	**26**	**14**	**2**	**38**	**61**

Evening traffic survey data

Time PM	Jetty Road				Morrisby Road	
	Straight northbound	Straight southbound	Right into Morrisby Road	Left into Morrisby Road	Left onto Jetty Road	Right onto Jetty Road
4:00 – 4:15	7	10	14	7	8	2
4:15 – 4:30	5	6	9	3	4	2
4:30 – 4:45	5	10	14	5	7	2
4:45 – 5:00	4	7	9	4	5	2
Total	**21**	**33**	**46**	**19**	**24**	**8**

Jetty Road and Fouche Avenue junction

Morning traffic survey data

Time AM	Jetty Road				Fouche Avenue	
	Straight eastbound	Straight westbound	Right into Fouche Avenue	Left into Fouche Avenue	Left onto Jetty Road	Right onto Jetty Road
8:00 – 8:15	4	2	9	1	2	1
8:15 – 8:30	5	3	19	2	5	0
8:30 – 8:45	6	1	8	2	2	2
8:45 – 9:00	3	5	8	1	1	2
Total	**18**	**11**	**44**	**6**	**10**	**5**

Evening traffic survey data

Time PM	Jetty Road				Fouche Avenue	
	Straight eastbound	Straight westbound	Right into Fouche Avenue	Left into Fouche Avenue	Left onto Jetty Road	Right onto Jetty Road
4:30 – 4:45	6	8	3	2	4	1
4:45 – 5:00	6	14	4	2	4	0
5:00 – 5:15	8	9	5	4	4	3
5:15 – 5:30	8	10	2	0	8	1
Total	**28**	**41**	**14**	**8**	**20**	**5**

12. Appendix B – Traffic modelling

Jetty Road and Fouche Avenue junction – Morning peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [Jetty Road and Fouche Ave - Existing morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	11	0.0	0.011	5.6	LOS A	0.0	0.3
3	R2	5	0.0	0.011	5.7	LOS A	0.0	0.3
Approach		16	0.0	0.011	5.6	LOS A	0.0	0.3
East: Jetty Road (towards highway)								
4	L2	6	0.0	0.009	5.5	LOS A	0.0	0.0
5	T1	12	0.0	0.009	0.0	LOS A	0.0	0.0
Approach		18	0.0	0.009	2.0	NA	0.0	0.0
West: Jetty Road								
11	T1	19	0.0	0.036	0.0	LOS A	0.2	1.2
12	R2	46	0.0	0.036	5.5	LOS A	0.2	1.2
Approach		65	0.0	0.036	3.9	NA	0.2	1.2
All Vehicles		99	0.0	0.036	3.8	NA	0.2	1.2

Jetty Road and Fouche Avenue junction – Evening peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [Jetty Road and Fouche Ave - Existing evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	21	0.0	0.018	5.7	LOS A	0.1	0.5
3	R2	5	0.0	0.018	5.7	LOS A	0.1	0.5
Approach		26	0.0	0.018	5.7	LOS A	0.1	0.5
East: Jetty Road (towards highway)								
4	L2	8	0.0	0.027	5.5	LOS A	0.0	0.0
5	T1	43	0.0	0.027	0.0	LOS A	0.0	0.0
Approach		52	0.0	0.027	0.9	NA	0.0	0.0
West: Jetty Road								
11	T1	29	0.0	0.024	0.1	LOS A	0.1	0.5
12	R2	15	0.0	0.024	5.6	LOS A	0.1	0.5
Approach		44	0.0	0.024	1.9	NA	0.1	0.5
All Vehicles		122	0.0	0.027	2.3	NA	0.1	0.5

Jetty Road and Fouche Avenue junction – Morning peak with development traffic

MOVEMENT SUMMARY

Site: 101 [Jetty Road and Fouche Ave - Existing morning peak - with development]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	11	0.0	0.011	5.6	LOS A	0.0	0.3
3	R2	5	0.0	0.011	5.8	LOS A	0.0	0.3
Approach		16	0.0	0.011	5.6	LOS A	0.0	0.3
East: Jetty Road (towards highway)								
4	L2	6	0.0	0.010	5.5	LOS A	0.0	0.0
5	T1	14	0.0	0.010	0.0	LOS A	0.0	0.0
Approach		20	0.0	0.010	1.8	NA	0.0	0.0
West: Jetty Road								
11	T1	19	0.0	0.046	0.1	LOS A	0.2	1.5
12	R2	63	0.0	0.046	5.5	LOS A	0.2	1.5
Approach		82	0.0	0.046	4.2	NA	0.2	1.5
All Vehicles		118	0.0	0.046	4.0	NA	0.2	1.5

Jetty Road and Fouche Avenue junction – Evening peak with development traffic

MOVEMENT SUMMARY

Site: 101 [Jetty Road and Fouche Ave - Existing evening peak - with development]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	24	0.0	0.020	5.7	LOS A	0.1	0.5
3	R2	5	0.0	0.020	5.8	LOS A	0.1	0.5
Approach		29	0.0	0.020	5.7	LOS A	0.1	0.5
East: Jetty Road (towards highway)								
4	L2	8	0.0	0.034	5.5	LOS A	0.0	0.0
5	T1	58	0.0	0.034	0.0	LOS A	0.0	0.0
Approach		66	0.0	0.034	0.7	NA	0.0	0.0
West: Jetty Road								
11	T1	29	0.0	0.024	0.1	LOS A	0.1	0.5
12	R2	15	0.0	0.024	5.6	LOS A	0.1	0.5
Approach		44	0.0	0.024	1.9	NA	0.1	0.5
All Vehicles		140	0.0	0.034	2.1	NA	0.1	0.5

Jetty Road and Morrisby Road junction – Morning peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [Morrisby and Jetty Rad - Existing morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
East: Jetty Road (towards highway)								
5	T1	27	0.0	0.023	0.0	LOS A	0.1	0.5
6	R2	15	0.0	0.023	5.5	LOS A	0.1	0.5
Approach		42	0.0	0.023	1.9	NA	0.1	0.5
North: Morrisby Road								
7	L2	40	0.0	0.077	5.6	LOS A	0.3	1.9
9	R2	64	0.0	0.077	5.6	LOS A	0.3	1.9
Approach		104	0.0	0.077	5.6	LOS A	0.3	1.9
West: Jetty Rd								
10	L2	2	0.0	0.008	5.5	LOS A	0.0	0.0
11	T1	14	0.0	0.008	0.0	LOS A	0.0	0.0
Approach		16	0.0	0.008	0.7	NA	0.0	0.0
All Vehicles		162	0.0	0.077	4.2	NA	0.3	1.9

Jetty Road and Morrisby Road junction – Evening peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [Morrisby and Jetty Rad - Existing evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
East: Jetty Road (towards highway)								
5	T1	35	0.0	0.046	0.1	LOS A	0.2	1.4
6	R2	48	0.0	0.046	5.6	LOS A	0.2	1.4
Approach		83	0.0	0.046	3.3	NA	0.2	1.4
North: Morrisby Road								
7	L2	25	0.0	0.023	5.6	LOS A	0.1	0.6
9	R2	8	0.0	0.023	5.8	LOS A	0.1	0.6
Approach		34	0.0	0.023	5.7	LOS A	0.1	0.6
West: Jetty Rd								
10	L2	20	0.0	0.022	5.5	LOS A	0.0	0.0
11	T1	22	0.0	0.022	0.0	LOS A	0.0	0.0
Approach		42	0.0	0.022	2.6	NA	0.0	0.0
All Vehicles		159	0.0	0.046	3.6	NA	0.2	1.4

Jetty Road and East Derwent Highway southern junction – Morning peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road south - existing morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	14	0.0	0.008	5.5	LOS A	0.0	0.0
2	T1	299	0.0	0.153	0.0	LOS A	0.0	0.0
Approach		313	0.0	0.153	0.3	NA	0.0	0.0
North: East Derwent Highway								
8	T1	917	0.0	0.471	0.1	LOS A	0.0	0.0
9	R2	8	0.0	0.008	6.7	LOS A	0.0	0.2
Approach		925	0.0	0.471	0.1	NA	0.0	0.2
West: Jetty Road								
10	L2	8	0.0	0.111	6.8	LOS A	0.3	2.4
12	R2	13	0.0	0.111	33.7	LOS C	0.3	2.4
Approach		21	0.0	0.111	23.4	LOS B	0.3	2.4
All Vehicles		1259	0.0	0.471	0.6	NA	0.3	2.4

Jetty Road and East Derwent Highway southern junction – Evening peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road south - existing evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	42	0.0	0.023	5.5	LOS A	0.0	0.0
2	T1	853	0.0	0.437	0.1	LOS A	0.0	0.0
Approach		895	0.0	0.437	0.3	NA	0.0	0.0
North: East Derwent Highway								
8	T1	470	0.0	0.243	0.0	LOS A	0.0	0.0
9	R2	15	0.0	0.034	12.2	LOS A	0.1	0.8
Approach		485	0.0	0.243	0.4	NA	0.1	0.8
West: Jetty Road								
10	L2	9	0.0	0.187	13.1	LOS A	0.6	4.0
12	R2	17	0.0	0.187	41.8	LOS C	0.6	4.0
Approach		26	0.0	0.187	31.9	LOS C	0.6	4.0
All Vehicles		1406	0.0	0.437	0.9	NA	0.6	4.0

Jetty Road and East Derwent Highway southern junction – Morning peak with development traffic

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road south - existing morning - with developm

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	15	0.0	0.008	5.5	LOS A	0.0	0.0
2	T1	299	0.0	0.153	0.0	LOS A	0.0	0.0
Approach		314	0.0	0.153	0.3	NA	0.0	0.0
North: East Derwent Highway								
8	T1	917	0.0	0.471	0.1	LOS A	0.0	0.0
9	R2	8	0.0	0.008	6.7	LOS A	0.0	0.2
Approach		925	0.0	0.471	0.1	NA	0.0	0.2
West: Jetty Road								
10	L2	8	0.0	0.135	6.8	LOS A	0.4	2.9
12	R2	16	0.0	0.135	33.9	LOS C	0.4	2.9
Approach		24	0.0	0.135	24.8	LOS B	0.4	2.9
All Vehicles		1263	0.0	0.471	0.6	NA	0.4	2.9

Jetty Road and East Derwent Highway southern junction – Evening peak with development traffic

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road south - existing evening - with developm

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	54	0.0	0.029	5.5	LOS A	0.0	0.0
2	T1	853	0.0	0.437	0.1	LOS A	0.0	0.0
Approach		907	0.0	0.437	0.4	NA	0.0	0.0
North: East Derwent Highway								
8	T1	470	0.0	0.243	0.0	LOS A	0.0	0.0
9	R2	15	0.0	0.034	12.3	LOS A	0.1	0.8
Approach		485	0.0	0.243	0.4	NA	0.1	0.8
West: Jetty Road								
10	L2	9	0.0	0.199	13.5	LOS A	0.6	4.3
12	R2	18	0.0	0.199	42.6	LOS D	0.6	4.3
Approach		27	0.0	0.199	32.9	LOS C	0.6	4.3
All Vehicles		1419	0.0	0.437	1.0	NA	0.6	4.3

Jetty Road and East Derwent Highway northern junction – Morning peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road north existing morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	7	0.0	0.004	5.5	LOS A	0.0	0.0
2	T1	300	0.0	0.154	0.0	LOS A	0.0	0.0
Approach		307	0.0	0.154	0.1	NA	0.0	0.0
North: East Derwent Highway								
8	T1	902	0.0	0.466	0.1	LOS A	0.0	0.0
9	R2	31	0.0	0.029	6.7	LOS A	0.1	0.8
Approach		933	0.0	0.466	0.3	NA	0.1	0.8
West: Jetty Road								
10	L2	32	0.0	0.141	6.8	LOS A	0.5	3.2
12	R2	14	0.0	0.141	34.3	LOS C	0.5	3.2
Approach		46	0.0	0.141	15.2	LOS B	0.5	3.2
All Vehicles		1286	0.0	0.466	0.8	NA	0.5	3.2

Jetty Road and East Derwent Highway northern junction – Evening peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road north - existing evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	48	0.0	0.026	5.5	LOS A	0.0	0.0
2	T1	817	0.0	0.419	0.1	LOS A	0.0	0.0
Approach		865	0.0	0.419	0.4	NA	0.0	0.0
North: East Derwent Highway								
8	T1	491	0.0	0.254	0.0	LOS A	0.0	0.0
9	R2	43	0.0	0.091	11.9	LOS A	0.3	2.2
Approach		534	0.0	0.254	1.0	NA	0.3	2.2
West: Jetty Road								
10	L2	39	0.0	0.182	12.0	LOS A	0.6	4.0
12	R2	10	0.0	0.182	42.2	LOS C	0.6	4.0
Approach		49	0.0	0.182	18.1	LOS B	0.6	4.0
All Vehicles		1448	0.0	0.419	1.2	NA	0.6	4.0

Jetty Road and East Derwent Highway northern junction – Morning peak with development traffic

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road north existing morning peak - with develop

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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	Q
South: East Derwent Highway									
1	L2	7	0.0	0.004	5.5	LOS A	0.0	0.0	
2	T1	300	0.0	0.154	0.0	LOS A	0.0	0.0	
Approach		307	0.0	0.154	0.1	NA	0.0	0.0	
North: East Derwent Highway									
8	T1	902	0.0	0.466	0.1	LOS A	0.0	0.0	
9	R2	32	0.0	0.030	6.7	LOS A	0.1	0.8	
Approach		934	0.0	0.466	0.3	NA	0.1	0.8	
West: Jetty Road									
10	L2	41	0.0	0.166	6.8	LOS A	0.5	3.7	
12	R2	16	0.0	0.166	34.8	LOS C	0.5	3.7	
Approach		57	0.0	0.166	14.7	LOS B	0.5	3.7	
All Vehicles		1298	0.0	0.466	0.9	NA	0.5	3.7	

Jetty Road and East Derwent Highway northern junction – Evening peak with development traffic

MOVEMENT SUMMARY

Site: 101 [East Derwent Hwy - Jetty Road north - existing evening peak - with deve

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

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
South: East Derwent Highway								
1	L2	49	0.0	0.026	5.5	LOS A	0.0	0.0
2	T1	817	0.0	0.419	0.1	LOS A	0.0	0.0
Approach		866	0.0	0.419	0.4	NA	0.0	0.0
North: East Derwent Highway								
8	T1	491	0.0	0.253	0.0	LOS A	0.0	0.0
9	R2	56	0.0	0.118	12.0	LOS A	0.4	2.9
Approach		547	0.0	0.253	1.3	NA	0.4	2.9
West: Jetty Road								
10	L2	39	0.0	0.185	12.0	LOS A	0.6	4.1
12	R2	10	0.0	0.185	43.1	LOS D	0.6	4.1
Approach		49	0.0	0.185	18.3	LOS B	0.6	4.1
All Vehicles		1462	0.0	0.419	1.3	NA	0.6	4.1

Fouche Avenue and East Derwent Highway roundabout – Morning peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [East Derwent Fouche Roundabout - existing morning peak]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	10	0.0	0.164	4.7	LOS A	0.9	6.1
2	T1	2	0.0	0.164	4.9	LOS A	0.9	6.1
3	R2	187	0.0	0.164	10.1	LOS A	0.9	6.1
Approach		199	0.0	0.164	9.8	LOS A	0.9	6.1
East: East Derwent Highway								
4	L2	10	0.0	0.143	3.7	LOS A	1.0	6.7
5	T1	201	0.0	0.143	3.9	LOS A	1.0	6.7
6	R2	12	0.0	0.143	9.1	LOS A	1.0	6.7
Approach		223	0.0	0.143	4.2	LOS A	1.0	6.7
North: Clives Avenue								
7	L2	138	0.0	0.285	11.5	LOS A	2.1	14.7
8	T1	4	0.0	0.285	11.6	LOS A	2.1	14.7
9	R2	19	0.0	0.285	16.8	LOS B	2.1	14.7
Approach		161	0.0	0.285	12.1	LOS A	2.1	14.7
West: East Derwent Hwy								
10	L2	9	0.0	0.633	5.3	LOS A	6.0	41.8
11	T1	809	0.0	0.633	5.4	LOS A	6.0	41.8
12	R2	2	0.0	0.633	10.6	LOS A	6.0	41.8
Approach		820	0.0	0.633	5.4	LOS A	6.0	41.8
All Vehicles		1403	0.0	0.633	6.6	LOS A	6.0	41.8

Fouche Avenue and East Derwent Highway roundabout – Evening peak existing traffic flow

MOVEMENT SUMMARY

Site: 101 [East Derwent Fouche Roundabout - existing evening peak]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	15	0.0	0.067	7.8	LOS A	0.4	2.8
2	T1	6	0.0	0.067	8.0	LOS A	0.4	2.8
3	R2	32	0.0	0.067	13.2	LOS A	0.4	2.8
Approach		53	0.0	0.067	11.1	LOS A	0.4	2.8
East: East Derwent Highway								
4	L2	100	0.0	0.545	4.1	LOS A	4.8	33.4
5	T1	652	0.0	0.545	4.3	LOS A	4.8	33.4
6	R2	89	0.0	0.545	9.4	LOS A	4.8	33.4
Approach		841	0.0	0.545	4.8	LOS A	4.8	33.4
North: Clives Avenue								
7	L2	27	0.0	0.050	5.3	LOS A	0.3	1.8
8	T1	4	0.0	0.050	5.5	LOS A	0.3	1.8
9	R2	22	0.0	0.050	10.7	LOS A	0.3	1.8
Approach		53	0.0	0.050	7.6	LOS A	0.3	1.8
West: East Derwent Hwy								
10	L2	34	0.0	0.291	4.3	LOS A	1.8	12.6
11	T1	326	0.0	0.291	4.5	LOS A	1.8	12.6
12	R2	38	0.0	0.291	9.6	LOS A	1.8	12.6
Approach		398	0.0	0.291	4.9	LOS A	1.8	12.6
All Vehicles		1345	0.0	0.545	5.2	LOS A	4.8	33.4

Fouche Avenue and East Derwent Highway roundabout – Morning peak with development traffic

MOVEMENT SUMMARY

Site: 101 [East Derwent Fouche Roundabout - existing morning peak -with develo

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

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
South: Fouche Avenue								
1	L2	10	0.0	0.178	4.7	LOS A	1.0	6.7
2	T1	2	0.0	0.178	4.9	LOS A	1.0	6.7
3	R2	203	0.0	0.178	10.1	LOS A	1.0	6.7
Approach		215	0.0	0.178	9.8	LOS A	1.0	6.7
East: East Derwent Highway								
4	L2	10	0.0	0.143	3.7	LOS A	1.0	6.7
5	T1	201	0.0	0.143	3.9	LOS A	1.0	6.7
6	R2	12	0.0	0.143	9.1	LOS A	1.0	6.7
Approach		223	0.0	0.143	4.2	LOS A	1.0	6.7
North: Clives Avenue								
7	L2	138	0.0	0.293	11.8	LOS A	2.2	15.3
8	T1	4	0.0	0.293	11.9	LOS A	2.2	15.3
9	R2	19	0.0	0.293	17.1	LOS B	2.2	15.3
Approach		161	0.0	0.293	12.4	LOS A	2.2	15.3
West: East Derwent Hwy								
10	L2	9	0.0	0.643	5.4	LOS A	6.1	42.7
11	T1	809	0.0	0.643	5.6	LOS A	6.1	42.7
12	R2	2	0.0	0.643	10.8	LOS A	6.1	42.7
Approach		820	0.0	0.643	5.6	LOS A	6.1	42.7
All Vehicles		1419	0.0	0.643	6.8	LOS A	6.1	42.7

Fouche Avenue and East Derwent Highway roundabout – Evening peak with development traffic

MOVEMENT SUMMARY

Site: 101 [East Derwent Fouche Roundabout - existing evening peak - with develop

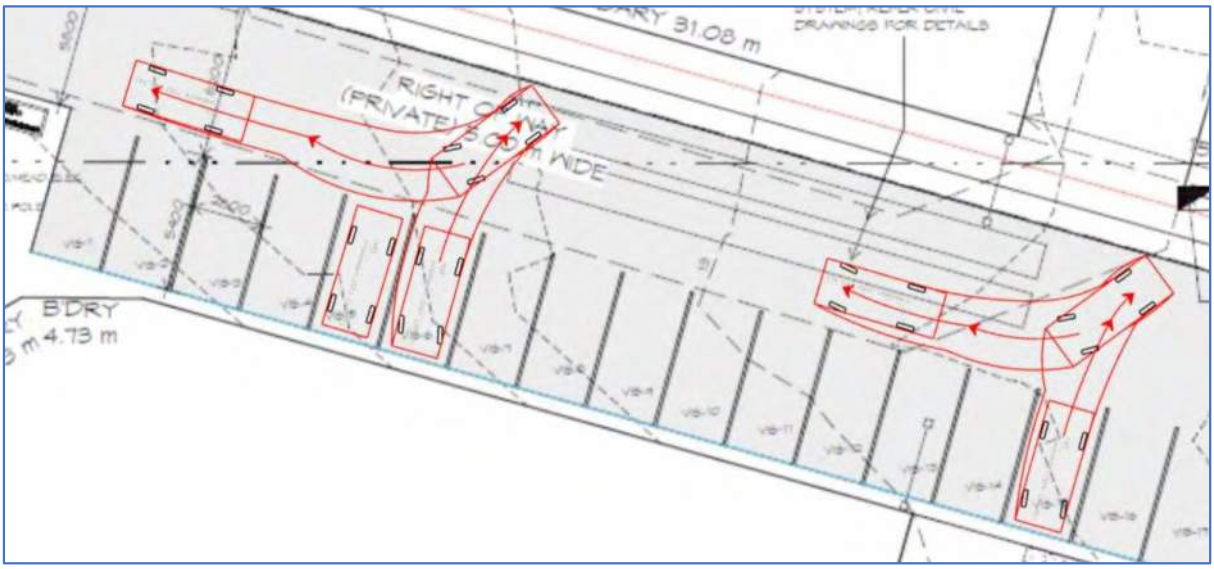
New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

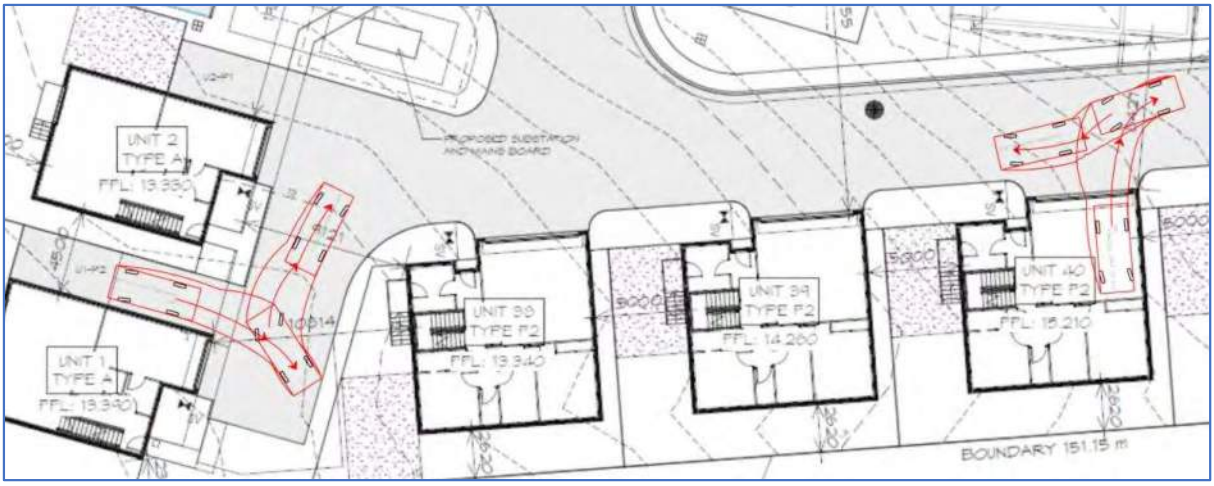
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Fouche Avenue								
1	L2	15	0.0	0.067	7.8	LOS A	0.4	2.8
2	T1	6	0.0	0.067	8.0	LOS A	0.4	2.8
3	R2	32	0.0	0.067	13.2	LOS A	0.4	2.8
Approach		53	0.0	0.067	11.1	LOS A	0.4	2.8
East: East Derwent Highway								
4	L2	103	0.0	0.547	4.1	LOS A	4.8	33.6
5	T1	652	0.0	0.547	4.3	LOS A	4.8	33.6
6	R2	89	0.0	0.547	9.4	LOS A	4.8	33.6
Approach		844	0.0	0.547	4.8	LOS A	4.8	33.6
North: Clives Avenue								
7	L2	27	0.0	0.050	5.3	LOS A	0.3	1.8
8	T1	4	0.0	0.050	5.5	LOS A	0.3	1.8
9	R2	22	0.0	0.050	10.7	LOS A	0.3	1.8
Approach		53	0.0	0.050	7.6	LOS A	0.3	1.8
West: East Derwent Hwy								
10	L2	34	0.0	0.291	4.3	LOS A	1.8	12.6
11	T1	326	0.0	0.291	4.5	LOS A	1.8	12.6
12	R2	38	0.0	0.291	9.6	LOS A	1.8	12.6
Approach		398	0.0	0.291	4.9	LOS A	1.8	12.6
All Vehicles		1348	0.0	0.547	5.2	LOS A	4.8	33.6

13. Appendix C – Sample of swept paths for on-site parking spaces

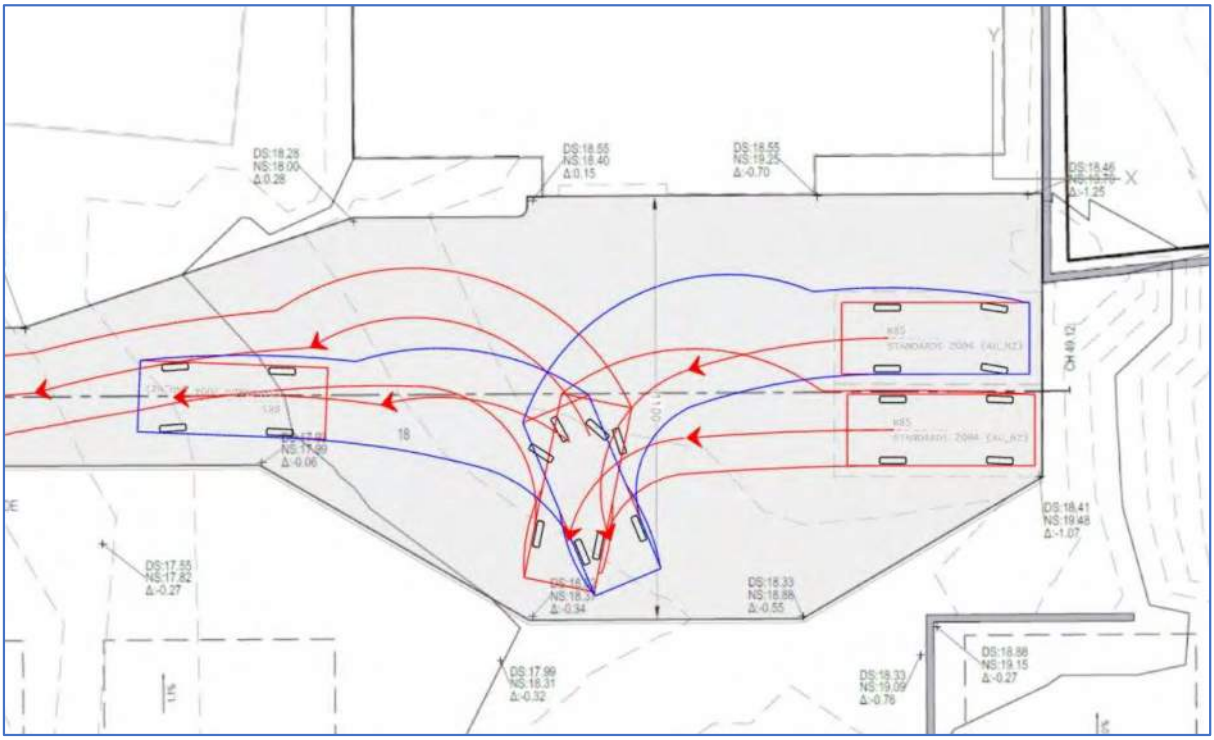
B85 swept paths for visitor parking spaces



B85 swept paths for unit 1 and 40



B85 swept paths for unit 12 and 13



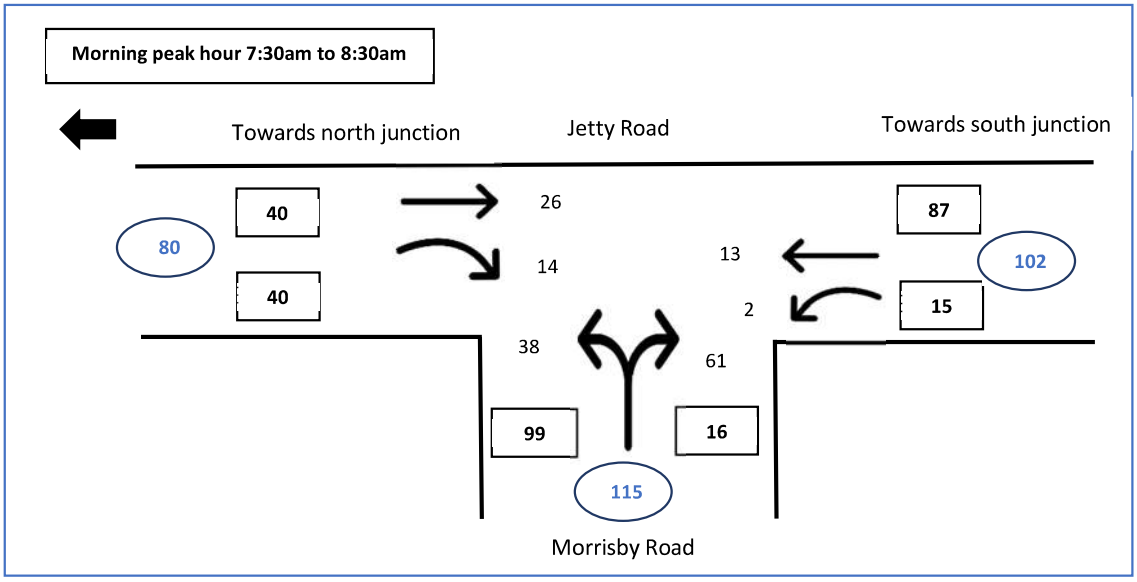
B85 swept paths for unit 17 and 25

B85 swept path for unit 50

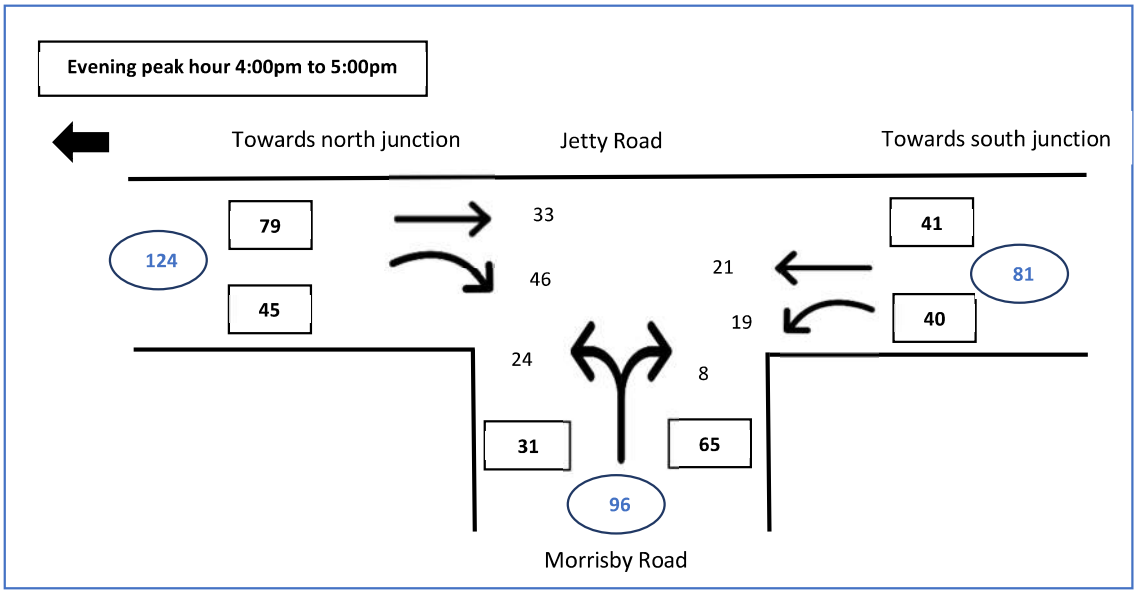
14. Appendix C – Peak hour traffic surveys

Morrisby and Jetty Roads junction

Morning peak hour traffic movements



Evening peak hour traffic movements



Jetty Road and Fouche Avenue junction

Diagram 5.3.2A – Morning peak hour traffic movements

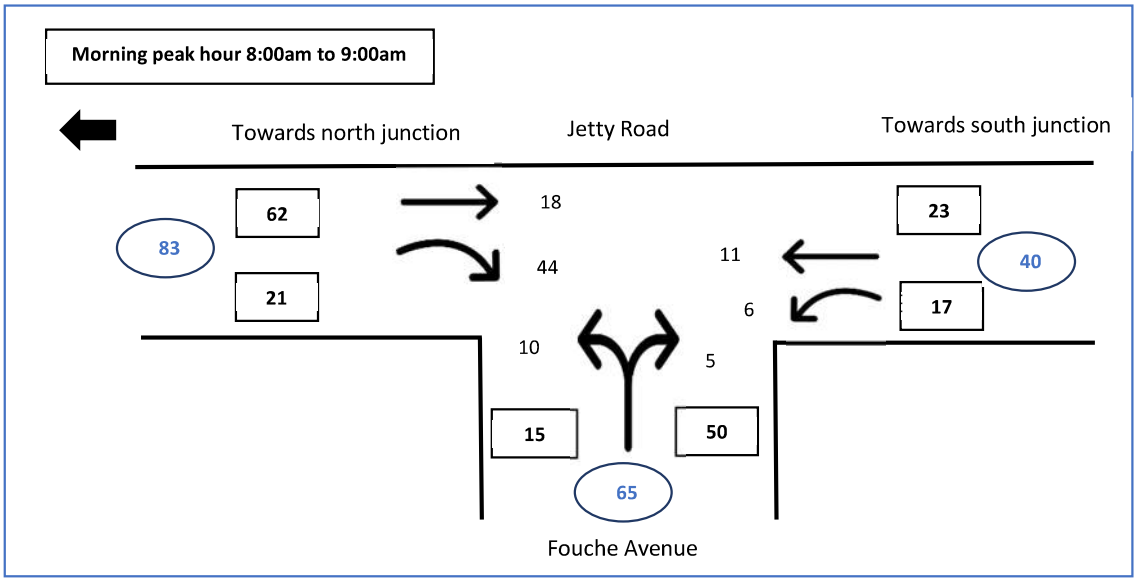
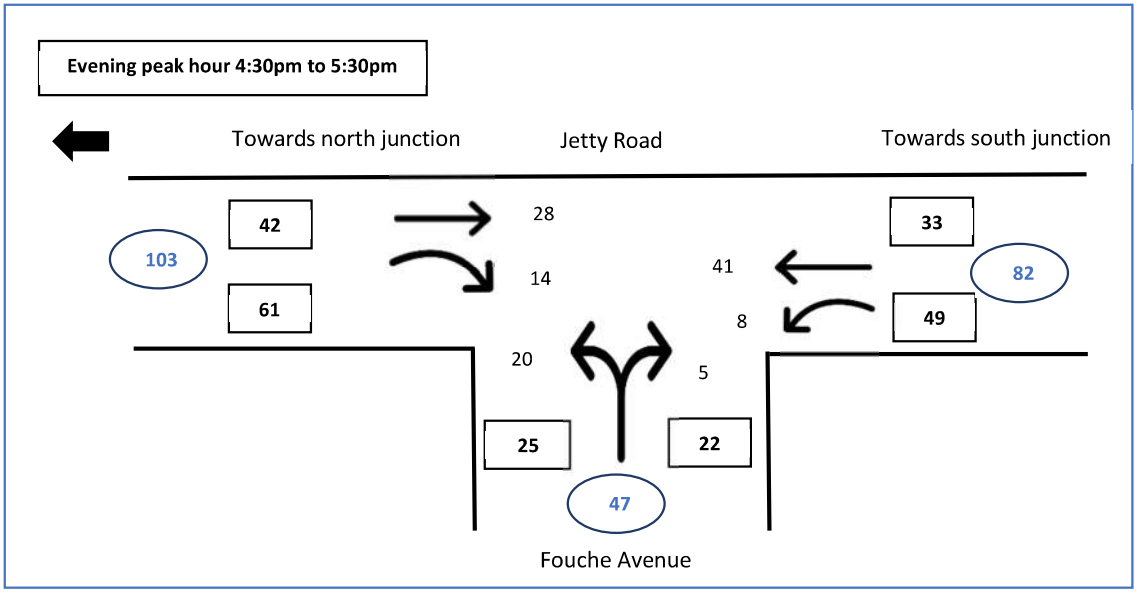


Diagram 5.3.2B – Evening peak hour traffic movements



Jetty Road and East Derwent Highway north junction

Diagram 5.3.3A – Morning peak hour traffic movements

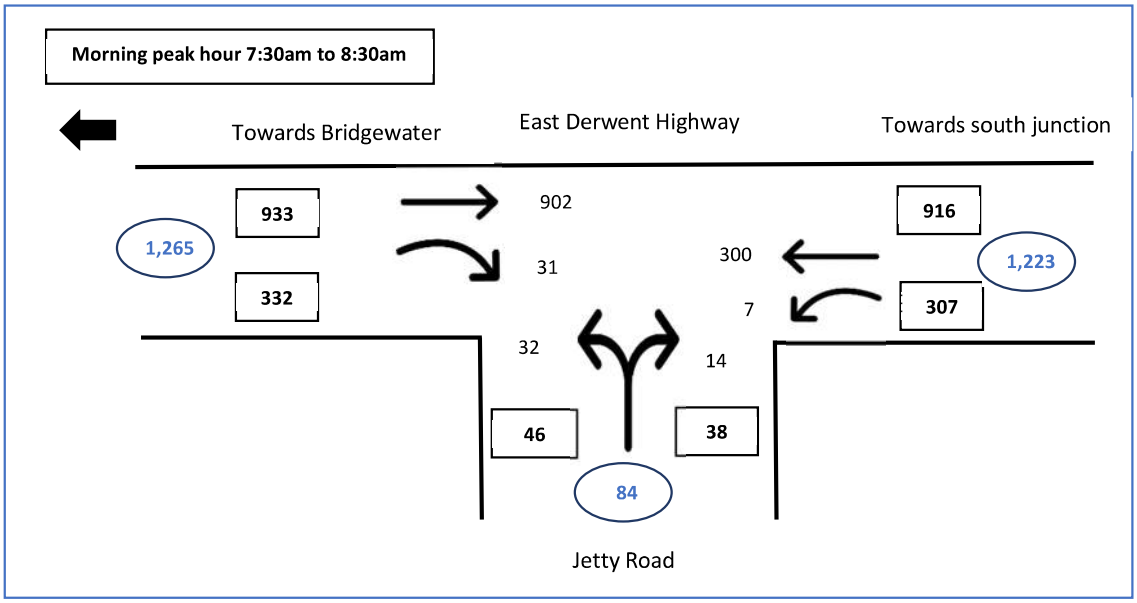
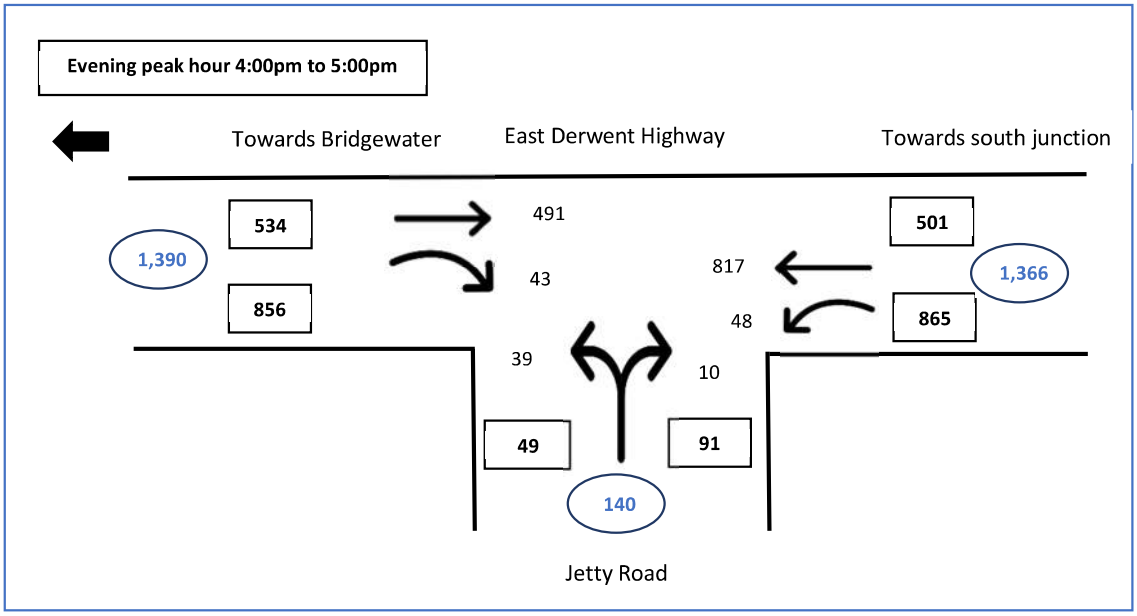


Diagram 5.3.3B – Evening peak hour traffic movements



Jetty Road and East Derwent Highway south junction

Diagram 5.3.4A – Morning peak hour traffic movements

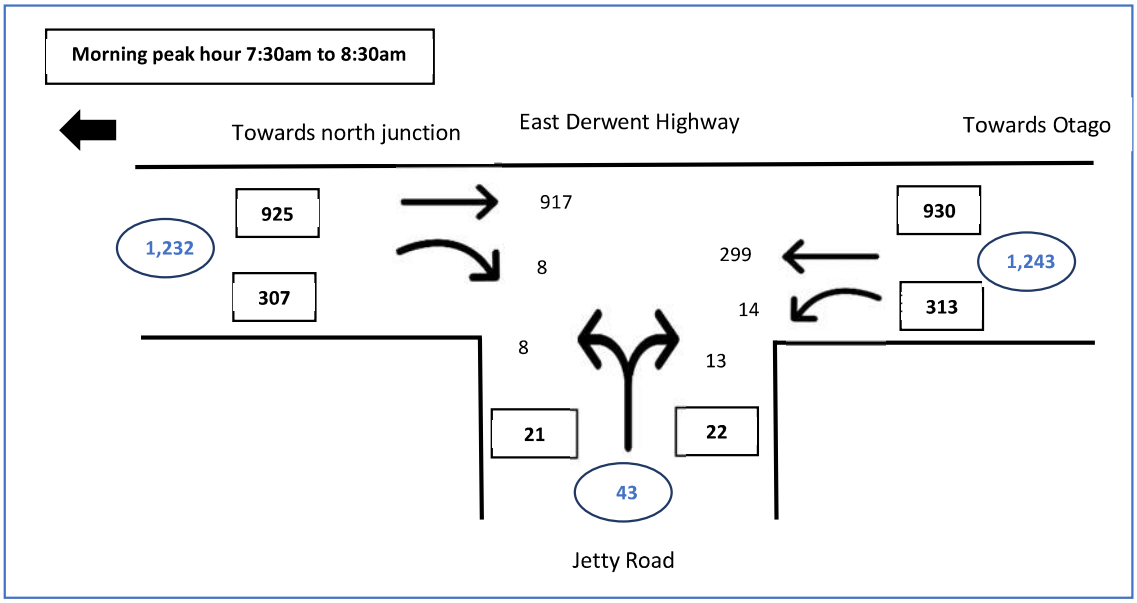
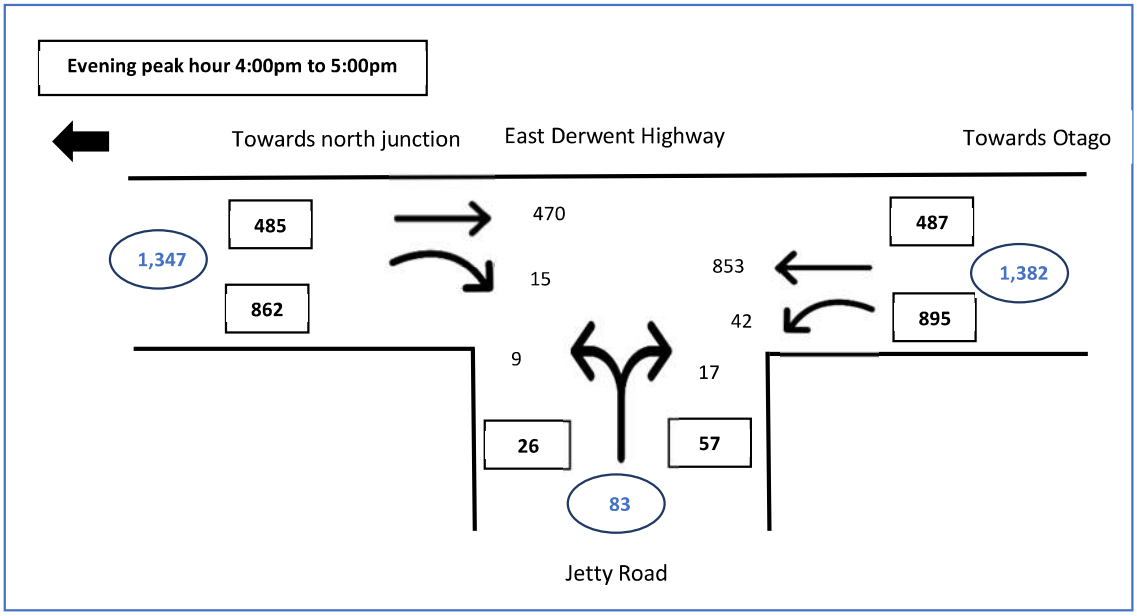


Diagram 5.3.4B – Evening peak hour traffic movements



NVC
NOISE VIBRATION CONSULTING

GIC Estates Pty Ltd
19 Mawhera Avenue
Sandy Bay TAS 7005

8 April 2024

Ref: 24031 38 Jetty Road Traffic Noise Assessment

Attention: Frazer Read

38 Jetty Road — Traffic Noise Assessment

A residential development is proposed at 38 Jetty Road, Old Beach. The site comprises two existing lots (title references 159864/1 and 159864/3) over an area of nominally 1.7 hectares and is located adjacent the East Derwent Highway. The proposal includes the construction of nominally 53 residential dwellings. Part of the proposed development is within 50m of the adjacent East Derwent Highway, and thus a noise assessment against the Tasmanian Planning Scheme's Road and Railway Assets Code has been requested to accompany the DA. This letter presents the results of such a noise assessment, completed by NVC in March / April 2024.

1. Background

The propose site comprises two existing lots (title references 159864/1 and 159864/3) over an area of nominally 1.7 hectares. The site features a gentle gradient up towards the east, with the area within nominally 30m of the site boundary increasing to a moderate gradient. The existing topography results in the site boundary being approximately 2-3m below the highway's road surface, with the majority of site being significantly below road level. The site is within a General Residential zone (red overlay in Figure 1.1), with the East Derwent Highway located immediately to the site's east (yellow overlay in Figure 1.1).

FIGURE 1.1: SITE AND SURROUNDINGS

The proposed site shares a boundary with the East Derwent Highway, and thus part of the site is within 50m of the highway (blue overlay in Figure 1.1), and as a result is subject to assessment against the Road and Railway Assets Code.

Figure 1.2, below, shows the site layout of the proposed development.

FIGURE 1.2: PROPOSED SITE LAYOUT

2. CRITERIA

The Tasmanian Planning Scheme contains, under section C3.0, the Road and Railway Assets Code. Specifically relevant is clause C3.6.1:

C3.6.1 Habitable buildings for sensitive uses within a road or railway attenuation area

Objective:	To minimise the effects of noise, vibration, light and air emissions on sensitive uses within a road or railway attenuation area, from existing and future major roads and the rail network.

Acceptable Solutions	**Performance Criteria**
A1 Unless within a building area on a sealed plan approved under this planning scheme, habitable buildings for a sensitive use within a road or railway attenuation area, must be: (a) within a row of existing habitable buildings for sensitive uses and no closer to the existing or future major road or rail network than the adjoining habitable building; (b) an extension which extends no closer to the existing or future major road or rail network than: (i) the existing habitable building; or (ii) an adjoining habitable building for a sensitive use; or (c) located or designed so that external noise levels are not more than the level in Table C3.2 measured in accordance with Part D of the *Noise Measurement Procedures Manual, 2nd edition, July 2008.*	**P1** Habitable buildings for sensitive uses within a road or railway attenuation area, must be sited, designed or screened to minimise adverse effects of noise, vibration, light and air emissions from the existing or future major road or rail network, having regard to: (a) the topography of the site; (b) the proposed setback; (c) any buffers created by natural or other features; (d) the location of existing or proposed buildings on the site; (e) the frequency of use of the rail network; (f) the speed limit and traffic volume of the road; (g) any noise, vibration, light and air emissions from the rail network or road; (h) the nature of the road; (i) the nature of the development; (j) the need for the development; (k) any traffic impact assessment; (l) any mitigating measures proposed; (m) any recommendations from a suitably qualified person for mitigation of noise; and (n) any advice received from the rail or road authority.

Relevant to this clause, Table C3.2 states acceptable noise levels within a road or railway attenuation zone:

Roads	**Railways**
The arithmetic average of the A-weighted L10 sound pressure levels for each of the one-hour periods between 6:00am and midnight on any day [L10 (18-hour)] of 63 dB(A).	A 24-hour Leq and Lmax noise level of 65 dB(A) and 87dB(A) Lmax assessed as a single event maximum sound pressure level.

Regarding indoor amenity, AS2107[1] is referred to for indoor noise level criteria. For houses or apartments near major roads, the relevant criteria are presented below:

Type of occupancy/activity	Design sound level ($L_{Aeq,t}$) range	Design reverberation time (T) range, s
RESIDENTIAL BUILDINGS (see Note 5 and Clause 5.2)		
Houses and apartments in inner city areas or entertainment districts or near major roads—		
Apartment common areas (e.g. foyer, lift lobby)	45 to 50	—
Living areas	35 to 45	—
Sleeping areas (night time)	35 to 40	—
Work areas	35 to 45	—

Therefore, the following project criteria are applicable:

63 dBA $L10_{18\text{-hour}}$ at the boundary to site.

35-40 dBA within residential dwellings.

[1] *AS/NZS 2107:2016 Acoustics - Recommended design sound levels and reverberation times for building interiors*, Standards Australia, 2016.

3. NOISE MEASUREMENTS

Unattended noise measurements were made on site between the 19th and the 27th March 2024 to quantify noise emissions from the East Derwent Highway. Measurements used a Svan Type 1 sound level meter, logging in A-weighted decibels with a *Fast* response time. The data set comprised overall levels, one-third octave spectra and full statistical data at 10 minute intervals, with spectra and overall level data also recorded at 1s intervals. The measurements were made at location A (see Figure 1.1), which was chosen as being the worst-affected boundary to site. This location was approximately 18m from the centre line of the highway.

Assessment for intrusive or dominant characteristics were carried out as per the Tas. Noise Measurement Procedures Manual, with no adjustment required.

The measured $L10_{18\text{-hour}}$ for the duration of the measurement period was 61.2 dBA_{adj}.

Figure 3.1, below, presents the measured Leq noise spectrogram at Location A for the duration of the measurement period.

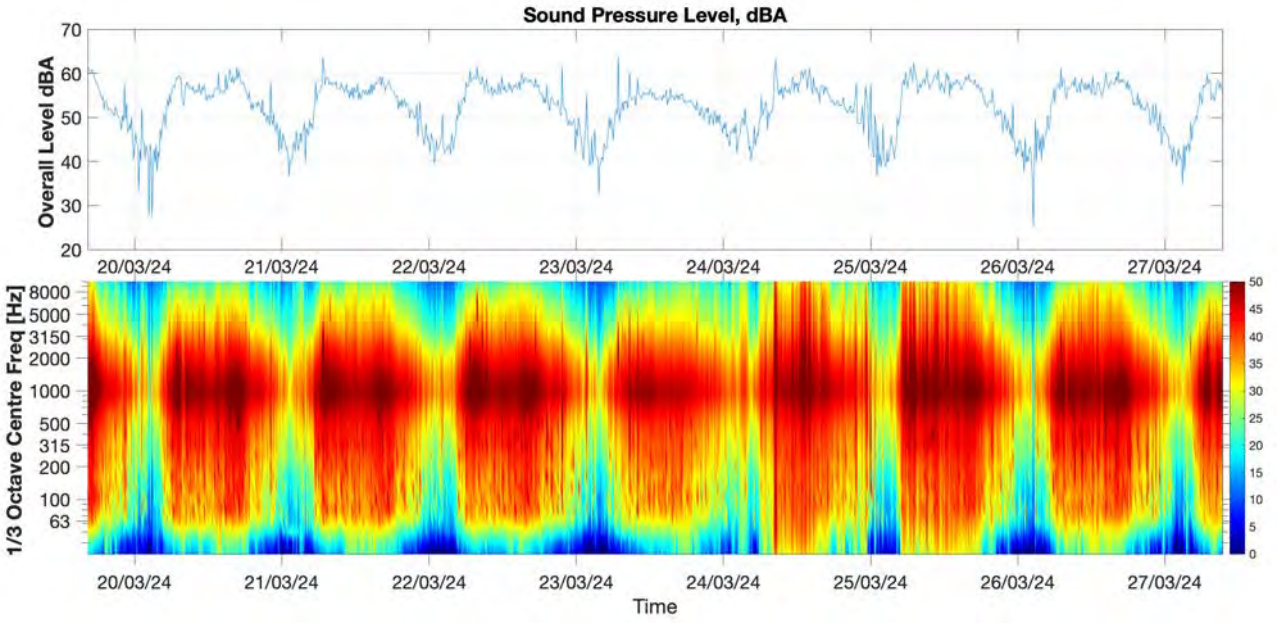


FIGURE 3.1: MEASURED NOISE SPECTROGRAM - LOCATION A

The following key points and observations made whilst on site are deemed relevant to the assessment:

- Borad-band noise typical of tyre noise from light vehicles travelling at high speeds was the dominant noise source.
- Low-frequency engine noise was clearly audible when heavy vehicles passed by site.
- It is noted that noise emissions from passing vehicles was only audible for short durations due to the screening of the East Derwent Highway from site by the natural topography of site.
- During the night time, noise levels significantly decreased compared to day time noise levels, however remained at an overall moderate level in general.

Figure 3.2, below, shows the average measured one-third octave spectrum between 6AM and midnight. As shown, noise at Location A is broad-banding nature with moderate low-frequency content due to heavy vehicles.

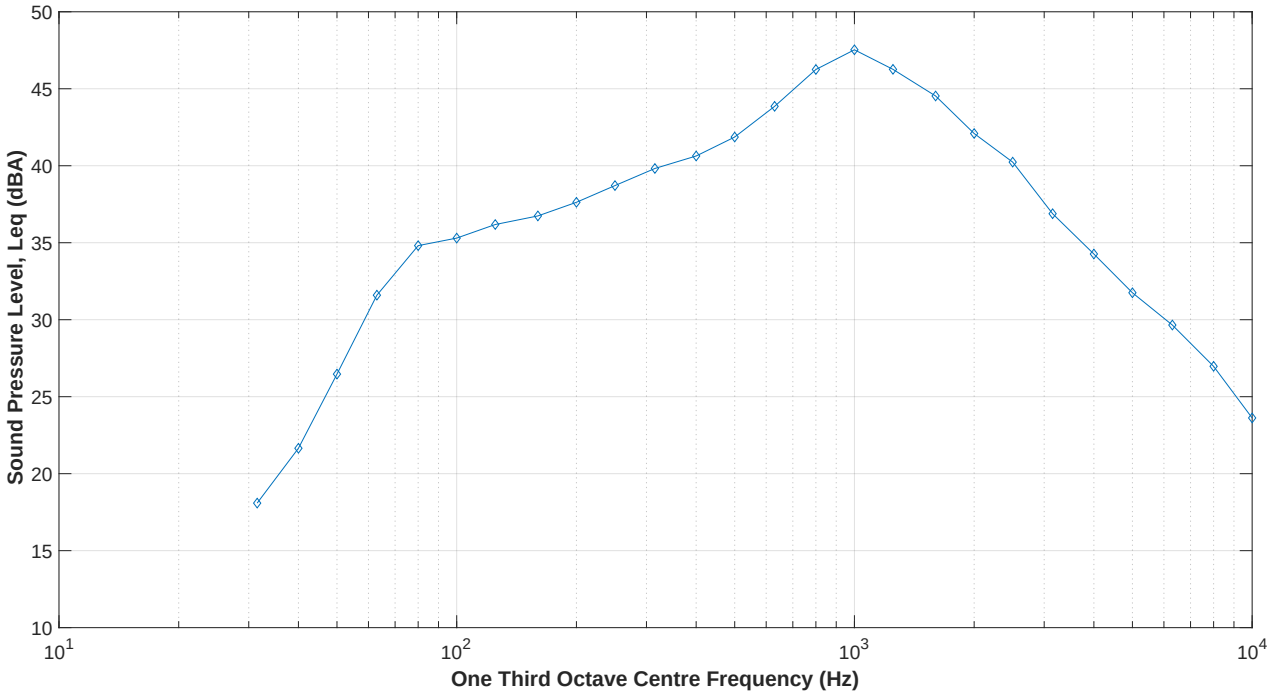


FIGURE 3.2: AVERAGE ONE-THIRD OCTAVE LEQ SPECTRUM - LOCATION A (6AM - MIDNIGHT)

4. ASSESSMENT

Measurements conducted at the worst-affected boundary to site resulted in an $L10_{18\text{-hour}}$ of nominally 62.1 dBA_{adj}. This is below the criterion outlined in Table C.2 for roads, and thus:

The Acceptable Solution outlined in Clause C3.6.1 of the Tasmanian Planing Scheme is satisfied.

5. RECOMMENDATIONS

To ensure the indoor residential amenity of future residents is protected, the following is recommended:

- A facade construction that will achieve an airborne sound isolation rating of R_w 27 for all dwellings located along the eastern boundary of site.
    - Any modern facade construction including masonry, or weatherboard / profiled metal on an insulated stud wall will comfortably achieve this.

Should you have any queries, please do not hesitate to contact me directly.

Kind regards,

Jaye Parry

NOISE VIBRATION CONSULTING

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STORMWATER MANAGEMENT REPORT

PROPOSED MULTI-RESIDENTIAL DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

REF: SR-2024-02-05-02

PO Box 670 Kingston TAS 7051
ABN: 16 7335 13 471
Phone: 0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au

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PROJECT INFORMATION

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Author	Matthew Webster BEng Civil (Hons) Engineer Civil – Unrestricted Engineer Building Services – Unrestricted Licence No. CC5587I Mobile: 0447 595 514 Email: mwebster@acaciaeng.com.au

DOCUMENT CONTROL

Revision	Date	Revision details	Prepared
D1	19/03/2024	Development Approval	M. Webster
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1 BACKGROUND INFORMATION

1.1 SCOPE OF REPORT

Acacia Engineering is engaged to prepare a Concept Water Sensitive Urban Design (WSUD) and On-Site Stormwater Detention (OSD) Strategy in support of the Development Application submission for the site located at 24B and 38 Jetty Road.

Following is a summary of the concept stormwater drainage design including the sizing of the proposed OSD and WSUD facilities. This should be read in conjunction with the civil engineering drawing set (ref: CIV-2023-02-05-02). This report has been developed in accordance with Council's requirements for the purposes of describing the analysis undertaken and to explain the concept behind the proposed stormwater drainage infrastructure.

1.2 DEVELOPMENT OUTLINE

SJM Property Development are proposing a multi-residential development on the sites of 24B and 38 Jetty Road. The developer intends to adhere the titles and therefore the total subject site is henceforth referred to as 38 Jetty Road in this report and the associated civil design documentation. Figure 1.1 shows the general locality and extent of the proposed development.

The proposed development includes 54 multiple residences including two existing dwellings. A large amount of new impervious roof and road area is proposed as part of the development and therefore stormwater runoff and pollutant quantities are expected to increase. Civil design drawings propose that the development is to be serviced by a new DN375 stormwater connection to the existing DN375 stormwater main within Jetty Road.

Figure 1.1 Site Locality (Aerial image source: LISTMap 2024)

1.3 COUNCIL & AUTHORITY REQUIREMENTS

A previous planning application (DA 2023 / 00004) for development on the site was lodged with Brighton Council in 2023, and an RFI was issued on the 6th of February 2023 for this development stipulating stormwater quantity

and quality requirements. Guidance has been taken from the previous RFI and therefore stormwater servicing design for the development has been designed to comply with the following conditions:

- Provide a proposal locating units clear of the public stormwater system or the public stormwater system relocated.
- Provide a stormwater management report and drawings, prepared by a suitably qualified person, in accordance with section 2.6 of DEP & LGAT (2021). Tasmanian Stormwater Policy Guidance and Standards for Development. Derwent Estuary Program and Local Government Association of Tasmania (Hobart, Australia).
- The piped stormwater drainage system must be designed to comply with all of the following:
  - Be able to accommodate a storm with a 5% AEP, when the land serviced by the system is fully developed;
  - Stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure.
- The development must consider an overland flow path to accommodate a storm with a 1% AEP.
- Stormwater quality from the site must meet the following:
  - Standard Stormwater Treatment Requirements specified in Table 3 Water Quality Treatment Targets in DEP AND LGAT TASMANIAN STORMWATER POLICY GUIDANCE AND STANDARDS FOR DEVELOPMENT 2021 v1.

A further RFI was received for the current planning permit application (DA 2024/00061) requesting an amended stormwater report utilizing a climate change factor of 16.6% (1.166).

This report aims to demonstrate that the development at 38 Jetty Road, Old Beach complies with the above stormwater quality and quantity requirements.

2 HYDROLOGY

2.1 MODELLING APPROACH

2.1.1 STORMWATER QUANTITY

DRAINS software was utilised to calculate the site runoff and to determine the size of the site's stormwater conveyance and detention infrastructure. DRAINS is a simulation program which converts rainfall patterns into stormwater runoff and routes flows through networks of pipes and channels. It develops hydrographs and calculates hydraulic grade lines throughout drainage systems, enabling the users to design the sizes and positions of pipes in new systems and to analyse on-site detention systems.

The Initial Loss / Continuing Loss (IL-CL) loss model was applied in accordance with the Australian Rainfall & Runoff Guide 2019.

2.1.2 STORMWATER QUALITY

Water Quality modelling was undertaken using Model for Urban Stormwater Improvement and Conceptualisation (MUSIC). The MUSIC software was used to determine the 'treatment train' of water quality devices which are required to achieve Council guidelines across the site.

2.2 HYDROLOGICAL MODEL CHARACTERISTICS

2.2.1 CATCHMENT AREAS

Tables 2.1 and 2.2 describe the internal site catchment areas for the pre-development and post-development model scenarios. The tables outline the proportions of effective impervious area (EIA), remaining impervious area (RIA) and pervious area (PA). The pre-development catchment was simulated as a single homogenous catchment.

In the post-development scenarios, separate catchments were defined for each inlet pit, each unit roof area, and for the remaining area bypassing the site drainage system.

Times of concentration for all catchments were determined within DRAINS using the kinematic wave equation.

Table 2.1: Pre-Development Site Catchments (IL-CL Method)				
Catchment	**Area (m²)**	**EIA (%)**	**RIA (%)**	**PA (%)**
Total Roof Area	320	100	0	0
Total Paved Area (Including unsealed driveway)	1274	0	100	0
Total Landscaped/Pervious Areas	16739	0	0	100
Total Area	18333	-	-	-

Table 2.2: Post-Development Site Catchments (IL-CL Method)				
Catchment	**Area (m²)**	**EIA (%)**	**RIA (%)**	**PA (%)**
Total Roof Area	6181	100	0	0
Total Paved Area	5021	100	0	0
Total Landscaped/Pervious Areas	7131	0	0	100
Total Area	18333	-	-	-

2.2.2 BOM IFD DATA

Rainfall depths for the model were retrieved from the Bureau of Meteorology website (http://www.bom.gov.au/water/designRainfalls/revised-ifd/?multipoint). Temporal patterns, pre-burst rainfall depths and rural losses were sourced from the ARR Data hub website (https://data.arr-software.org/).

Table 2.3: IFD Design Rainfall Depths						
Duration (minutes)	**5% AEP (mm/hr)**	**5% AEP (mm)**	**2% AEP (mm/hr)**	**2% AEP (mm/hr)**	**1% AEP (mm/hr)**	**1% AEP (mm)**
1	136	2.27	166	2.77	191	3.18
5	83.5	6.96	101	8.39	115	9.55
10	62.8	10.5	77.3	12.9	89.5	14.9
20	43.5	14.5	53.6	17.9	62.0	20.7
25	38.2	15.9	46.8	19.5	54.0	22.5
30	34.2	17.1	41.8	20.9	48.0	24.0
45	26.7	20.0	32.2	24.1	36.6	27.5
60	22.3	22.3	26.7	26.7	30.2	30.2
90	17.4	26.2	20.6	20.9	23.0	34.5
120	14.7	29.4	17.2	34.4	19.2	38.3

2.2.3 CLIMATE CHANGE ALLOWANCE FACTOR

Brighton Council have requested that a climate change factor of 16.6% is utilised in the on-site detention model. A factor of 1.166 has therefore been applied to the design rainfall depths within the DRAINS software. This factor is only applied to the post development peak flow calculation. It is not applied to the pre-development peak flow calculation.

2.2.4 STORM LOSSES

Rural initial and continuing losses were sourced from the ARR Data hub website (https://data.arr-software.org/).

Impervious area losses have been set as per advice in ARR 2019 Book 5 Chapter 3 Section 3.5.3.1.2. Table 3.3 shows the storm losses assumed in the DRAINS model.

Table 2.1: Assumed Storm Losses (IL-CL Method)	
Impervious Area Initial Losses (mm)	1
Impervious Area Continuing Losses (mm/hr)	0
Pervious Area Initial Losses (mm)	27
Pervious Area Continuing Losses (mm/hr)	3.8

3 ON-SITE DETENTION MODELLING

3.1 RESULTS

The storm duration producing the highest median peak flow was taken to be the critical duration for each scenario modelled. Figures 3.1 to 3.3 show the critical duration, median storm hydrographs for each scenario modelled.

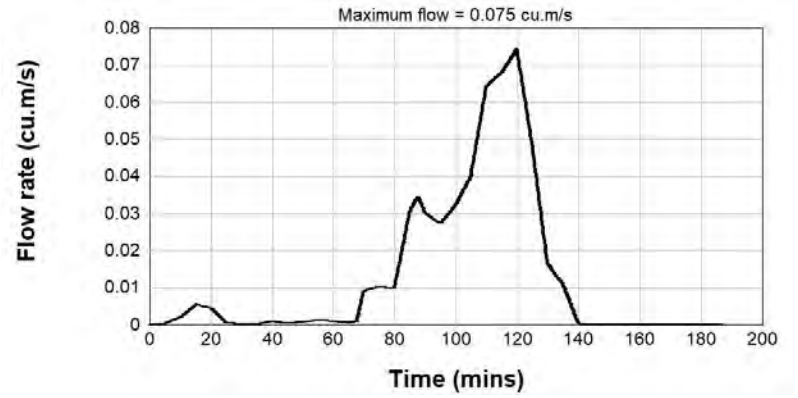


Figure 3.1: Pre-development site runoff

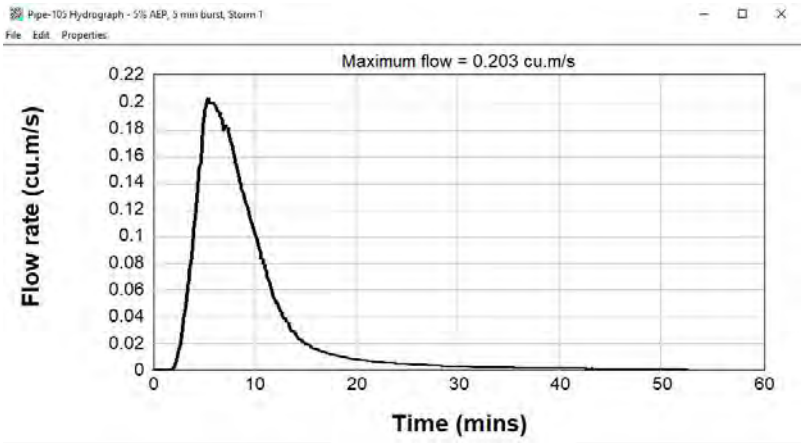


Figure 3.2: Unmitigated post-development site runoff

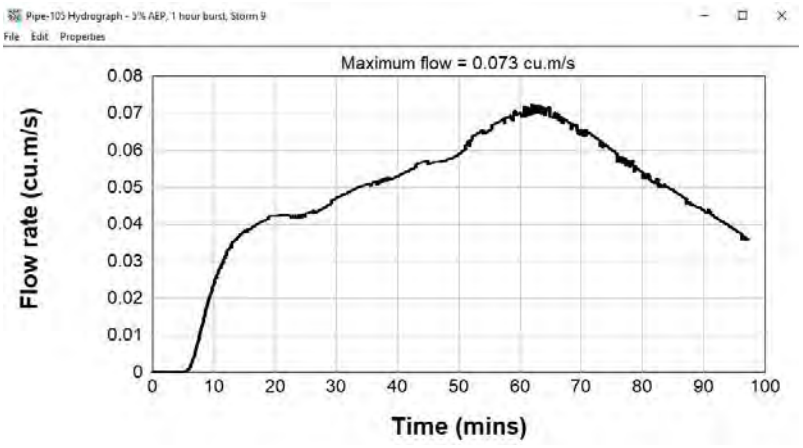


Figure 3.3: Post-development site runoff with OSD

Table 3.4: Peak Flow Rate Summary		
Scenario	**Site runoff (L/s)**	**Critical Storm Duration (mins)**
Pre-development	75	120
Post-development unmitigated	203	5
Post-development with OSD	73	60

3.2 PROPOSED ON-SITE DETENTION SYSTEM

Table 0.1: Detention tank parameters	
Tank Description	137,000L TEFCO Corrutank arrangement or equivalent concrete tank (TBC at BA stage)
No. of Tanks	5
Tank Nominal Diameter	DN1050
Internal Tank Diameter (m)	1.03
Internal Tank Length (m)	33.0
Detention Capacity Each (m^3)	27.49
Detention Capacity Total (m^3)	137.48
Peak Utilised Detention Volume – 5% AEP Critical Storm (m^3)	131.44
Orifice Diameter (mm)	85
Overflow Diameter (mm)	375

A stormwater detention system comprising five parallel 27.49m^3 DN1050 HDPE tanks has been proposed. Each tank is to be joined by DN375 inlet and outlet header pipes and provided with an 85mm outlet orifice and DN375 high level overflow pipe. Each tank is also to be provided with DN600 cylindrical risers to allow for maintenance and inspection as required by AS 3500.3. Model results show that the proposed tank arrangement has sufficient volume to detain flows from the critical duration 5% AEP storm. Full details of the detention system concept are provided in the accompanying civil design drawings.

4 STORMWATER WATER QUALITY TREATMENT

4.1 PROPOSED STORMWATER TREATMENT MEASURES

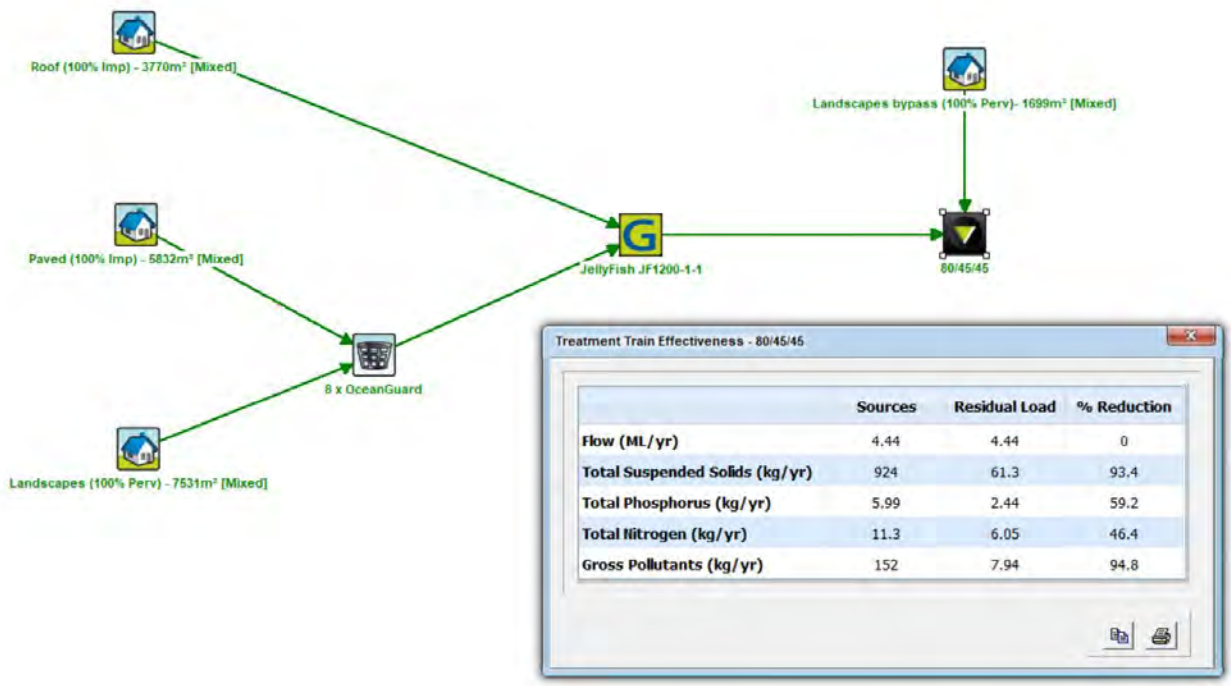
In accordance with the Tasmanian Stormwater Policy Guidance and Standards for Development, the proposed development must incorporate water sensitive urban design principles.

Acacia Engineering have collaborated with Ocean Protect and a Model for Urban Stormwater Improvement Conceptualisation (MUSIC) was used to model the site and the effectiveness of various treatment devices to achieve the stormwater quality targets outlined in the State Stormwater Strategy (2010) of:

- An 80% reduction in the average annual load of total suspended solids (TSS)
- An 45% reduction in the average annual load of total phosphorous (TP)
- An 45% reduction in the average annual load of total nitrogen (TN)

Proprietary devices by OceanProtect were utilized to meet the water quality targets. The propriety devices include:

- 8x OceanGuards with 200µm mesh bags (OG-200) (Installed in all driveway 'Side Entry' stormwater pits).
- A Jellyfish JF1200-1-1 (1375) 460mm Head located at the site entry point.



	Sources	Residual Load	% Reduction
Flow (ML/yr)	4.44	4.44	0
Total Suspended Solids (kg/yr)	924	61.3	93.4
Total Phosphorus (kg/yr)	5.99	2.44	59.2
Total Nitrogen (kg/yr)	11.3	6.05	46.4
Gross Pollutants (kg/yr)	152	7.94	94.8

Figure 4.1: Model for Urban Stormwater Improvement Conceptualisation Output

5 OPERATION AND MAINTENANCE PLAN

To ensure the proposed on-site detention system operates as designed, regular maintenance is required. A draft Operation and Maintenance Plan is included at Appendix A. The cleaning of below ground storage facilities should be conducted in accordance with the requirements and risk control measures specified in AS2865-2009 Confined Spaces.

6 EROSION, SEDIMENT AND POLLUTION CONTROL

Most of the pollutant generation will occur during the construction phase of the development, therefore appropriate erosion and sediment control measures must be designed and implemented before commencement of works.

Erosion, sediment, and pollution control measures will be implemented during the course of the construction works. The impacts of soil erosion and sedimentation on adjacent roadways, properties and waterways will be minimised through a series of devices including:

- Stabilized site access and truck cleaning facilities (such as a shaker pad).
- Silt fences and inlet sediment barriers.
- Temporary sedimentation basin within the footprint for the proposed OSD device

7 CONCLUSION

This stormwater report demonstrates that the development can comply with the expected stormwater quantity and quality requirements of Brighton Council.

Detention tanks (137kL total capacity) have been designed to detain the difference between the pre-development runoff (75 L/s) and the post-development runoff (203L/s) to reduce the mitigated site run off to 73 L/s.

Limitations:

No assessment has been undertaken of Council's stormwater infrastructure and its capacity.

This report assumes the Council stormwater main has capacity for the pre-development peak discharge.

It is the responsibility of Council to assess their infrastructure and determine the impact (if any) of altered inflows into their stormwater network.

8 APPENDIX A – OPERATION & MAINTENANCE PLANS

8.1 STORMWATER DETENTION TANK MAINTENANCE

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE
Outlets			
Inspect & remove any blockage of orifices	Six monthly	Owner	Remove grate & screen to inspect orifice. See plan for location of outlets
Check attachment of orifice plates to wall of chamber and/or pit (gaps less than 5 mm)	Annually	Maintenance Contractor	Remove grate and screen. Ensure plates are mounted securely, tighten fixings if required. Seal gaps as required.
Check orifice diameters are correct and retain sharp edges	Five yearly	Maintenance contractor	Compare diameter to design (see Work-as-Executed) and ensure edge is not pitted or damaged.
Inspect screen and clean	Six monthly	Owner	Remove grate(s) and screens if required to clean them.
Check attachment of screens to wall of chamber or pit	Annually	Maintenance Contractor	Remove grate(s) and screen(s). Ensure screen fixings are secure. Repair as required.
Check screen(s) for corrosion	Annually	Maintenance contractor	Remove grate(s) and examine screen(s) for rust or corrosion, especially at corners or welds.
Inspect walls (internal and external, if appropriate) for cracks or spalling	Annually	Maintenance contractor	Remove grate(s) to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect outlet sumps & remove any sediment/sludge	Six monthly	Owner	Remove grate(s) and screen(s). Remove sediment/sludge build-up and check orifices are clear.
Inspect grate(s) for damage or blockage	Six monthly	Owner	Check both sides of a grate for corrosion, (especially corners and welds) damage or blockage.
Inspect outlet pipe & remove any blockage	Six monthly	Maintenance contractor	Remove grate(s) and screen(s). Ventilate underground storage if present. Check orifices and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge/debris on upstream side of return line.
Check step irons for corrosion	Annually	Maintenance contractor	Remove grate. Examine step irons and repair any corrosion or damage.
Detention Storage			
Inspect storage & remove any sediment/sludge	Six monthly	Owner	Remove grate(s) and screen(s) where required. Remove sediment/sludge build-up.
Inspect internal walls of storage (and external, if appropriate) for cracks, spalling or any other defects (and external, if appropriate) for cracks,	Annually	Maintenance contractor	Remove grate(s) to inspect internal walls if required. Repair as required. Clear vegetation from internal and external walls if necessary and repair as required.

spalling or any other defects			
Inspect & remove any debris/litter/mulch etc blocking grates	Six monthly	Owner	Remove blockages from grate(s) and check if storage is blocked.
Inspect areas draining to the storage(s) & remove debris/mulch/ litter etc likely to block screens/grates	Six monthly	Owner	Remove debris and floatable material likely to be carried to grates.
	Annually	Maintenance contractor	Compare actual storage available with Work-as Executed plans. If volume loss is greater than 5%, arrange for reconstruction to replace the volume lost. Council to be notified of the proposal.
	Annually	Maintenance contractor	Check along drainage lines and at pits for subsidence likely to indicate leakages.

8.2 WSUD MAINTENANCE & MONITORING SCHEDULE

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE
Rainwater Tanks			
Prevent mosquito breeding	Monthly	Owner	In accordance with tank manufacturer maintenance specifications.
Clean tank of sludge	2-3 yearly	Maintenance contractor	In accordance with tank manufacturer maintenance specifications.
Bio-Retention Basins & Swales			
Inspect screen and clean	Six monthly	Owner	Remove grate(s) and screens if required to clean them.
Check attachment of screens to wall of pits	Annually	Maintenance contractor	Remove grate(s) and screen(s). Ensure screen fixings are secure. Repair as required.
Check screen(s) for corrosion	Annually	Maintenance contractor	Remove grate(s) and examine screen(s) for rust or corrosion, especially at corners or welds.
Inspect walls (internal and external, if appropriate) for cracks or spalling	Annually	Maintenance contractor	Remove grate(s) to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect grate(s) for damage or blockage	Six monthly	Owner	Check both sides of a grate for corrosion, (especially corners and welds) damage or blockage.
Inspect outlet pipe & remove any blockage	Six monthly	Maintenance contractor	Remove grate(s) and screen(s). Ventilate underground storage if present. Check orifices and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge/debris on upstream side of return line.
Inspect subsoil drainage system	Six monthly	Maintenance contractor	Inspect, clean and flush subsoil drainage system.
Basin vegetated/open areas	Two monthly	Owner	Inspect basins for litter, debris, and weeds and clear as required.

8.3 STORMWATER QUALITY CONTROL DEVICE MAINTENANCE

Maintenance for Ocean Protect OceanGuards	
Activity	**Frequency**
Minor Service Filter bat inspection and evaluation Removal of capture pollutants Disposal of material	1-6 times annually
Major Service Filter bag replacement Support frame rectification	As required

Maintenance for Ocean Protect Jellyfish	
Activity	**Frequency**
Minor Service Removal and rinsing of cartridges Wash down of deck levels Removal of large floatable pollutants Removal of accumulated sediment (if required)	Every 6 months
Major Service Replacement of Jellyfish cartridges	As required

9 APPENDIX B – ENGINEERING DRAWINGS

CIVIL DRAWINGS
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD OLD BEACH

C0000	INDEX	D3	20/05/2024
C0001	LEGEND	D1	21/03/2024
C1000	KEY PLAN	D3	20/05/2024
C1001	EXISTING SITE PLAN - SHEET 1	D1	21/03/2024
C1002	EXISTING SITE PLAN - SHEET 2	D1	21/03/2024
C1003	PROPOSED SITE PLAN - SHEET 1	D3	20/05/2024
C1004	PROPOSED SITE PLAN - SHEET 2	D3	20/05/2024
C2001	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 1	D3	20/05/2024
C2002	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 2	D3	20/05/2024
C2003	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 3	D1	21/03/2024
C2004	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 4	D1	21/03/2024
C2005	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 5	D3	20/05/2024
C2006	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 6	D1	21/03/2024
C2007	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 7	D3	20/05/2024
C2008	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 8	D3	20/05/2024
C2009	DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 9	D1	21/03/2024
C2101	DRIVEWAY TYPICAL DETAILS	D1	21/03/2024
C2201	DRIVEWAY LONG SECTIONS - SHEET 1	D1	21/03/2024
C2202	DRIVEWAY LONG SECTIONS - SHEET 2	D1	21/03/2024
C2203	DRIVEWAY LONG SECTIONS - SHEET 3	D1	21/03/2024
C3001	STORMWATER DRAINAGE PLAN - SHEET 1	D1	21/03/2024
C3002	STORMWATER DRAINAGE PLAN - SHEET 2	D3	20/05/2024
C3003	STORMWATER DRAINAGE PLAN - SHEET 3	D3	20/05/2024
C3004	STORMWATER DRAINAGE PLAN - SHEET 4	D1	21/03/2024
C3005	STORMWATER DRAINAGE PLAN - SHEET 5	D1	21/03/2024
C3006	STORMWATER DRAINAGE PLAN - SHEET 6	D3	20/05/2024
C3007	STORMWATER DRAINAGE PLAN - SHEET 7	D1	21/03/2024
C3008	STORMWATER DRAINAGE PLAN - SHEET 8	D3	20/05/2024
C3009	STORMWATER DRAINAGE PLAN - SHEET 9	D3	20/05/2024
C3010	STORMWATER DRAINAGE PLAN - SHEET 10	D1	21/03/2024
C3101	STORMWATER TYPICAL SECTIONS	D2	01/05/2024
C3201	STORMWATER LONG SECTIONS - SHEET 1	D2	01/05/2024
C3202	STORMWATER LONG SECTIONS - SHEET 2	D2	01/05/2024
C3203	STORMWATER LONG SECTIONS - SHEET 3	D1	21/03/2024
C3204	STORMWATER LONG SECTIONS - SHEET 4	D1	21/03/2024
C3205	STORMWATER LONG SECTIONS - SHEET 5	D2	01/05/2024
C4001	WATER AND SEWER PLAN - SHEET 1	D3	20/05/2024
C4002	WATER AND SEWER PLAN - SHEET 2	D3	20/05/2024
C4003	WATER AND SEWER PLAN - SHEET 3	D1	21/03/2024
C4004	WATER AND SEWER PLAN - SHEET 4	D1	21/03/2024
C4005	WATER AND SEWER PLAN - SHEET 5	D3	20/05/2024
C4006	WATER AND SEWER PLAN - SHEET 6	D1	21/03/2024
C4007	WATER AND SEWER PLAN - SHEET 7	D3	20/05/2024
C4008	WATER AND SEWER PLAN - SHEET 8	D3	20/05/2024
C4009	WATER AND SEWER PLAN - SHEET 9	D1	21/03/2024
C4101	WATER METER ASSEMBLY DETAILS	D1	21/03/2024
C4201	SEWER LONG SECTIONS - SHEET 1	D1	21/03/2024
C4202	SEWER LONG SECTIONS - SHEET 2	D1	21/03/2024
C4203	SEWER LONG SECTIONS - SHEET 3	D1	21/03/2024
C5001	B99 VEHICLE TURNING PLANS	D2	01/05/2024
C5101	MEDIUM RIGID VEHICLE TURNING PLAN - SHEET 1	D3	20/05/2024
C5102	MEDIUM RIGID VEHICLE TURNING PLAN - SHEET 2	D3	20/05/2024

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
INDEX

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C0000	D3

ROAD/DRIVEWAY

- DRIVEWAY CENTRELINE
- EDGE OF DRIVEWAY
- BATTER SLOPE

SITE

- PROPOSED BUILDING
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING SURFACE DRAIN

EXISTING SERVICES

- EX-SW — EXISTING STORMWATER PIPE
- EX-S — EXISTING SEWER PIPE
- EX-W — EXISTING WATER PIPE
- EX-FO — EXISTING FIBRE OPTIC CABLE
- EX-COMM — EXISTING TELECOMMUNICATIONS CABLE
- EX-U/E — EXISTING UNDERGROUND ELECTRICITY CABLE
- EX-O/E — EXISTING OVERHEAD ELECTRICITY CABLE
- EX-G — EXISTING UNDERGROUND GAS
- EXISTING MANHOLE
- EXISTING STORMWATER DOWNPIPE

DRAINAGE

- SW — STORMWATER PIPE
- SURFACE DRAIN
- GRATED STORMWATER PIT
- GRATED TRENCH DRAIN
- STORMWATER MANHOLE
- SW1/1 — STORMWATER STRUCTURE ID LABEL (REFERENCED BY LONGITUDINAL SECTIONS)
- STORMWATER DOWNPIPE
- STORMWATER INSPECTION OPENING

WATER SERVICES

- W — WATER PIPE

FIRE SERVICES

- F — FIRE HYDRANT WATER SUPPLY PIPE
- FH — DUAL HEADED FIRE HYDRANT

SEWER SERVICES

- S — SEWER PIPE
- SEWER MANHOLE
- SEWER INSPECTION OPENING
- S1/1 — SEWER STRUCTURE ID LABEL (REFERENCED BY LONGITUDINAL SECTIONS)

SURFACE

- 80.5 — DESIGN MAJOR CONTOUR 2.5m
- DESIGN MINOR CONTOUR 0.5m
- 80.5 — EXISTING MAJOR CONTOUR 2.5m
- EXISTING MINOR CONTOUR 0.5m
- DS:xx.xx NS:xx.xx Δ:x.xx — DESIGN/NATURAL SURFACE SPOT LEVEL
- 3.1% — DESIGN SURFACE SPOT GRADE

SLAB JOINTING

- SAWCUT CONTROL JOINT
- EXPANSION JOINT
- CONSTRUCTION JOINT

ABBREVIATIONS

CHAINAGE MARKER ABBREVIATIONS:

CH:	CHAINAGE
TP:	TANGENT POINT
TS:	TANGENT-SPIRAL
ST:	SPIRAL-TANGENT
CS:	CURVE-SPIRAL
SC:	SPIRAL-CURVE

HYDRAULIC ABBREVIATIONS:

OSD:	ON-SITE DETENTION
PVC:	POLYVINLY-CHLORIDE PIPE
RW:	RAINWATER
RCP:	REINFORCED CONCRETE PIPE
SW:	STORMWATER
HDPE:	HIGH DENSITY POLYETHYLENE PIPE

GENERAL ABBREVIATIONS/SYMBOLS:

AHD:	AUSTRALIAN HEIGHT DATUM
FFL:	FINISHED FLOOR LEVEL
IL:	INVERT LEVEL
RL:	REDUCED LEVEL (RELATIVE TO AHD)
DS:	DESIGN SURFACE
NS:	NATURAL SURFACE
Δ:	SURFACE LEVEL DIFFERENCE (CUT/FILL)

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

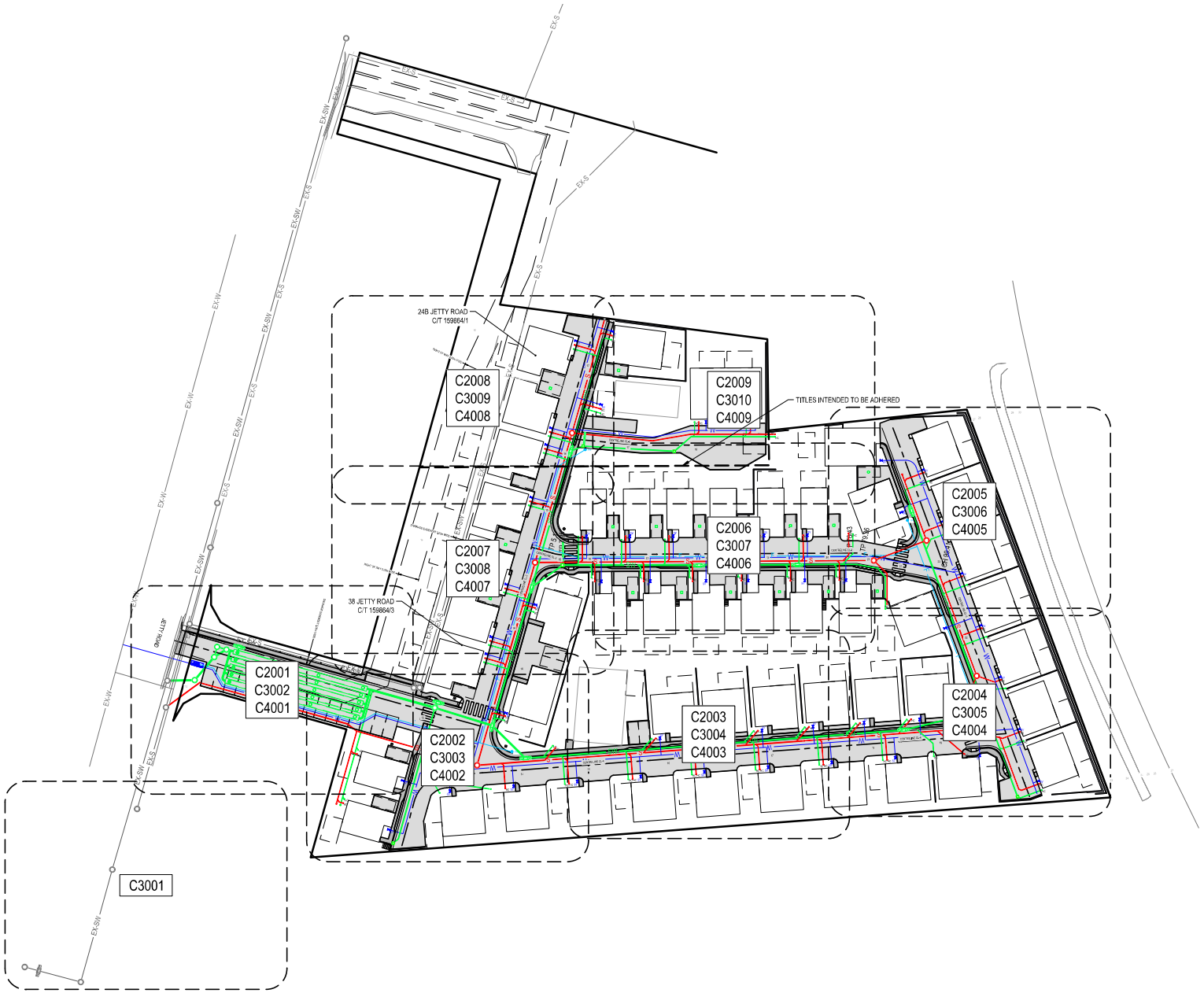
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
LEGEND

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C0001	D1



KEY PLAN

SCALE 1:500

SCALE: 1:500 @ A1

0 5 10 15 20 25m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

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GIC ESTATES PTY LTD

Drawing Name
KEY PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:500	A1	2023-02-05	C1000	D3

INSET A - ACCESS FROM JETTY ROAD

SCALE 1:200

EXISTING SITE PLAN - SHEET 1

SCALE 1:200

SCALE: 1:200 @ A1

0 2 4 6 8 10m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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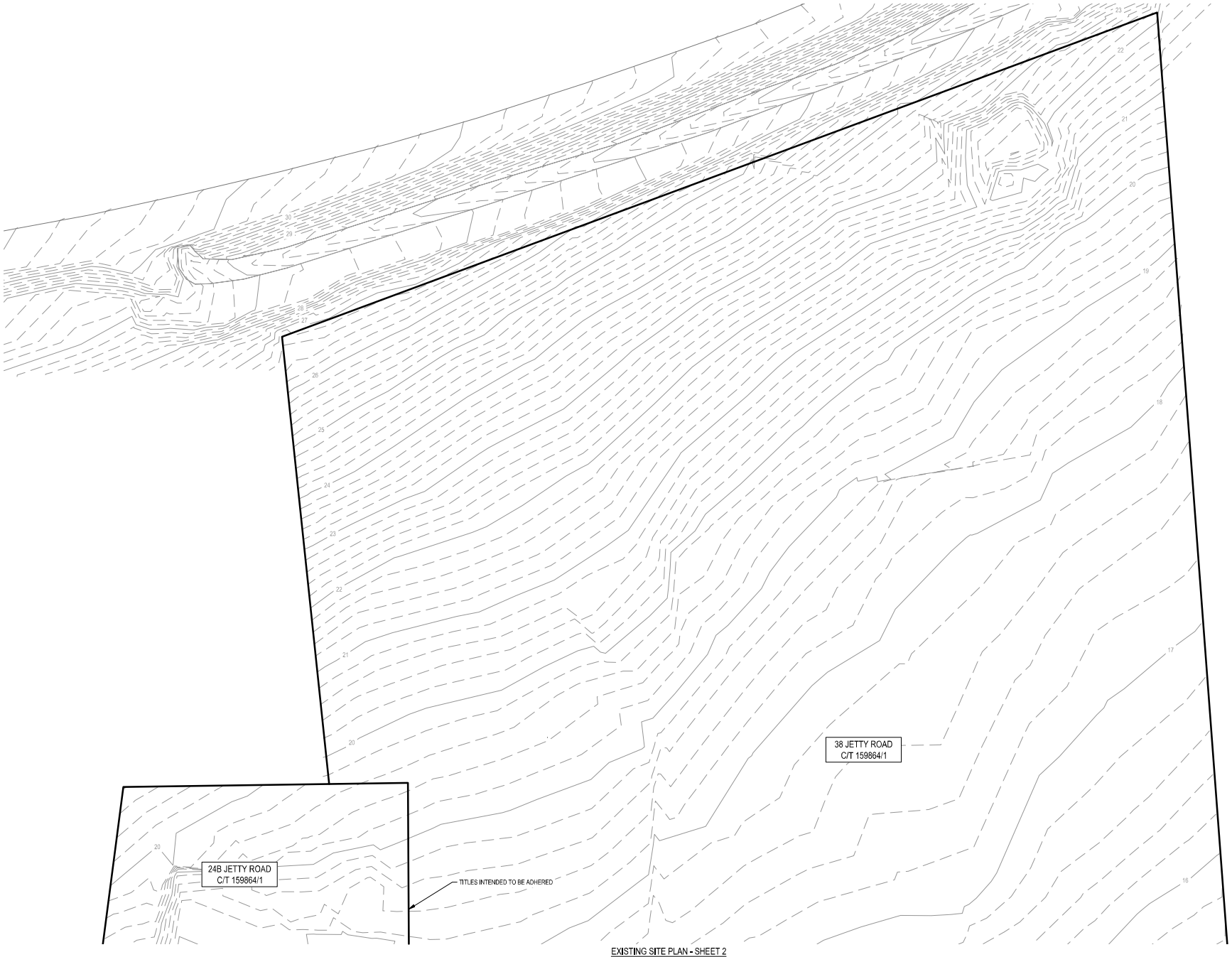
Drawing Name
EXISTING SITE PLAN - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
1:200	A1	2023-02-05	C1001	D1



EXISTING SITE PLAN - SHEET 2

SCALE 1:200

SCALE: 1:200 @ A1

0 2 4 6 8 10m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

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STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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Drawing Name
EXISTING SITE PLAN - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
1:200	A1	2023-02-05	C1002	D1

INSET A - ACCESS FROM JETTY ROAD

SCALE 1:200

PROPOSED SITE PLAN - SHEET 1

SCALE 1:200

SCALE: 1:200 @ A1

0 2 4 6 8 10m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
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Drawing Name
PROPOSED SITE PLAN - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
1:200	A1	2023-02-05	C1003	D3

PROPOSED SITE PLAN - SHEET 2

SCALE 1:200

SCALE: 1:200 @ A1

0 2 4 6 8 10m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

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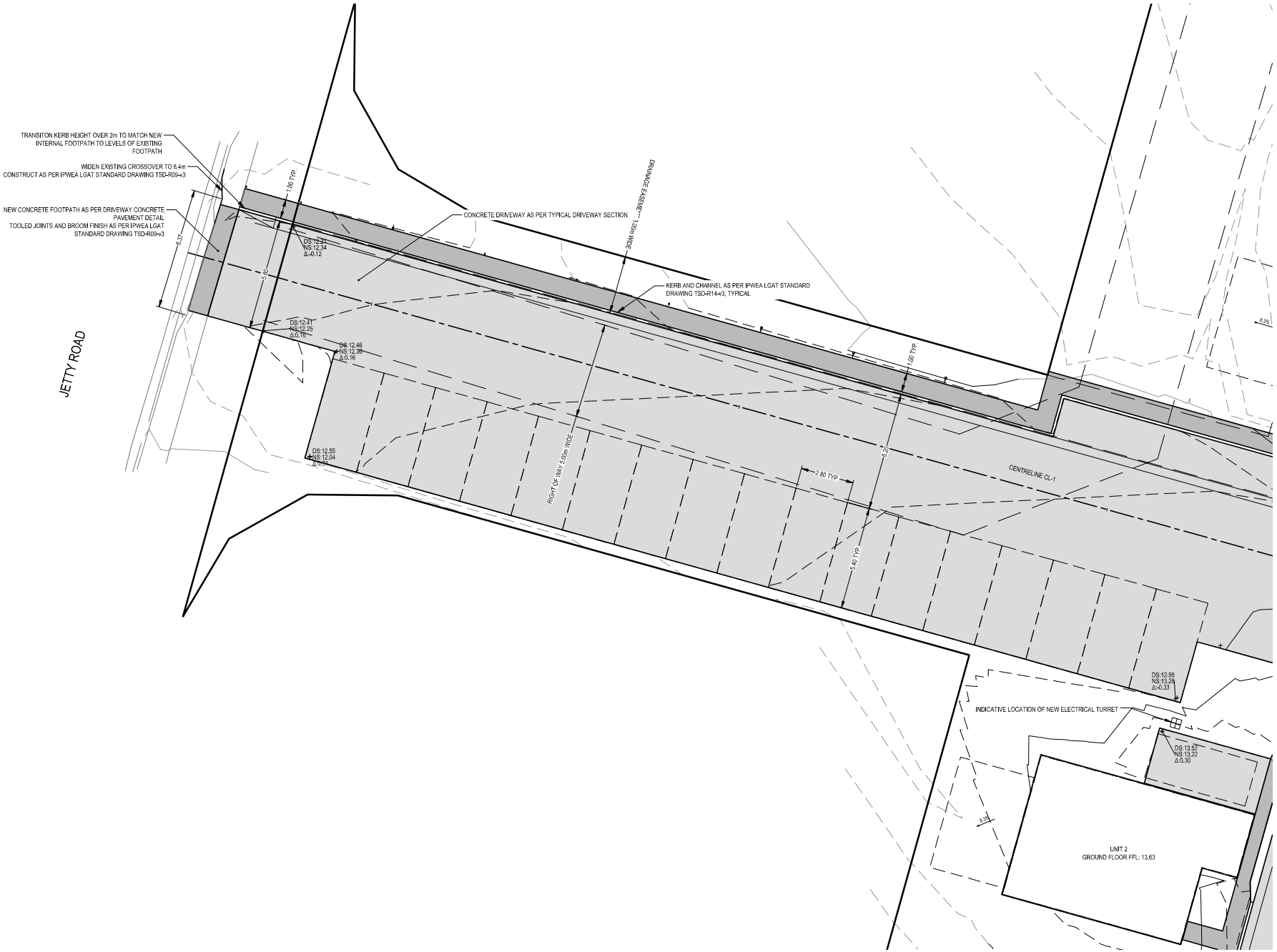
Drawing Name
PROPOSED SITE PLAN - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
1:200	A1	2023-02-05	C1004	D3



DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 1

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

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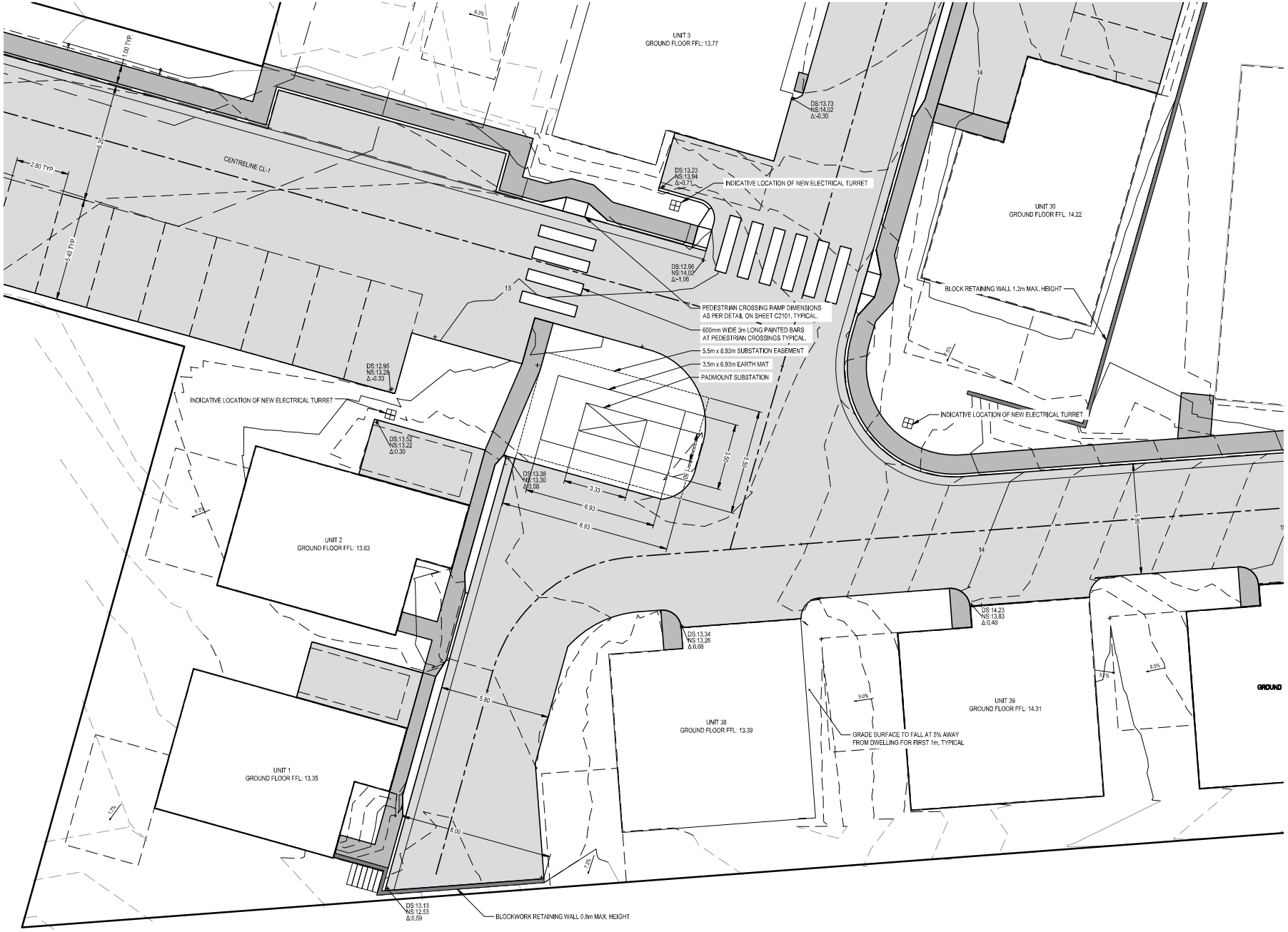
Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2001	D3



DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 2

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

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Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2002	D3

DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 3

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
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Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2003	D1

DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 4

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

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STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

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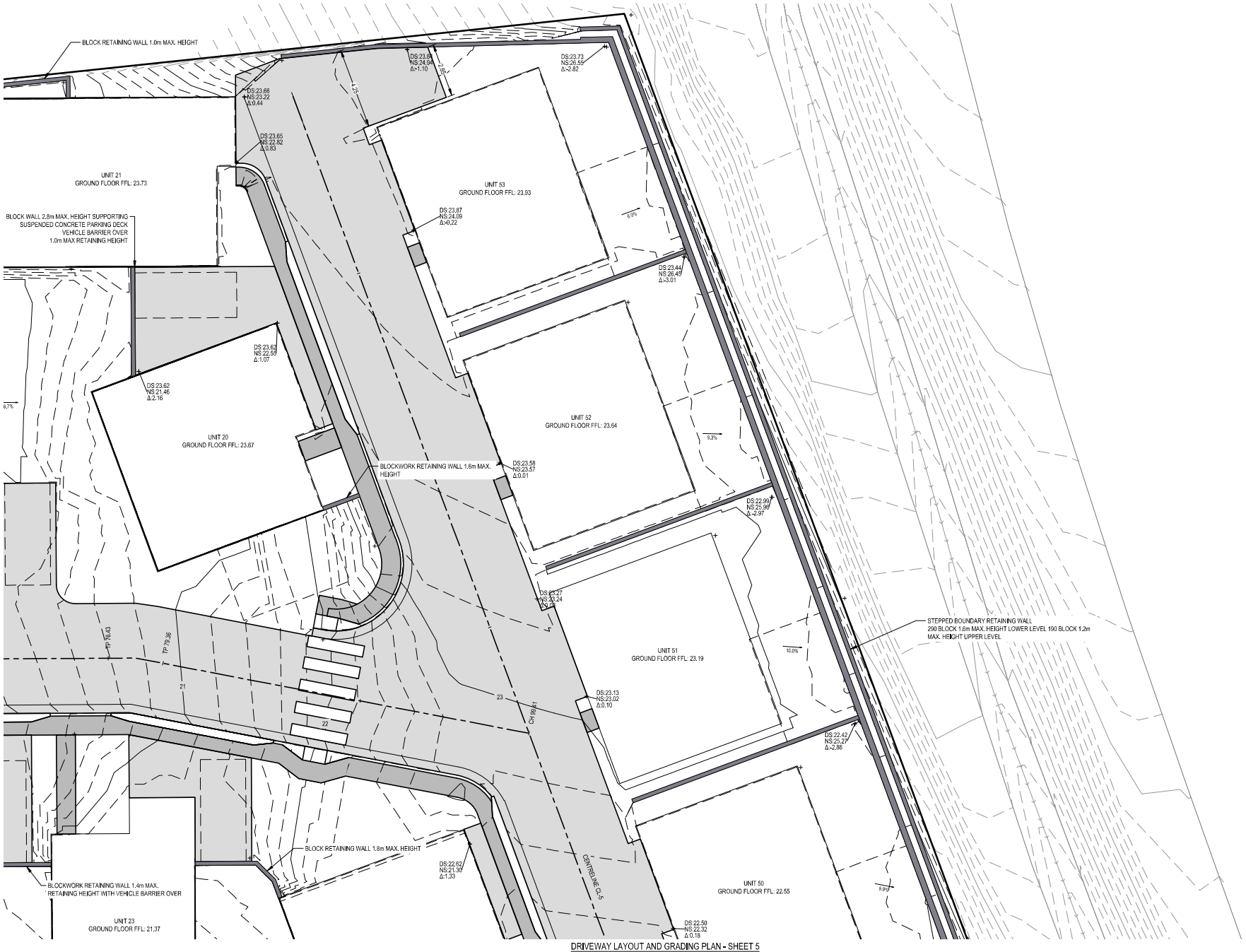
Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2004	D1



DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 5

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2005	D3

DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 6

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2006	D1

DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 7

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
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Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2007	D3

DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 8

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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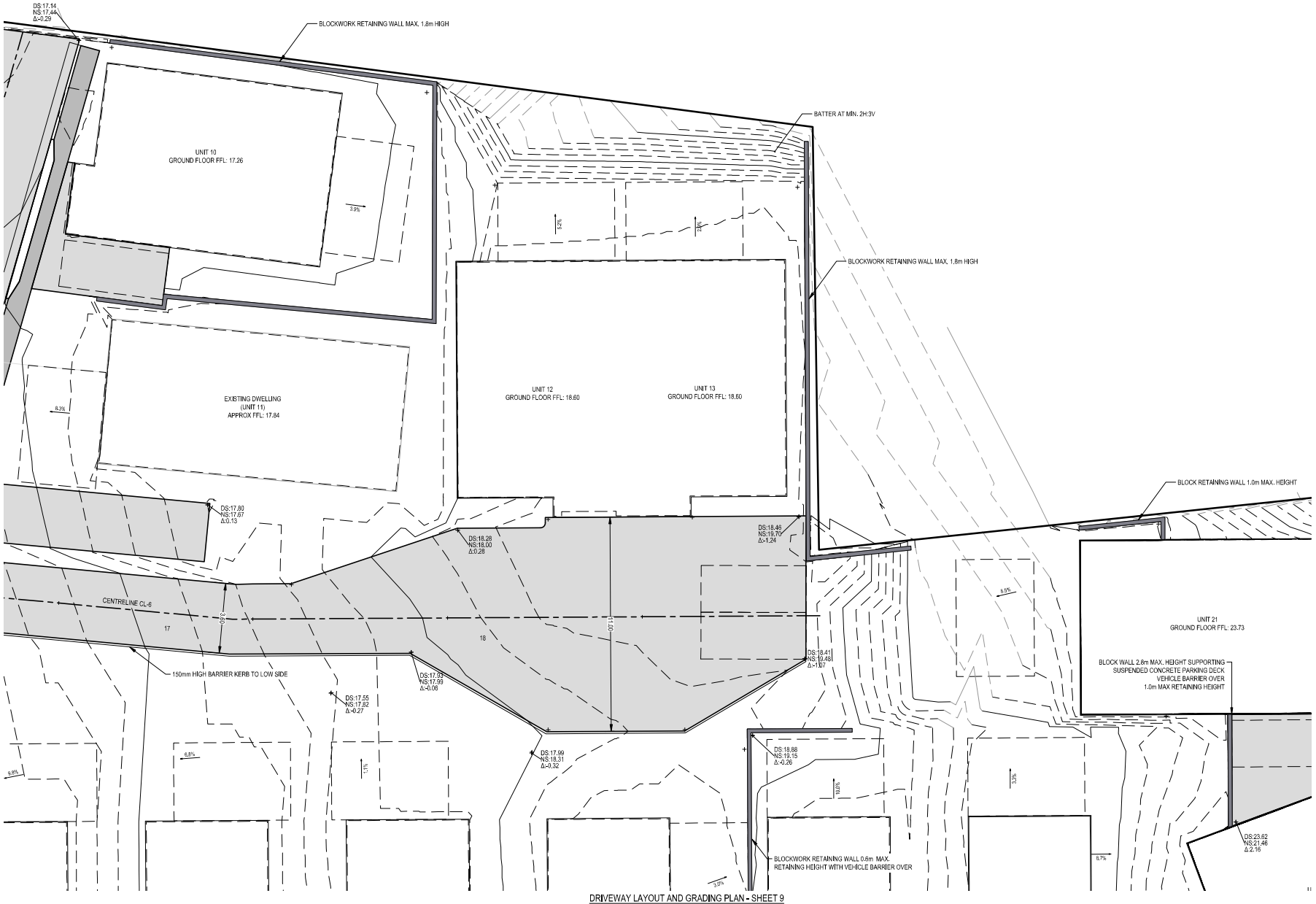
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2008	D3



DRIVEWAY LAYOUT AND GRADING PLAN - SHEET 9

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

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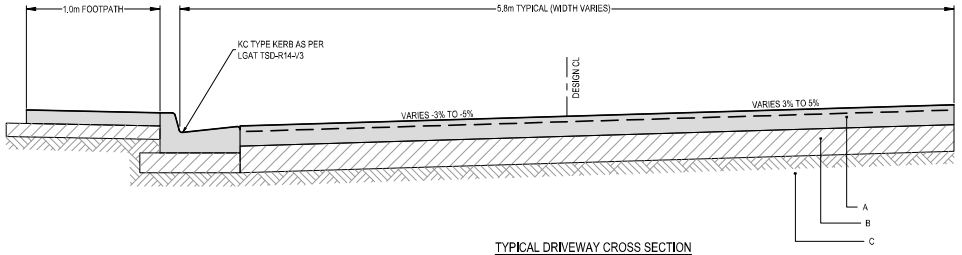
GIC ESTATES PTY LTD

Drawing Name
DRIVEWAY LAYOUT AND GRADING PLAN

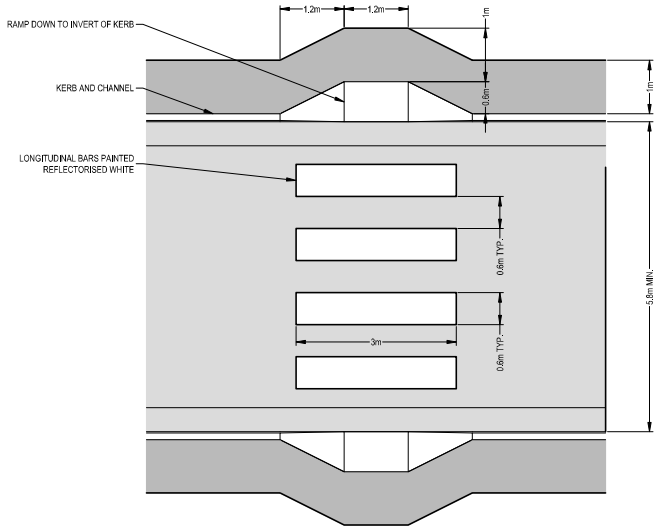
Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2009	D1

CONCRETE DRIVEWAY PAVEMENT		
PAVEMENT LAYER	THICKNESS (mm)	MATERIAL
A CONCRETE BASE COURSE	150	N32 CONCRETE WITH SL92 MESH TOP (40mm MIN. COVER)
B SUBBASE COURSE	200	CLASS 3 CRUSHED ROCK
C SUBGRADE	-	IN SITU MATERIAL CBR ≥ 3%



TYPICAL DRIVEWAY CROSS SECTION

SCALE 1:20



TYPICAL PEDESTRIAN CROSSING LAYOUT

SCALE 1:50

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

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STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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Client
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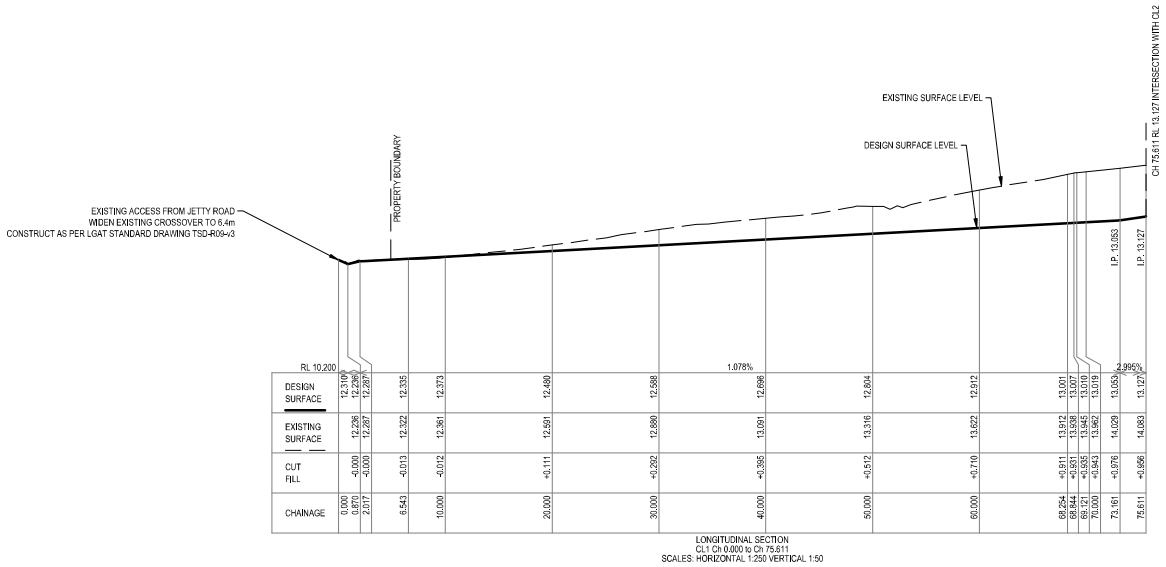
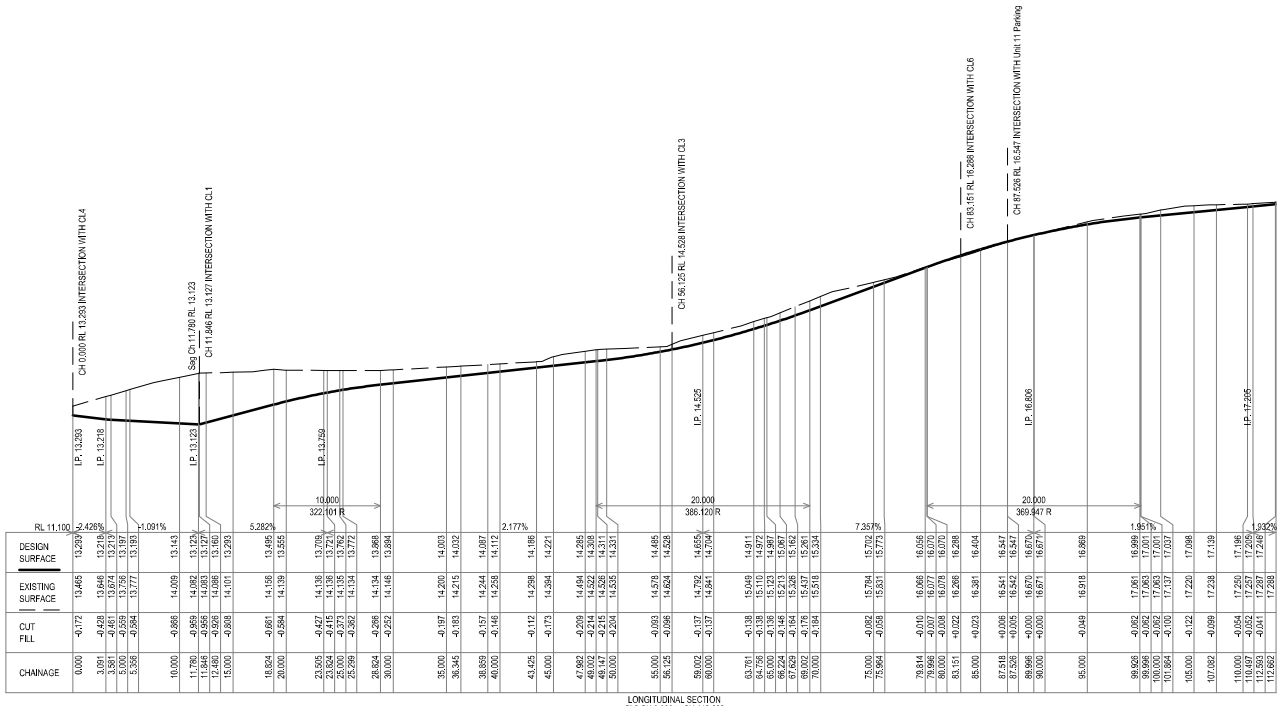
Drawing Name
DRIVEWAY TYPICAL DETAILS

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C2101	D1



LONGITUDINAL SECTION
CL1 CH 0.000 to CH 75.611
SCALES: HORIZONTAL 1:250 VERTICAL 1:50



LONGITUDINAL SECTION
CL2 CH 0.000 to CH 112.662
SCALES: HORIZONTAL 1:250 VERTICAL 1:50

SCALE: 1:250 @ A1
0 2.5 5 7.5 10 12.5m

SCALE: 1:50 @ A1
0 0.5 1 1.5 2 2.5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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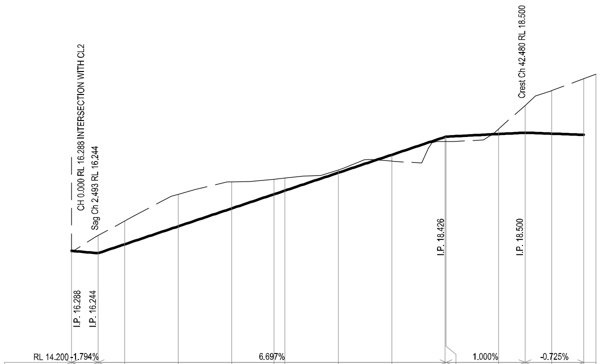
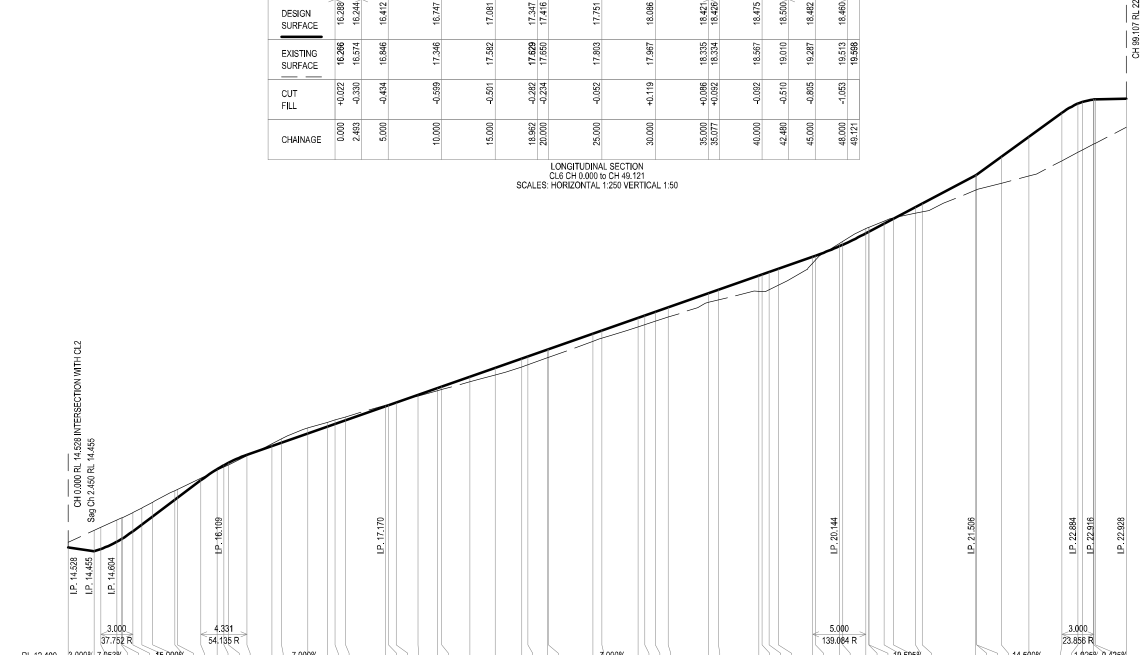
Drawing Name
DRIVEWAY LONG SECTIONS - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2201	D1



CHAINAGE	DESIGN SURFACE	EXISTING SURFACE	CUT / FILL
0.000	16.288	16.266	+0.022
2.493	16.244	16.574	-0.330
5.000	16.412	16.846	-0.434
10.000	16.747	17.346	-0.599
15.000	17.081	17.582	-0.501
18.962	17.347	17.629	-0.282
20.000	17.416	17.650	-0.234
25.000	17.751	17.803	-0.052
30.000	18.086	17.967	+0.119
35.000	18.421	18.335	+0.086
35.077	18.426	18.334	+0.092
40.000	18.475	18.567	-0.092
42.480	18.500	19.010	-0.510
45.000	18.482	19.287	-0.805
48.000	18.460	19.513	-1.053
49.121		19.598	

LONGITUDINAL SECTION
CL6 CH 0.000 to CH 49.121
SCALES: HORIZONTAL 1:250 VERTICAL 1:50



CHAINAGE	DESIGN SURFACE	EXISTING SURFACE	CUT / FILL
0.000	14.528	14.624	-0.096
2.450	14.455	14.847	-0.392
3.058	14.498	14.903	-0.405
4.558	14.633	15.039	-0.406
5.000	14.685	15.079	-0.394
5.101	14.697	15.088	-0.391
6.058	14.829	15.179	-0.350
6.926	14.959	15.267	-0.308
7.946	15.112	15.376	-0.264
10.000	15.420	15.591	-0.171
10.248	15.457	15.615	-0.158
12.431	15.785	15.823	-0.038
13.972	15.994	15.972	+0.022
14.597	16.066	16.033	+0.033
15.000	16.109	16.072	+0.037
16.762	16.261	16.242	+0.019
19.105	16.425	16.471	-0.046
20.000	16.488	16.562	-0.074
22.452	16.659	16.762	-0.103
24.282	16.787	16.870	-0.083
25.000	16.838	16.913	-0.075
25.986	16.907	16.971	-0.064
29.751	17.170	17.193	-0.023
30.000	17.188	17.206	-0.018
30.746	17.240	17.243	-0.003
32.762	17.381	17.362	+0.019
34.592	17.509	17.462	+0.047
35.000	17.538	17.484	+0.054
37.626	17.721	17.628	+0.093
40.000	17.888	17.755	+0.133
42.486	18.062	17.907	+0.155
43.072	18.103	17.946	+0.157
44.902	18.231	18.078	+0.153
45.000	18.238	18.085	+0.153
49.166	18.529	18.385	+0.144
50.000	18.588	18.443	+0.145
53.382	18.824	18.658	+0.166
54.026	18.869	18.699	+0.170
55.000	18.938	18.762	+0.176
56.212	19.023	18.840	+0.183
60.000	19.288	19.116	+0.172
60.906	19.351	19.161	+0.190
64.692	19.616	19.322	+0.294
65.000	19.638	19.318	+0.320
65.666	19.684	19.352	+0.332
66.522	19.744	19.436	+0.308
69.731	19.969	19.849	+0.120
70.000	19.988	19.909	+0.079
72.231	20.166	20.216	-0.050
72.546	20.194	20.255	-0.061
74.731	20.409	20.497	-0.088
75.000	20.437	20.520	-0.083
75.002	20.437	20.520	-0.083
76.435	20.589	20.639	-0.050
77.306	20.681	20.698	-0.017
79.358	20.899	20.785	+0.114
80.000	20.967	20.811	+0.156
85.000	21.497	21.218	+0.279
85.087	21.506	21.225	+0.281
85.100	21.508	21.226	+0.282
87.398	21.841	21.346	+0.495
90.000	22.218	21.480	+0.738
93.091	22.666	21.766	+0.900
94.591	22.837	21.923	+0.914
95.000	22.867	21.966	+0.901
96.033	22.912	22.074	+0.838
96.091	22.913	22.080	+0.833
96.245	22.916	22.096	+0.820
99.107	22.928	22.396	+0.532

LONGITUDINAL SECTION
CL3 CH 0.000 to CH 99.107
SCALES: HORIZONTAL 1:250 VERTICAL 1:50

SCALE: 1:250 @ A1
0 2.5 5 7.5 10 12.5m

SCALE: 1:50 @ A1
0 0.5 1 1.5 2 2.5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

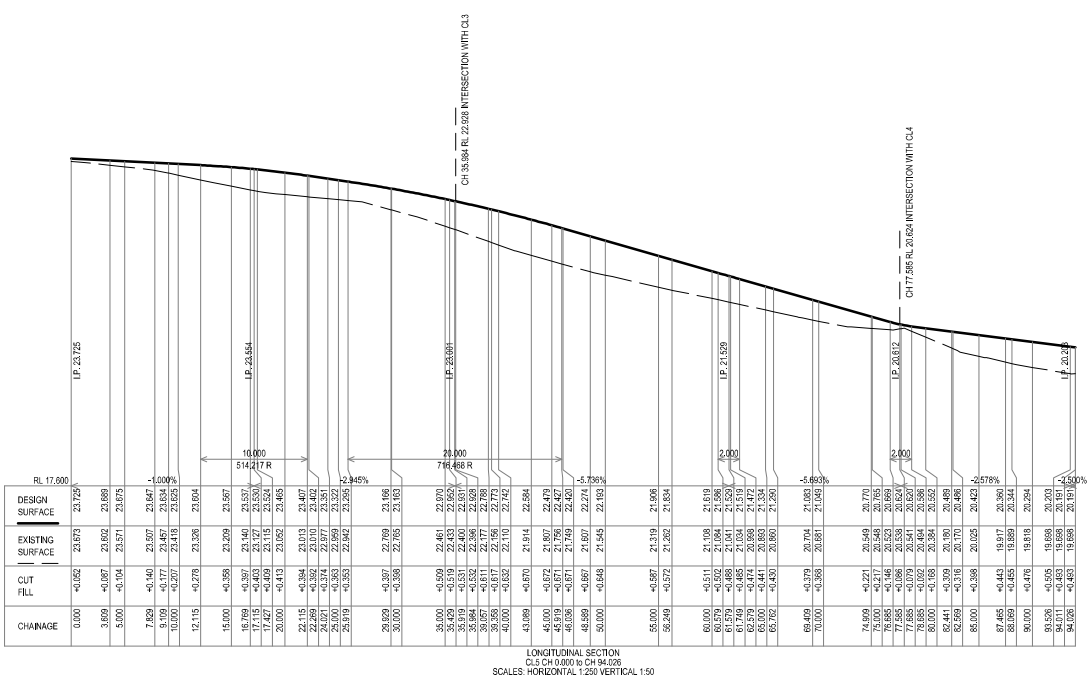
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

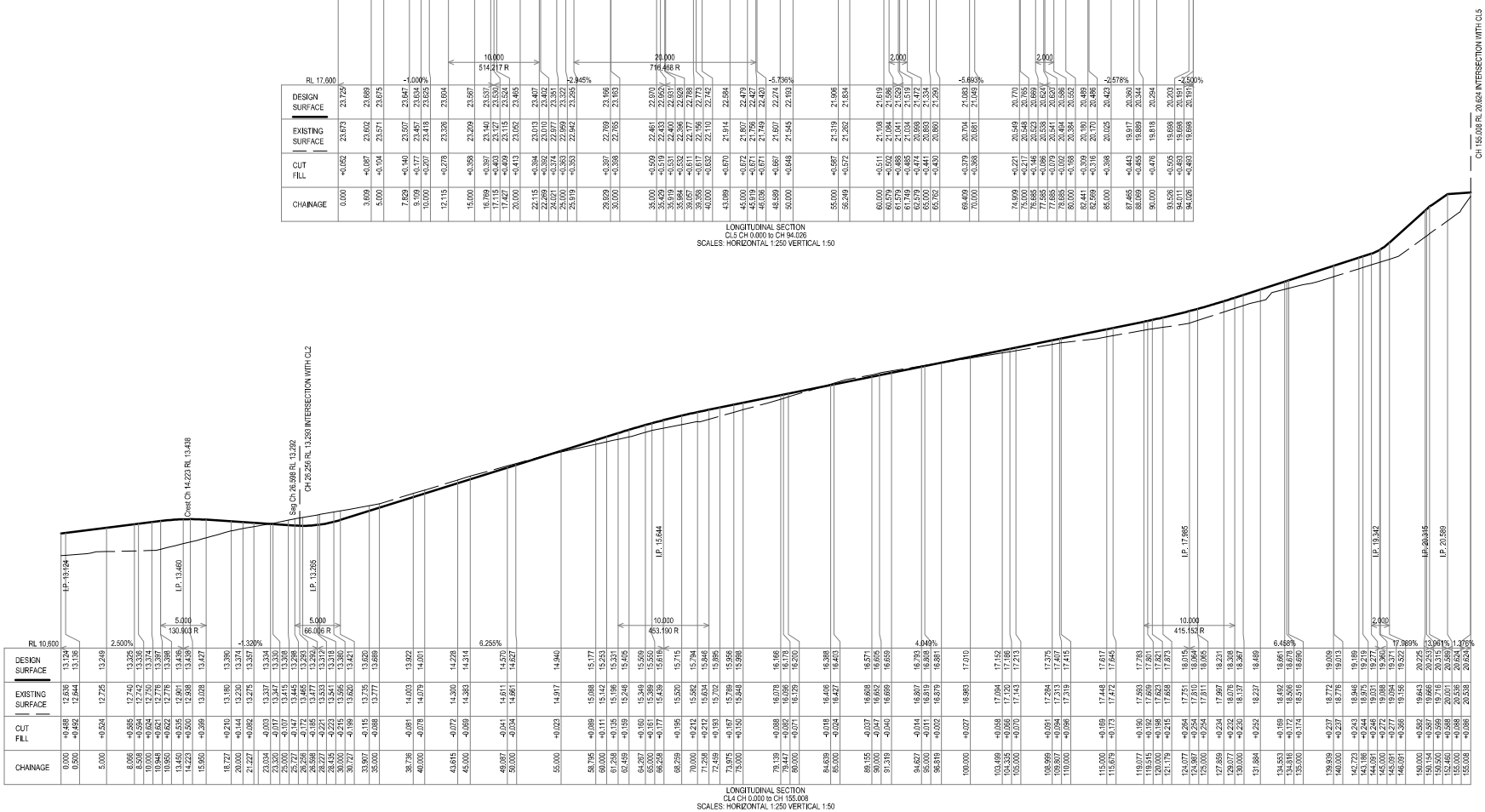
Client
GIC ESTATES PTY LTD

Drawing Name
DRIVEWAY LONG SECTIONS - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2202	D1



LONGITUDINAL SECTION
CL5 CH 0.000 to CH 94.026
SCALES: HORIZONTAL 1:250 VERTICAL 1:50



LONGITUDINAL SECTION
CL4 CH 0.000 to CH 155.008
SCALES: HORIZONTAL 1:250 VERTICAL 1:50

SCALE: 1:250 @ A1
0 2.5 5 7.5 10 12.5m

SCALE: 1:50 @ A1
0 0.5 1 1.5 2 2.5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

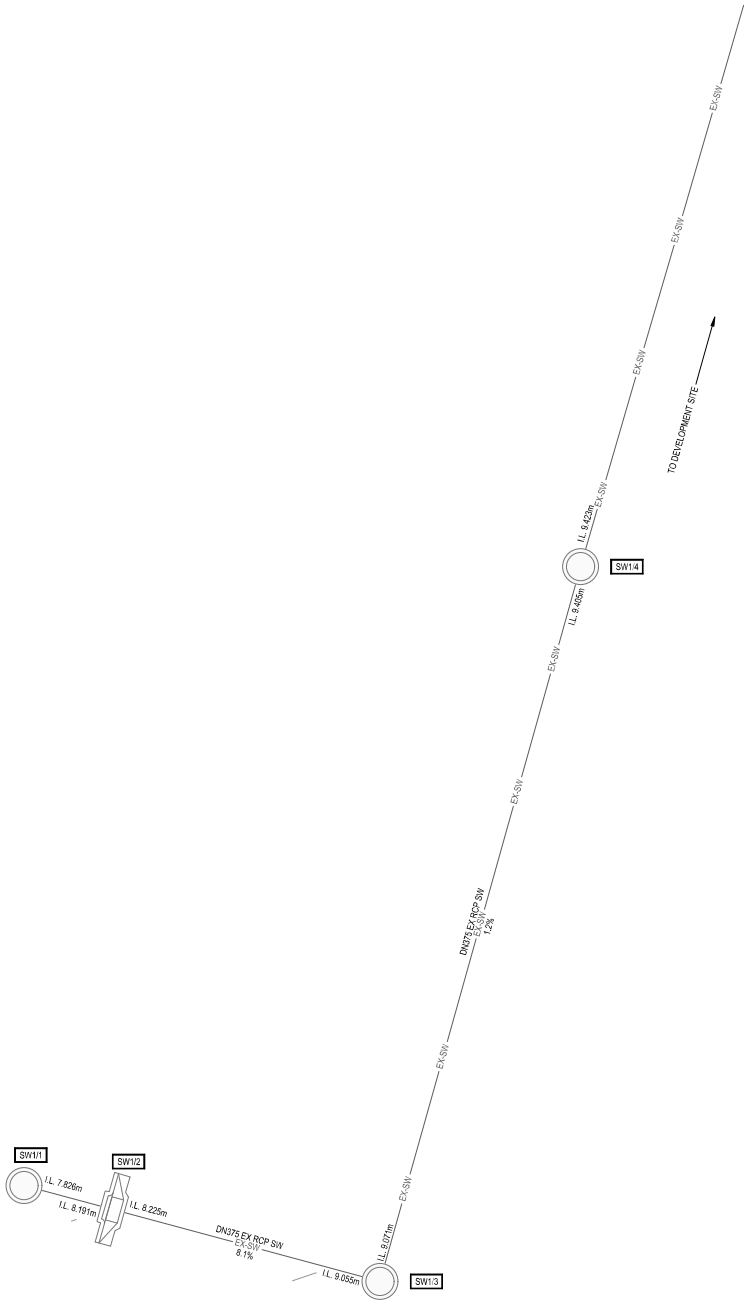
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
DRIVEWAY LONG SECTIONS - SHEET 3

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C2203	D1



STORMWATER DRAINAGE PLAN - SHEET 1

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

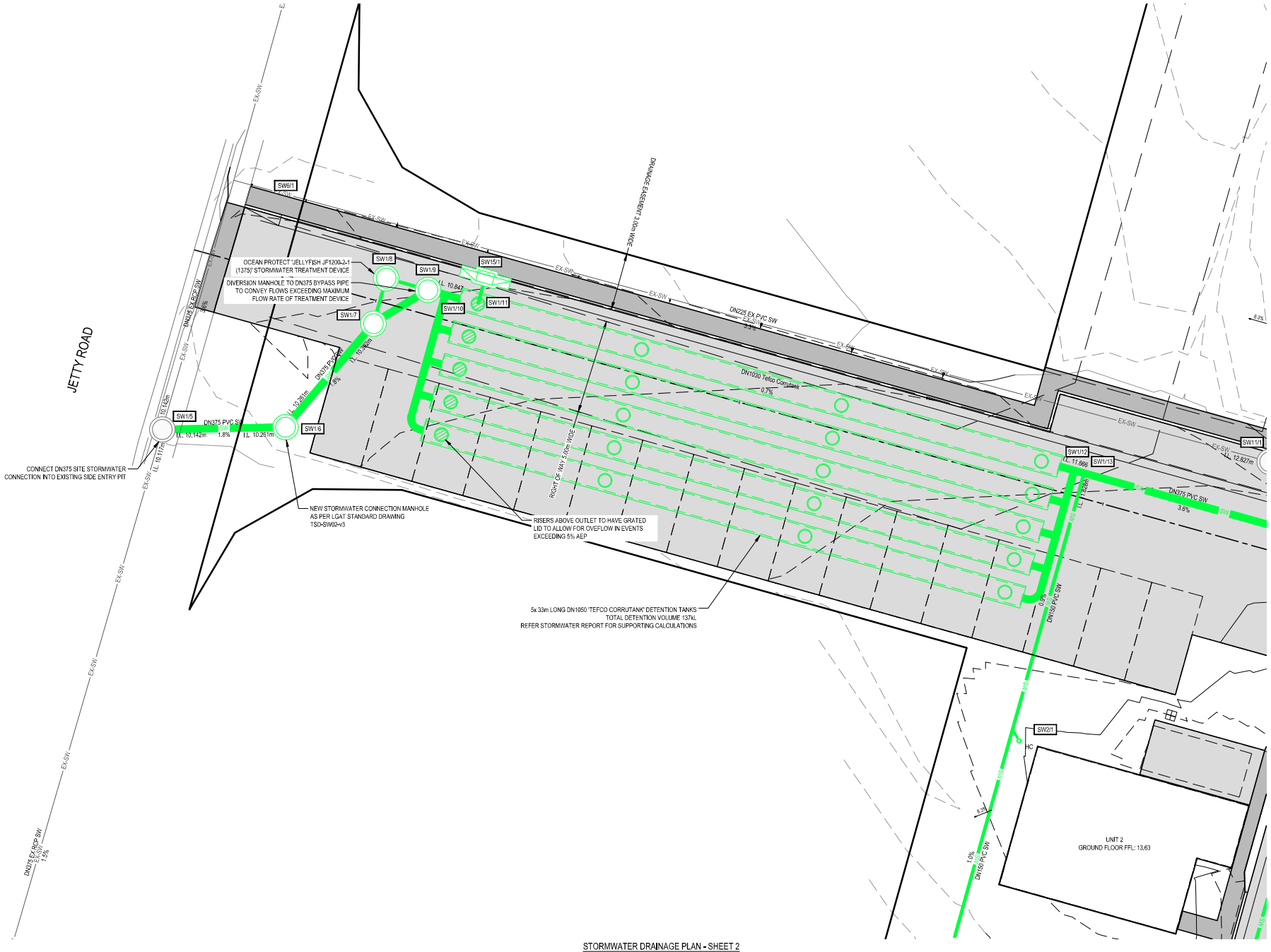
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3001	D1



STORMWATER DRAINAGE PLAN - SHEET 2

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

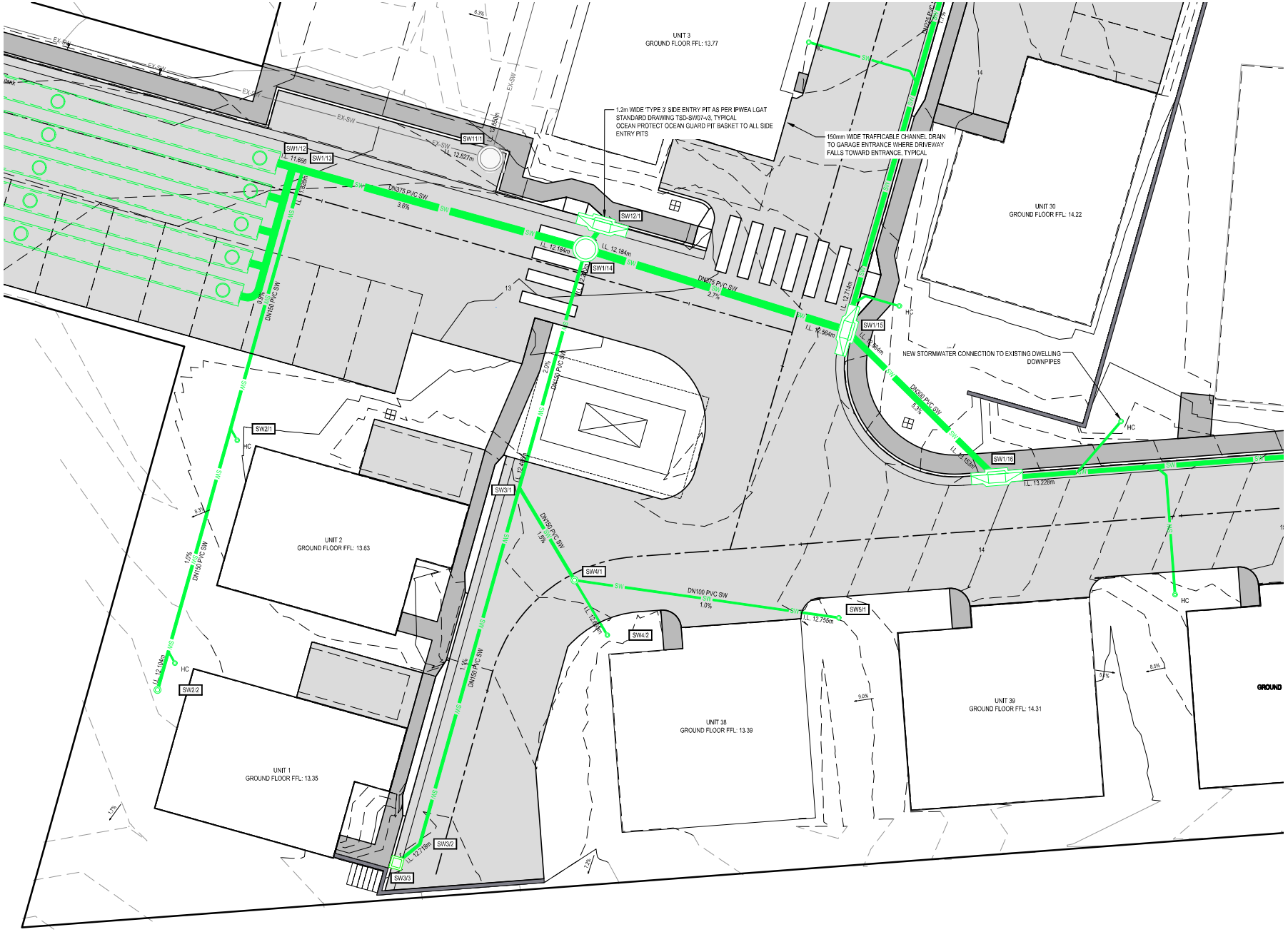
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3002	D3



STORMWATER DRAINAGE PLAN - SHEET 3

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 3

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3003	D3

STORMWATER DRAINAGE PLAN - SHEET 4

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 4

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3004	D1

STORMWATER DRAINAGE PLAN - SHEET 5

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
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24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 5

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3005	D1

STORMWATER DRAINAGE PLAN - SHEET 6

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 6

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3006	D3

STORMWATER DRAINAGE PLAN - SHEET 7

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 7

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3007	D1

STORMWATER DRAINAGE PLAN - SHEET 8

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 8

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3008	D3

STORMWATER DRAINAGE PLAN - SHEET 9

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

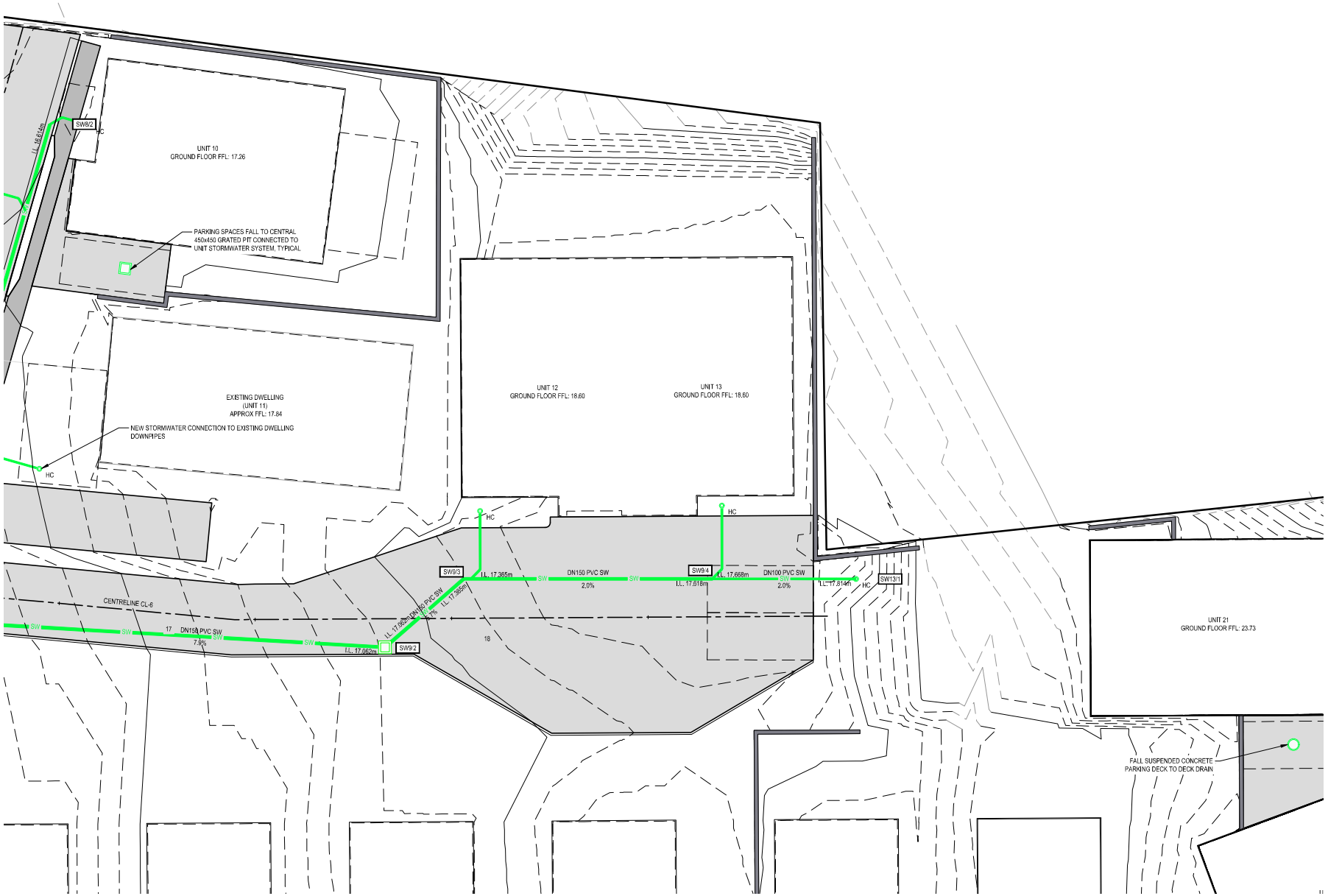
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 9

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3009	D3



STORMWATER DRAINAGE PLAN - SHEET 10

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

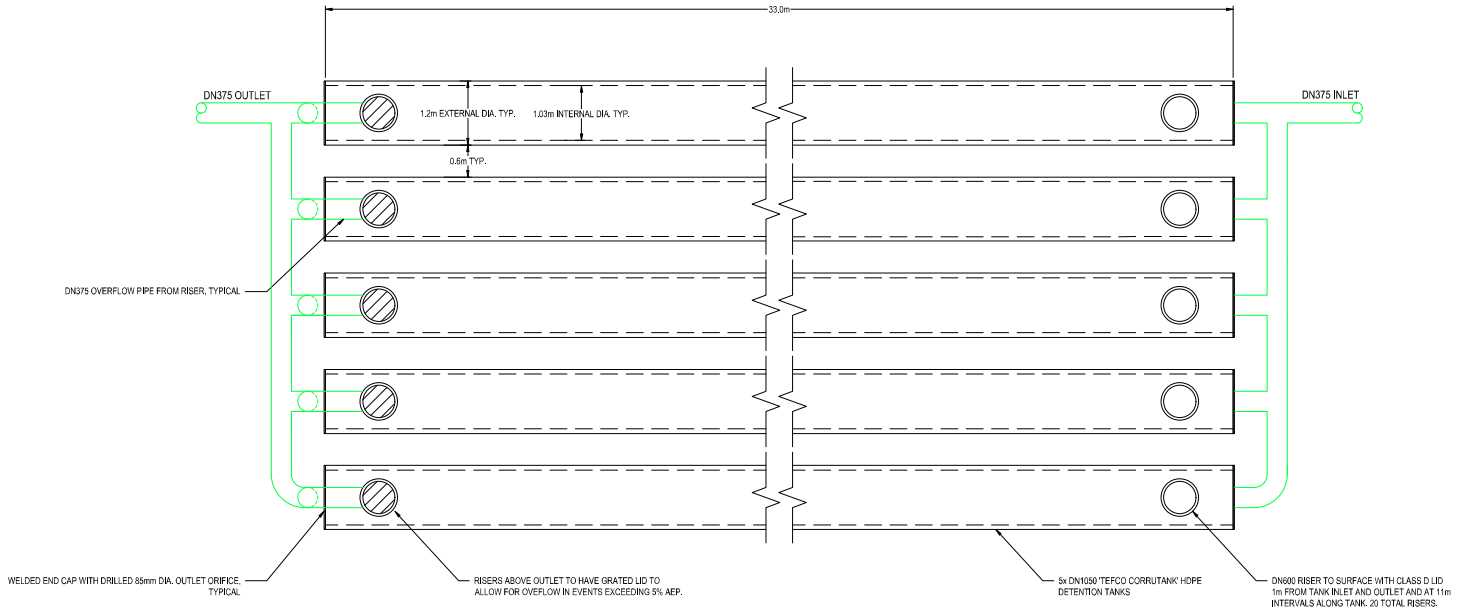
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

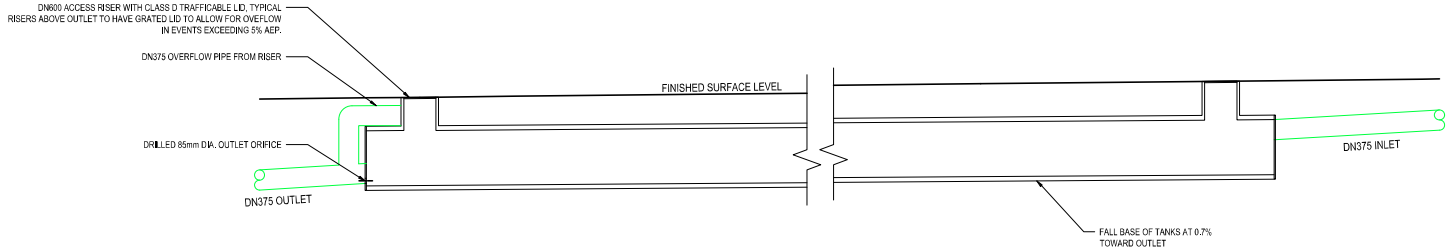
Drawing Name
STORMWATER DRAINAGE PLAN - SHEET 10

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C3010	D1



CORRUTANK SCHEMATIC - PLAN VIEW

SCALE 1:50



CORRUTANK SCHEMATIC - TYPICAL SECTION

SCALE 1:50

No.	Revision	Date
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

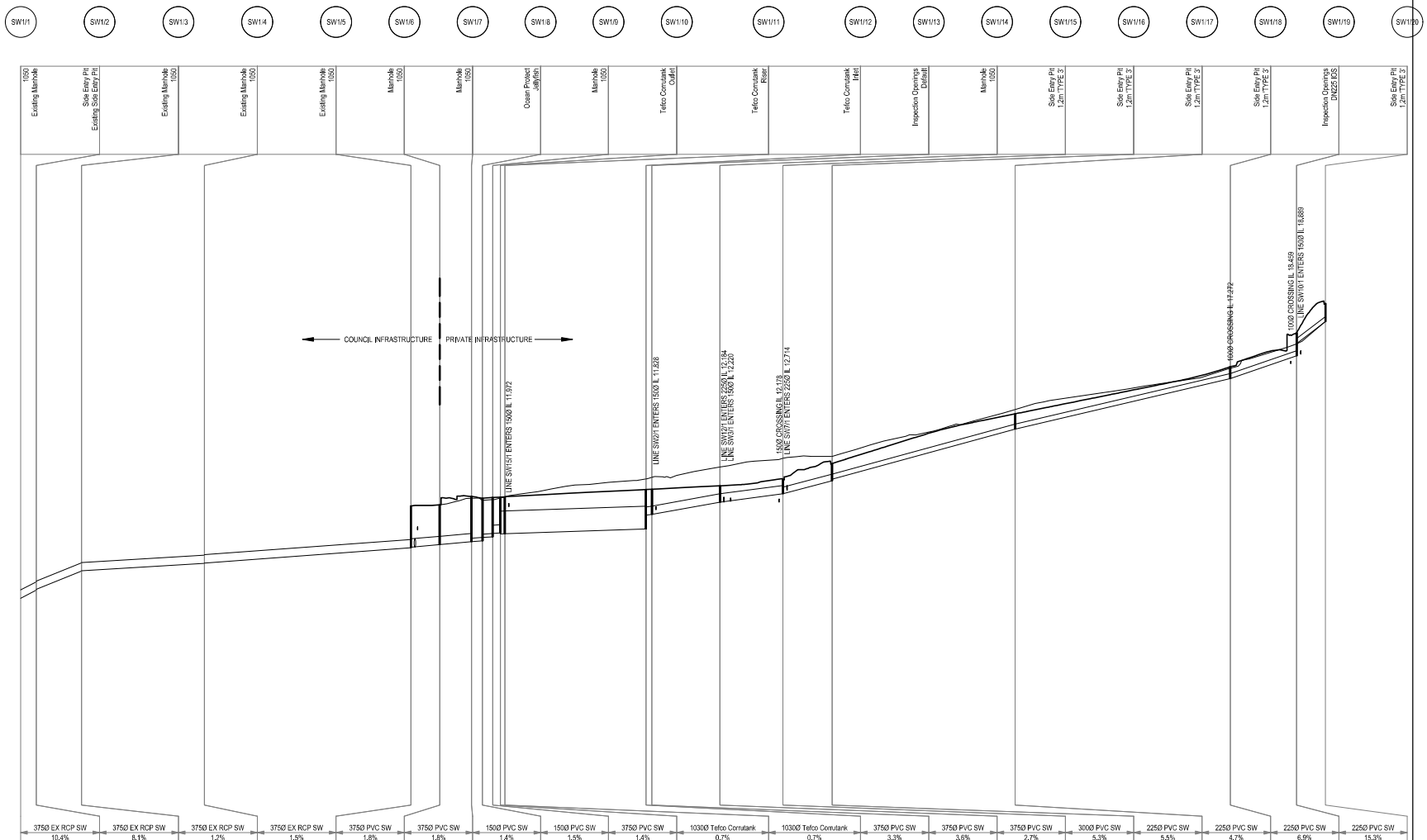
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER TYPICAL SECTIONS

Scale	Size	Project No.	Dwg No.	Rev.
1:50	A1	2023-02-05	C3101	D2



PIPE DETAILS																			
SLOPE/GRADE	375Ø EX RCP SW 10.4%	375Ø EX RCP SW 8.1%	375Ø EX RCP SW 1.2%	375Ø EX RCP SW 1.5%	375Ø PVC SW 1.8%	375Ø PVC SW 1.8%	150Ø PVC SW 1.4%	150Ø PVC SW 1.5%	375Ø PVC SW 1.4%	1030Ø Tefco Corrutank 0.7%	1030Ø Tefco Corrutank 0.7%	375Ø PVC SW 3.3%	375Ø PVC SW 3.6%	375Ø PVC SW 2.7%	300Ø PVC SW 5.3%	225Ø PVC SW 5.5%	225Ø PVC SW 4.7%	225Ø PVC SW 6.9%	225Ø PVC SW 15.3%
DATUM RL -4																			
HGL	8.201	8.201	8.225	9.055	9.071	9.405	9.423	10.117	10.142	10.261	10.392	10.427	10.577	10.612	10.762	10.787	10.794	11.818	11.586	11.830	12.184	12.564	13.153	13.226	15.465	17.783	18.814	19.364	20.367
DEPTH TO INVERT	-7.926	-8.191	-8.225	-9.055	-9.071	-9.405	-9.423	1.989	1.864	1.799	2.046	1.936	1.766	1.779	1.829	1.825	1.871	1.877	1.783	1.169	1.139	0.739	0.659	0.791	0.706	0.588	0.534	1.050	0.500	0.825
INVERT LEVEL	7.926	8.191	8.225	9.055	9.071	9.405	9.423	10.117	10.142	10.261	10.392	10.427	10.577	10.612	10.762	10.787	10.741	10.748	10.972	11.586	11.830	12.184	12.564	13.153	13.226	15.465	17.783	18.814	19.364	20.367
FINISHED SURFACE						12.096		12.080		12.438		12.363		12.391		12.412		12.425	12.755		12.769	12.923	13.223	13.954		16.183	18.317		19.864		21.192
EXISTING SURFACE						12.096		12.080		12.360		12.267		12.295		12.371		12.424	13.239		13.306	13.774	14.189	14.256		16.380	18.251		19.354		20.375
CHAINAGE	0.000	3.510	13.806	41.603	46.827	88.430	94.959	102.156	104.656	106.957	108.707	109.707	141.707	143.053	158.457	172.754	183.870	225.370	274.120	289.167	295.706								
	3.510	10.296	27.796	46.827	6.529	7.197	2.500	2.301	1.750	1.000	32.000	1.346	15.404	14.298	11.116	41.500	48.750	15.047	6.538										

LONGITUDINAL SECTION FOR LINE SW1
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

SCALE: 1:500 @ A1
0 5 10 15 20 25m

SCALE: 1:100 @ A1
0 1 2 3 4 5m

No.	Revision	Date
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

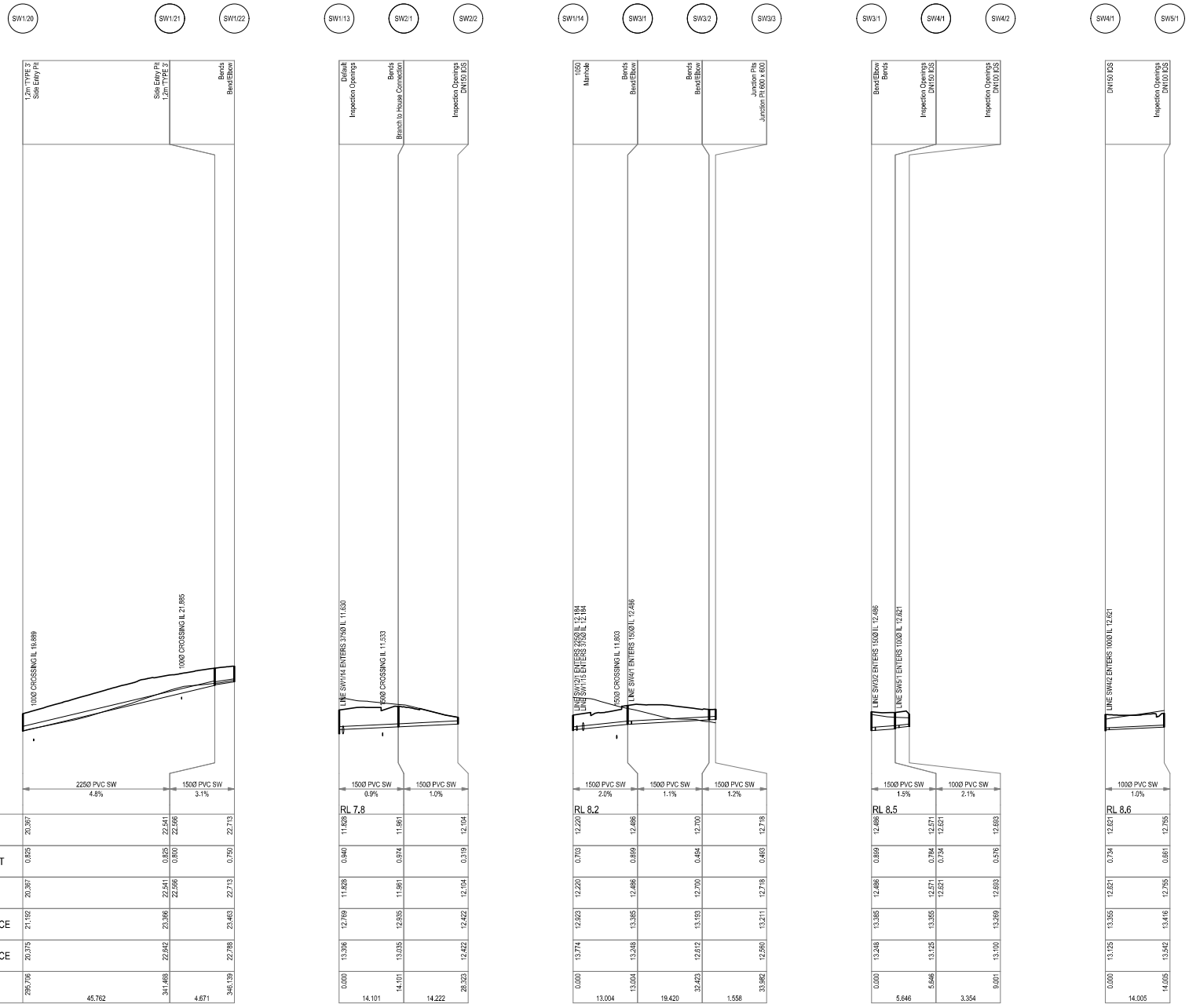
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC55871

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER LONG SECTIONS - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C3201	D2



LONGITUDINAL SECTION FOR LINE SW1
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW2
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW3
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW4
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW5
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

SCALE: 1:500 @ A1
0 5 10 15 20 25m

SCALE: 1:100 @ A1
0 1 2 3 4 5m

No.	Revision	Date
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

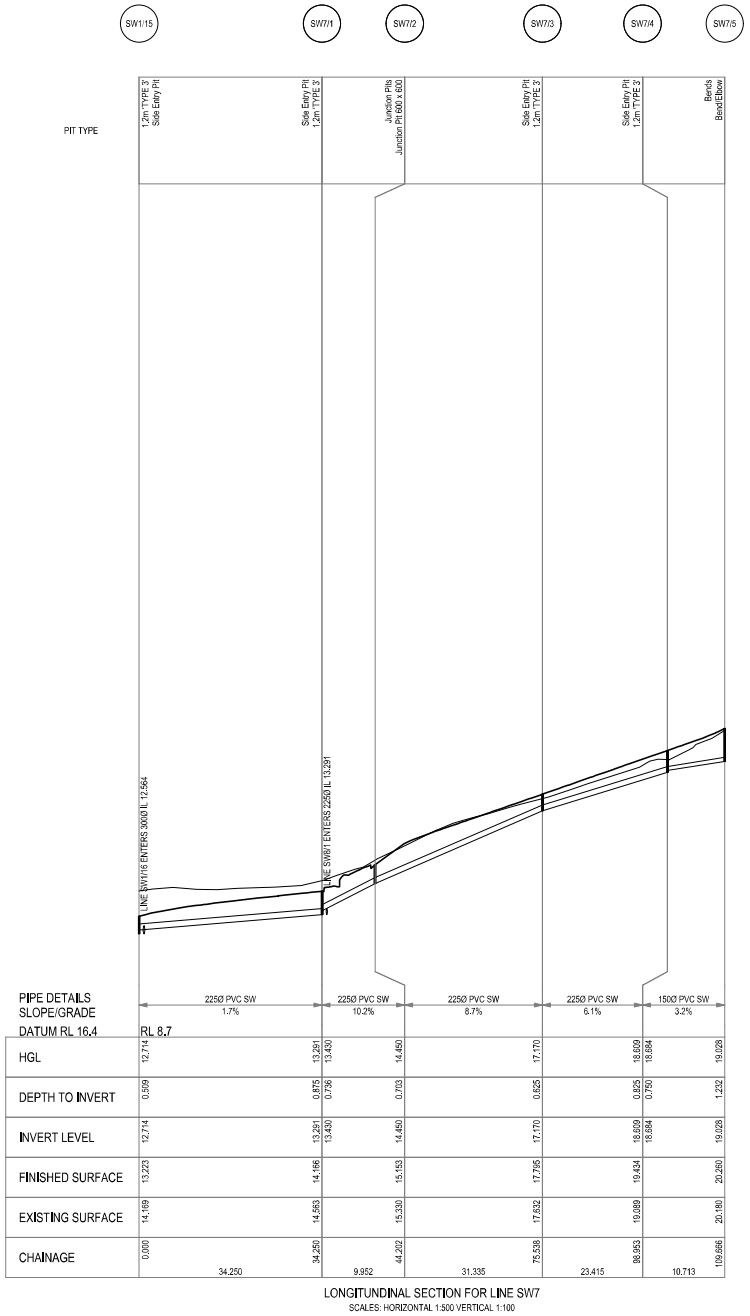
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER LONG SECTIONS - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C3202	D2



LONGITUNDINAL SECTION FOR LINE SW7

SCALES: HORIZONTAL 1:500 VERTICAL 1:100

SCALE: 1:500 @ A1

0 5 10 15 20 25m

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
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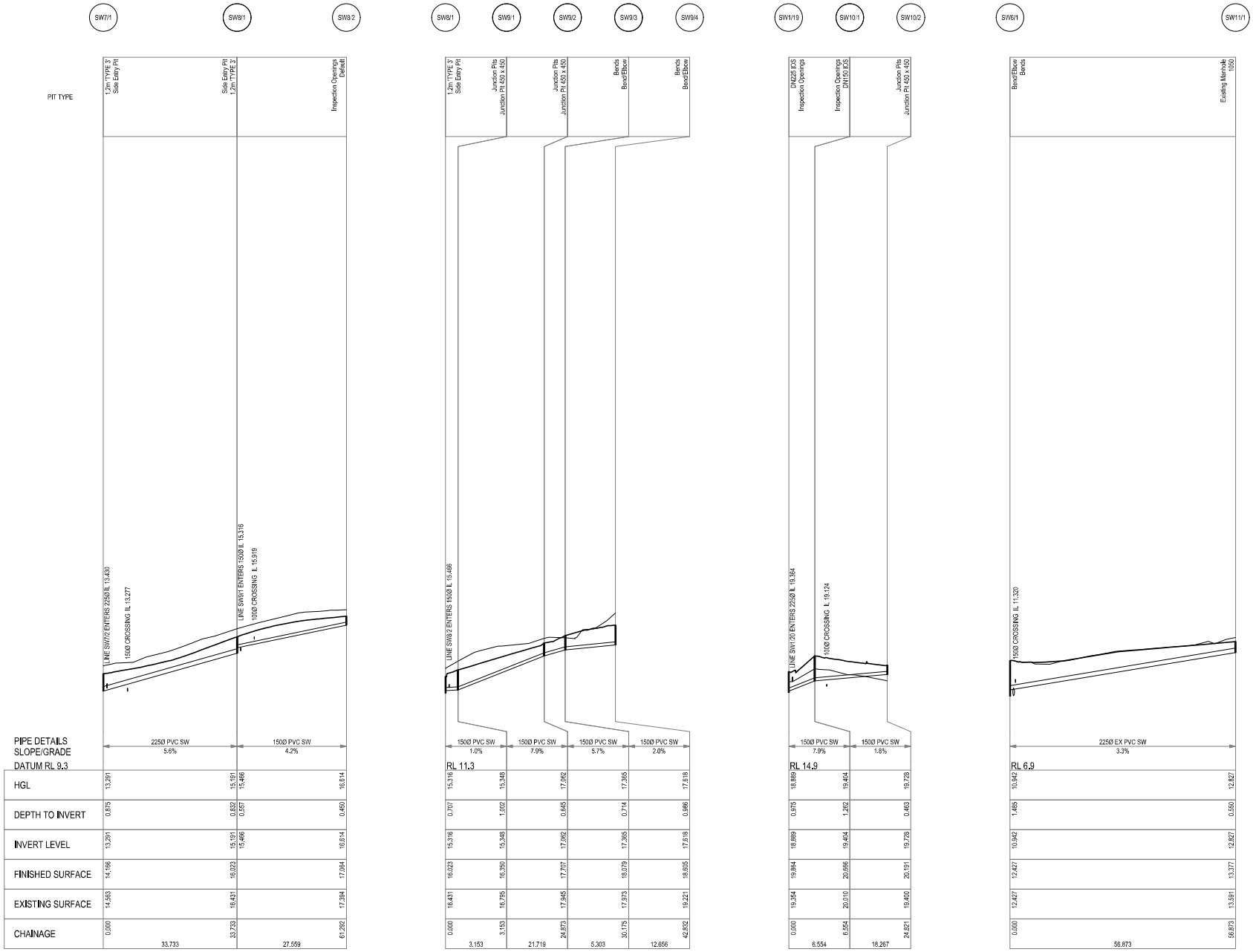
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER LONG SECTIONS - SHEET 3

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C3203	D1



LONGITUDINAL SECTION FOR LINE SW8
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW9
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW10
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUDINAL SECTION FOR LINE SW11
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

SCALE: 1:500 @ A1
0 5 10 15 20 25m

SCALE: 1:100 @ A1
0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

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STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
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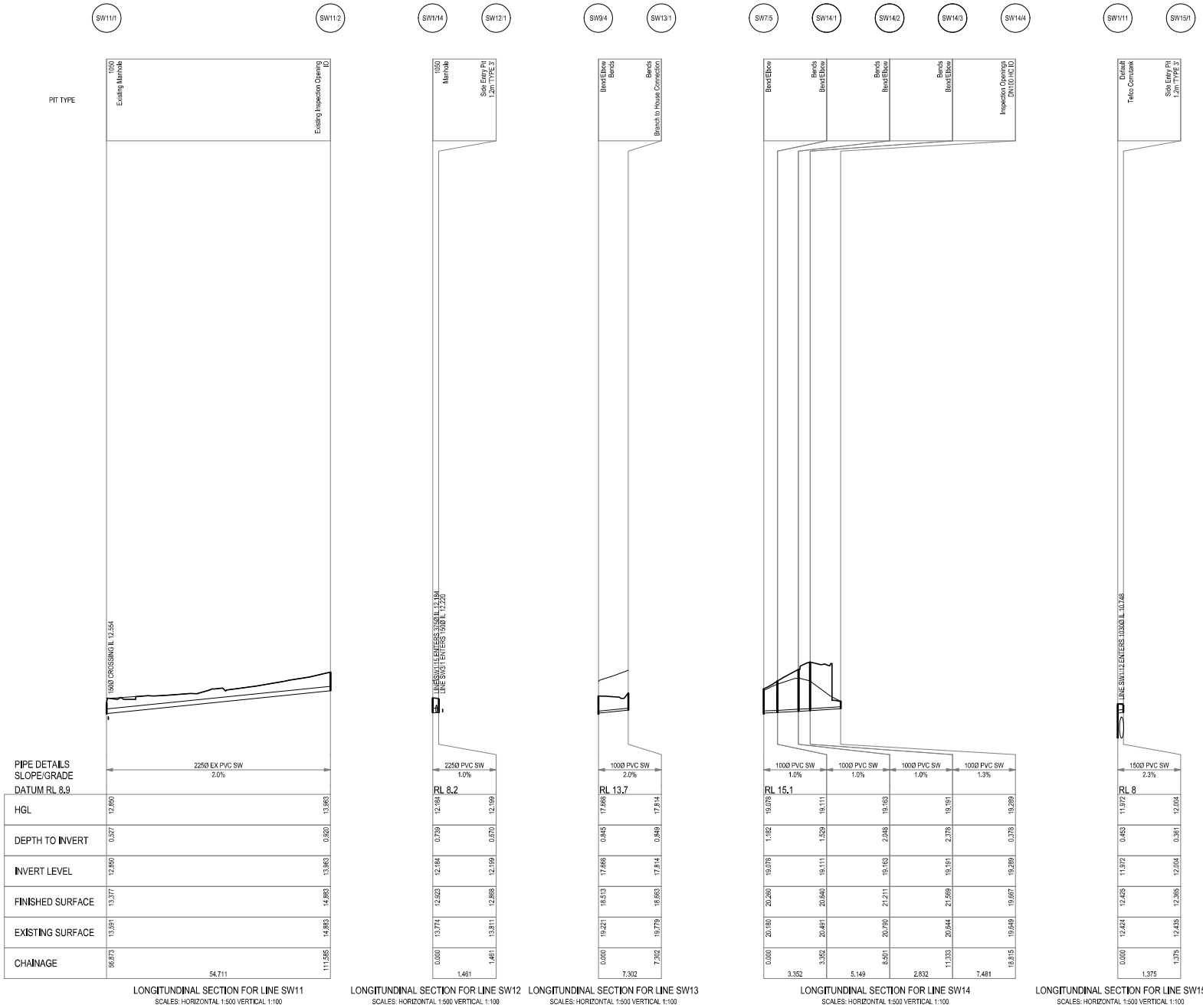
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER LONG SECTIONS - SHEET 4

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C3204	D1



LONGITUNDINAL SECTION FOR LINE SW11
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUNDINAL SECTION FOR LINE SW12
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUNDINAL SECTION FOR LINE SW13
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUNDINAL SECTION FOR LINE SW14
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

LONGITUNDINAL SECTION FOR LINE SW15
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

SCALE: 1:500 @ A1
0 5 10 15 20 25m

SCALE: 1:100 @ A1
0 1 2 3 4 5m

No.	Revision	Date
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

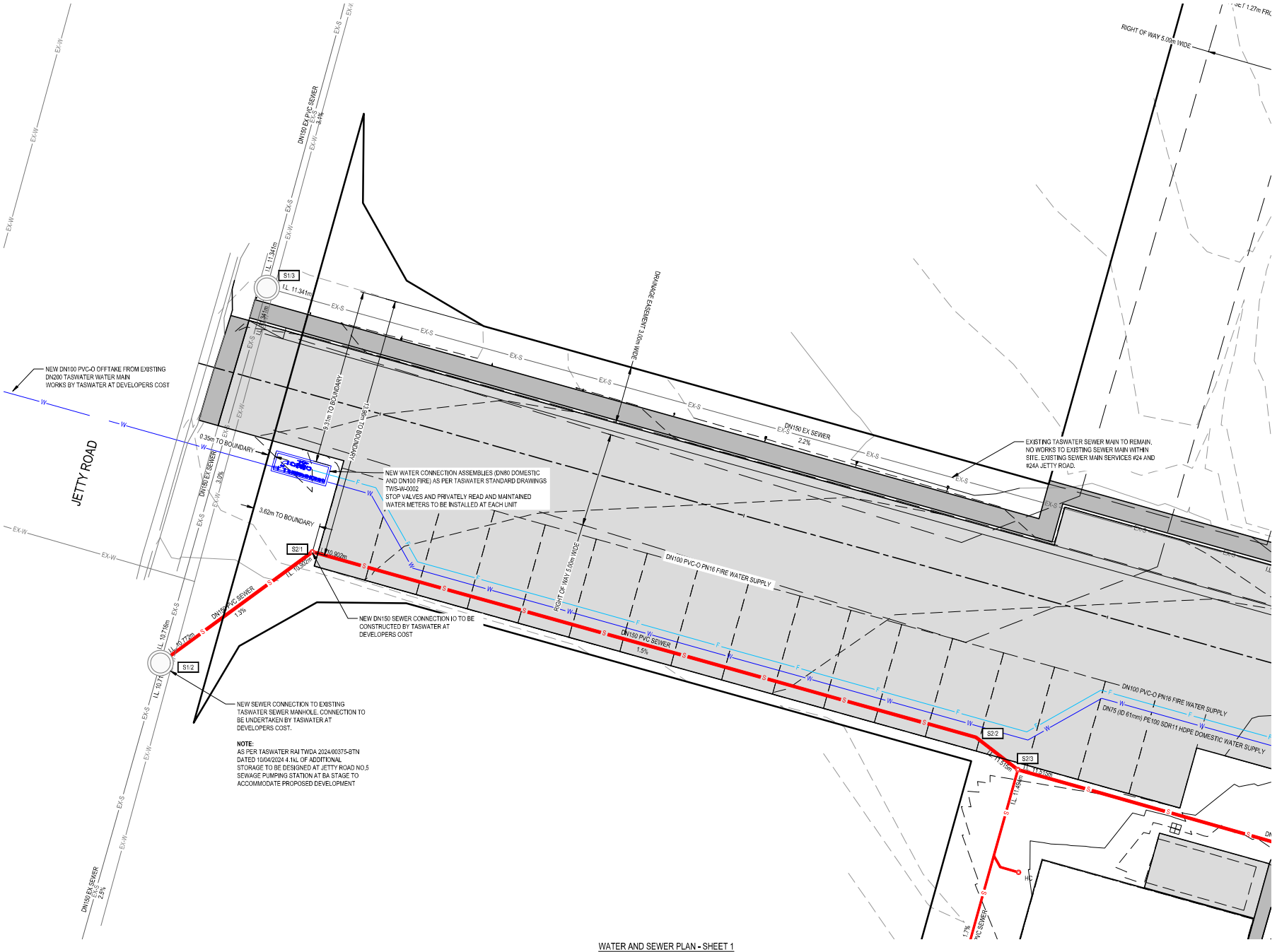
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
STORMWATER LONG SECTIONS - SHEET 5

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C3205	D2



WATER AND SEWER PLAN - SHEET 1

SCALE 1:100

WATER LOADING CALCULATIONS

LOADINGS

CODE	NO. OF UNITS	ET PER UNIT	ET
RM02	15	0.6	9
RM03	38	0.8	30.4
TOTAL	53	-	39.4

DEMAND

ET	39.4
AD	0.31 L/s
PD	0.703 L/s
PH	1.406 L/s
PSD	4.90 L/s

DESIGN CRITERIA

BASE DEMAND	1.89 L/s
FIRE DEMAND	10.0 L/s

PEAK FLOWS

PEAK	4.90 L/s
2/3 PEAK + FIRE	13.27 L/s

SEWERAGE LOADING CALCULATIONS

LOADINGS

CODE	NO. OF UNITS	ET PER UNIT	ET
RM02	15	0.75	11.25
RM03	38	1	38
TOTAL	53	-	49.25

DEMAND

ET	49.25
ADWF	0.27 L/s
PDWF	1.76 L/s
GI	0.01L/s
RDI	0.51 L/s
DESIGN FLOW	2.29 L/s
DF/PDWF	1.30

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

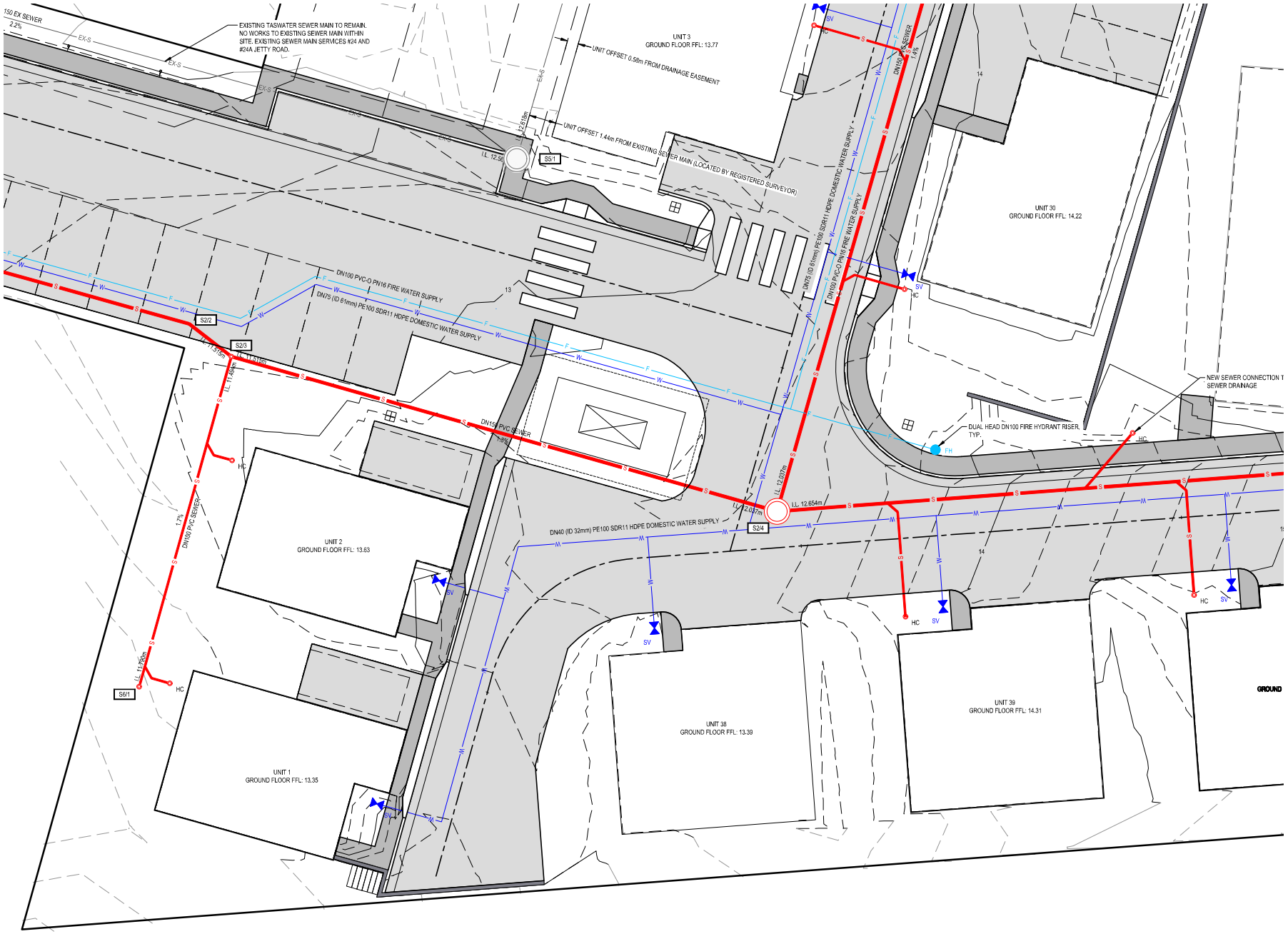
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4001	D3



WATER AND SEWER PLAN - SHEET 2

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4002	D3

WATER AND SEWER PLAN - SHEET 3

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

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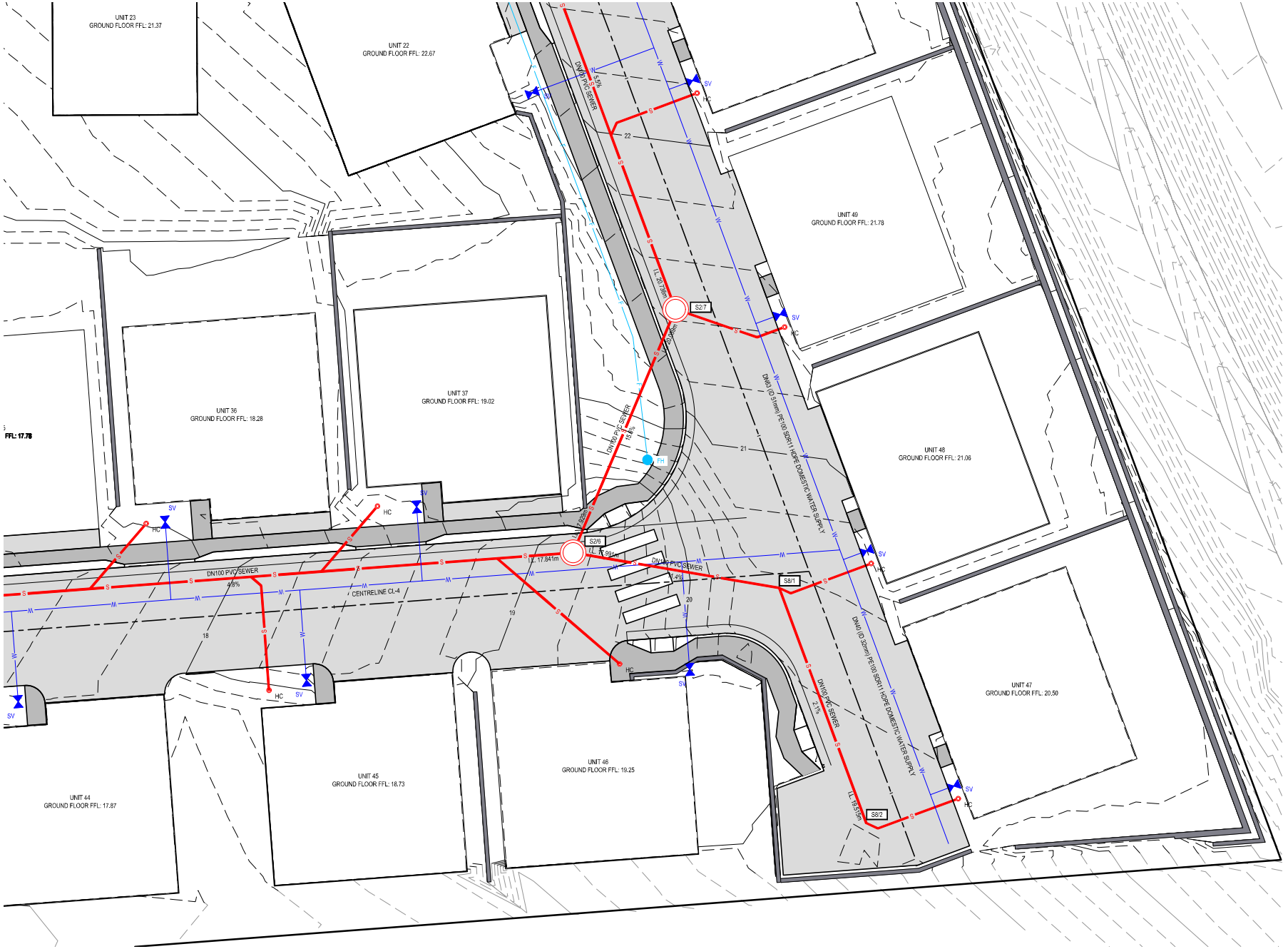
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 3

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4003	D1



WATER AND SEWER PLAN - SHEET 4

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC55871

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 4

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4004	D1

WATER AND SEWER PLAN - SHEET 5

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 5

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4005	D3

WATER AND SEWER PLAN - SHEET 6

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

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STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 6

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4006	D1

WATER AND SEWER PLAN - SHEET 7

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

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STRUCTURAL | CIVIL | HYDRAULIC

PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 7

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4007	D3

WATER AND SEWER PLAN - SHEET 8

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

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24B & 38 JETTY ROAD, OLD BEACH

Client
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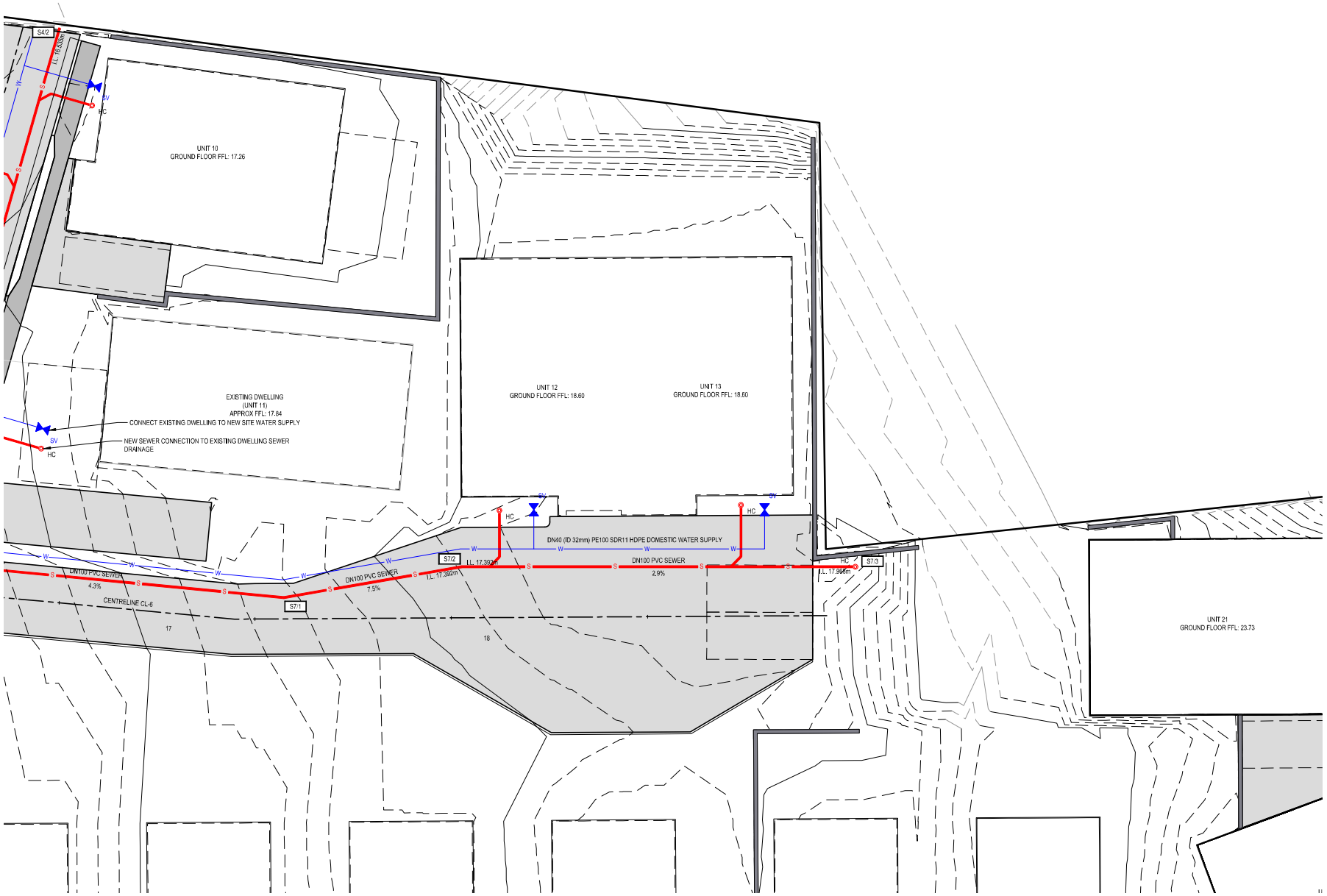
Drawing Name
WATER AND SEWER PLAN - SHEET 8

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4008	D3



WATER AND SEWER PLAN - SHEET 9

SCALE 1:100

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

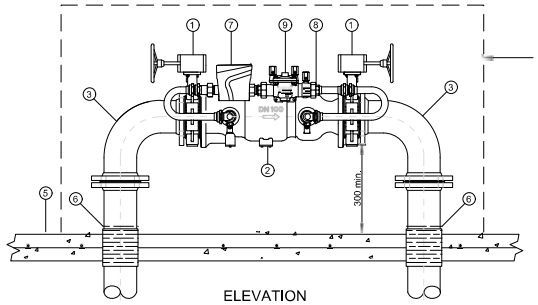
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

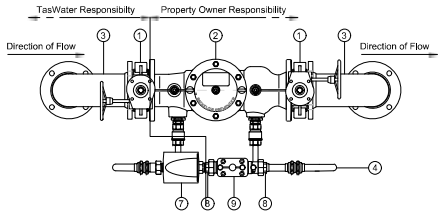
Client
GIC ESTATES PTY LTD

Drawing Name
WATER AND SEWER PLAN - SHEET 9

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C4009	D1

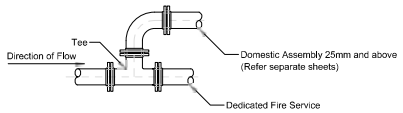


ELEVATION
1 : 10



PLAN
1 : 10

BOUNDARY CONNECTION PARTS LIST		
No.	DESCRIPTION	COMMENTS
1	DN.100 Lug type Butterfly Valve with Worm Gear Actuator	1 x Supplied by TasWater
2	Medium Hazard 'ValvCheQ' DN.100 DCDA03 Double Detector Check Valve C/W DN25 Double Check Bypass	Owned, operated and maintained by Property Owner
3	DN.100 PN16 Metallic Water Pipe	Copper not to be used
4	Metered Bypass	Supplied by TasWater
5	100mm (minimum) Reinforced Concrete Slab	SL72 placed central
6	Pipe Wrapped where Concrete will contact Pipe	(Refer Note 3)
7	'Sensus' Meter size for Low Flow Bypass	DN.25 Bypass for DN.100 - DN.150
8	DN.20/25 Brass Nipple	
9	Double Check Valve Included With DN.100 Double Detector Check	Owned, operated and maintained by property owner



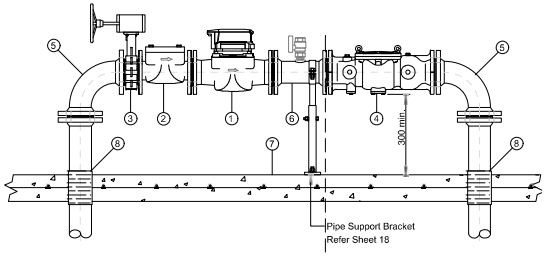
PLAN - DOMESTIC ASSEMBLY
1 : 20

VALVE & EQUIPMENT SCHEDULE

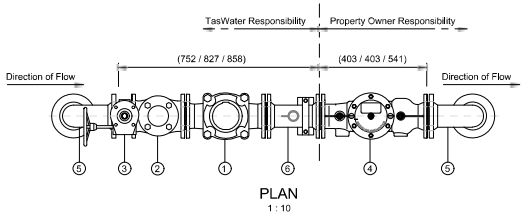
1. Only use products with watermark certification and approved for use by TasWater and listed within City West Water's approved products catalogue.
2. Installation must comply with manufacturer's written instructions.
3. All valves must be resilient seated, clockwise closing to AS 1628 with 316 stainless steel bolts and washers.
4. Unless approved otherwise the water meter/s, tails and meter boxes are to be supplied by TasWater.

GENERAL NOTES

1. All dimensions in millimeters (mm), unless noted otherwise.
2. Install and locate the meter assembly so that the meter can be easily read.
3. All metallic pipe work to be 'Denso' wrapped, or equivalent where it comes in contact with concrete - to protect it from corrosion.
4. Where a vented back flow prevention device is required such as a Reduced Pressure Zone Device (RPZD), it shall:
   - Comply with AS 3500 and AS 2845; and shall
   - Have free ventilation to the atmosphere for the relief valve at all times;
   - Not be in an area that may be subject to ponding;
   - Have the relief drain outlet not less than 300mm above the surrounding surface.
5. Install the meter assembly in cage in accordance with TWS-W-0003.
6. The Property Owner is responsible for the ongoing maintenance of the security cage.



ELEVATION
1 : 10



PLAN
1 : 10

BOUNDARY CONNECTION PARTS LIST		
No.	DESCRIPTION	COMMENTS
1	DN.65 'Sensus' Meistream Plus Water Meter	Supplied by TasWater
2	DN.65 'Sensus' WP-F Dirt Box	Supplied by TasWater
3	DN.65 Lug Type Butterfly Valve with Worm Gear Actuator	Supplied by TasWater
4	Low Hazard DN.65 'ValvCheQ' DCO3U Double Check Valve Non-Testable	Owned, operated and maintained by Property Owner
5	DN.65 PN16 Metallic Water Pipe	Copper not to be used for DN.100
6	DN.65 x 200mm Hydrant Riser with 25mm Tapping for Pressure Testing, 20mm Valve and Plug	Supplied by TasWater
7	100mm (minimum) Reinforced Concrete Slab	SL72 placed central
8	Pipe Wrapped where Concrete will contact Pipe	(Refer Note 5)

VALVE & EQUIPMENT SCHEDULE

1. Only use products with watermark certification and approved for use by TasWater and listed within City West Water's approved products catalogue.
2. Installation must comply with manufacturer's written instructions.
3. All valves must be resilient seated, clockwise closing to AS 1628 with 316 stainless steel bolts and washers.
4. Unless approved otherwise the water meter/s, tails and meter boxes are to be supplied by TasWater.

GENERAL NOTES

1. All dimensions in millimeters (mm), unless noted otherwise.
2. Installation and fittings schedule is also suitable for DN.80 and DN.100 meters.
3. Dimensions shown in brackets apply to (DN.65 / DN.80 / DN.100).
4. A 3mm clearance has been added where a gasket is required.
5. All metallic pipe work to be 'Denso' wrapped, or equivalent where it comes in contact with concrete - to protect it from corrosion.
6. Install and locate the meter assembly so that the meter can be easily read.
7. Install the meter assembly in cage in accordance with TWS-W-0003.
8. The Property Owner is responsible for the ongoing maintenance of the security cage.

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

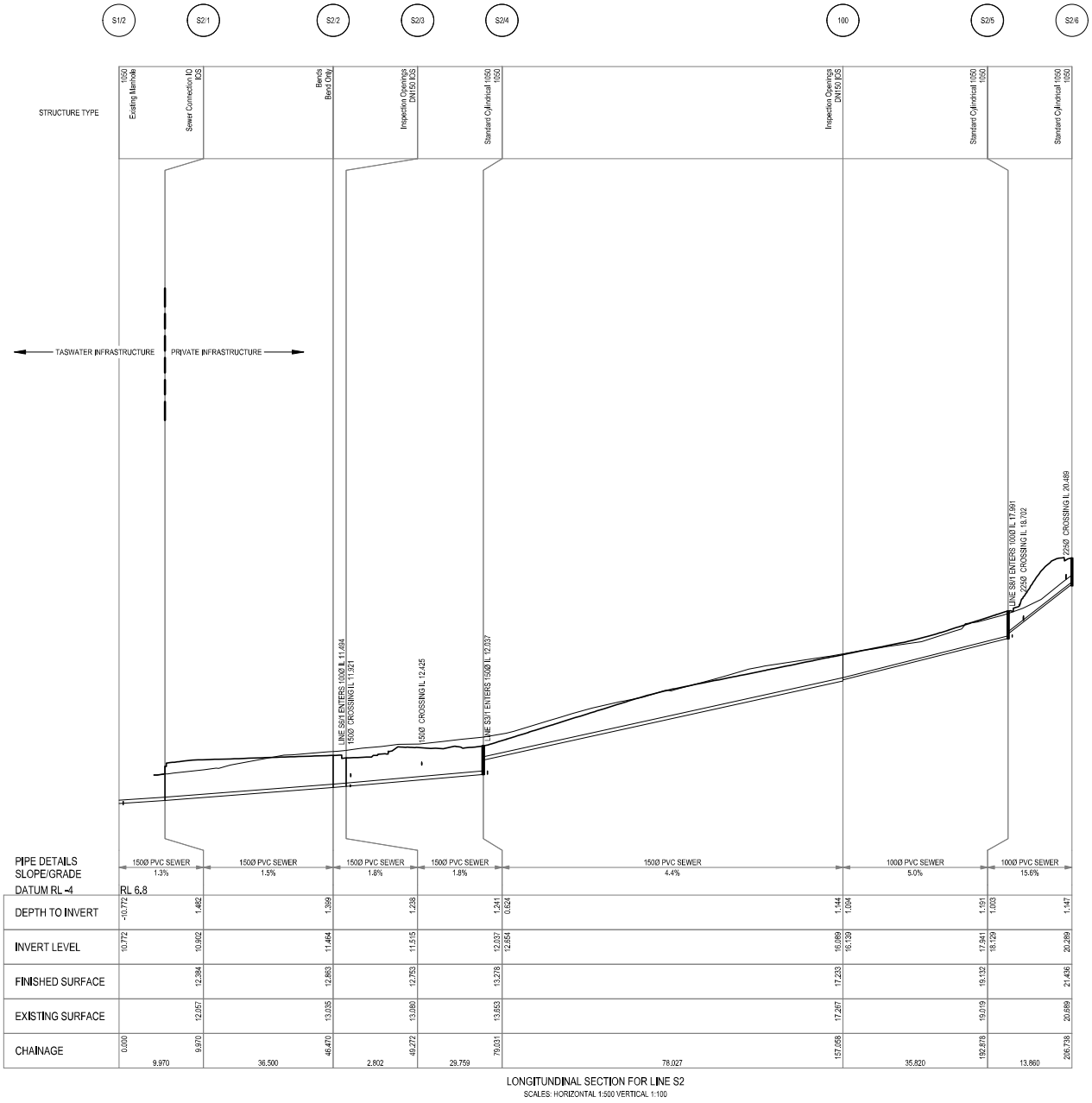
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
WATER METERING DETAILS

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C4101	D1



LONGITUDINAL SECTION FOR LINE S2

SCALES: HORIZONTAL 1:500 VERTICAL 1:100

SCALE: 1:500 @ A1

0 5 10 15 20 25m

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC

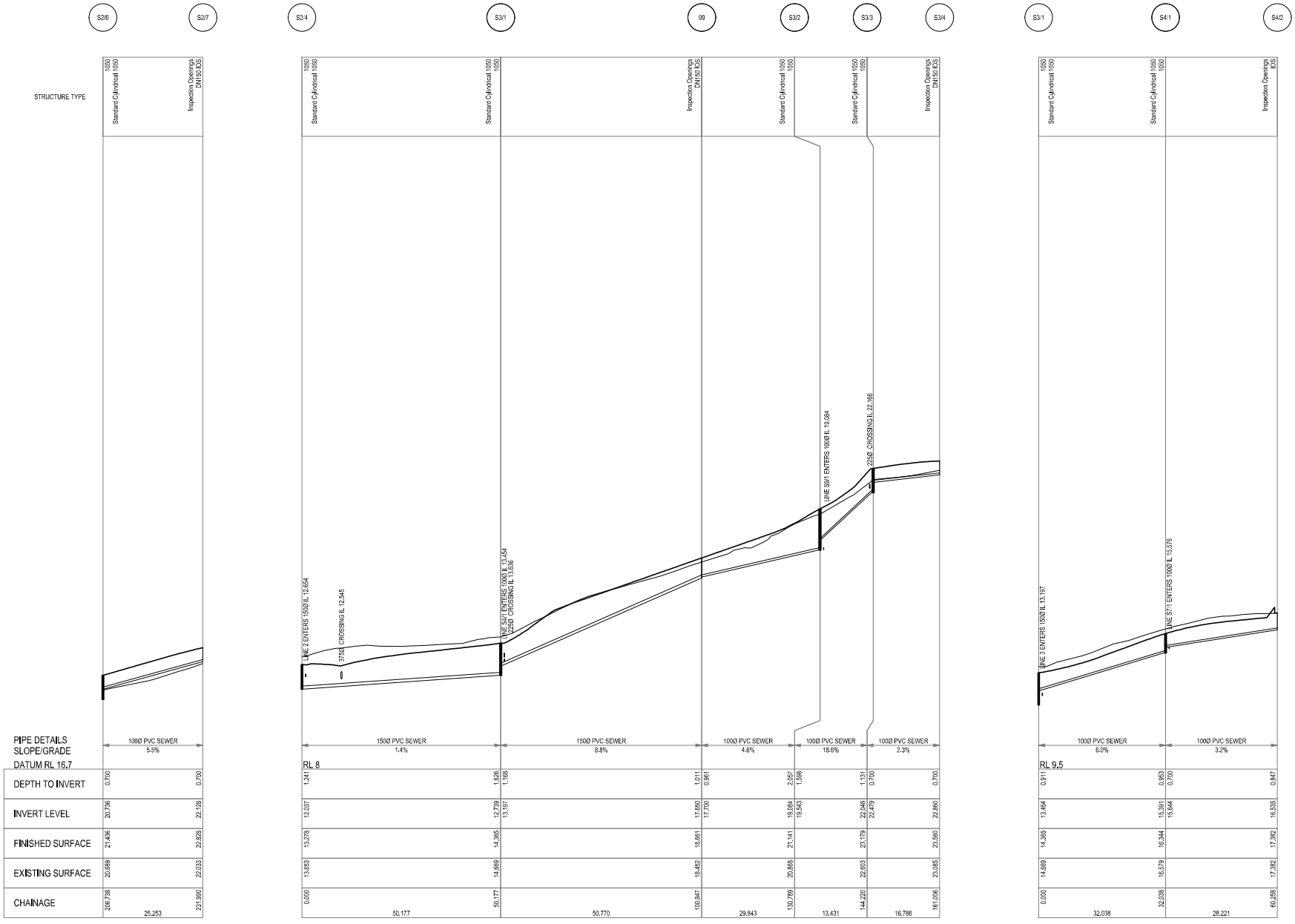
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
SEWER LONG SECTIONS - SHEET 1

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C4201	D1



No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

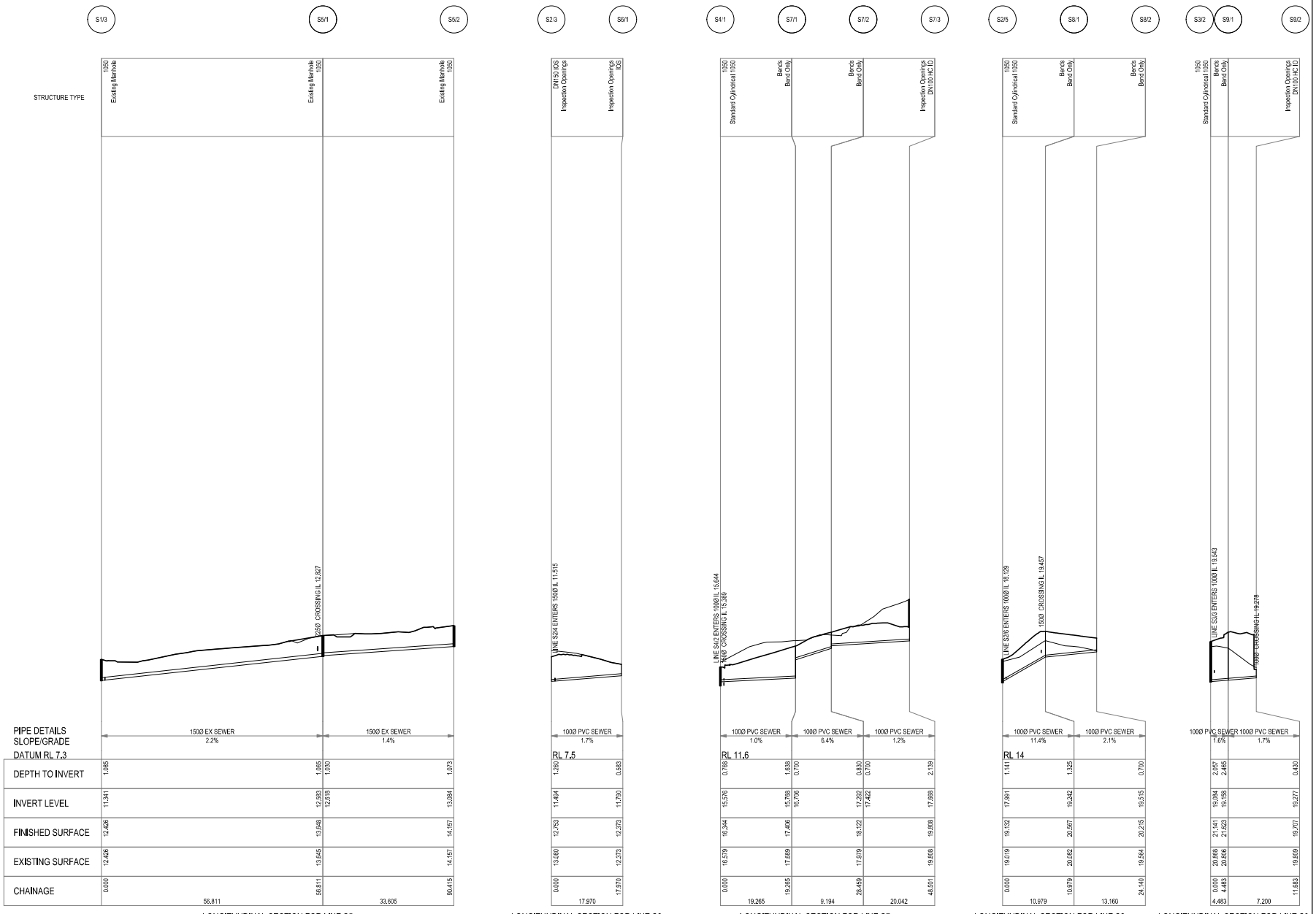
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
SEWER LONG SECTIONS - SHEET 2

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C4202	D1



No.	Revision	Date
D1	DEVELOPMENT APPROVAL	21/03/2024

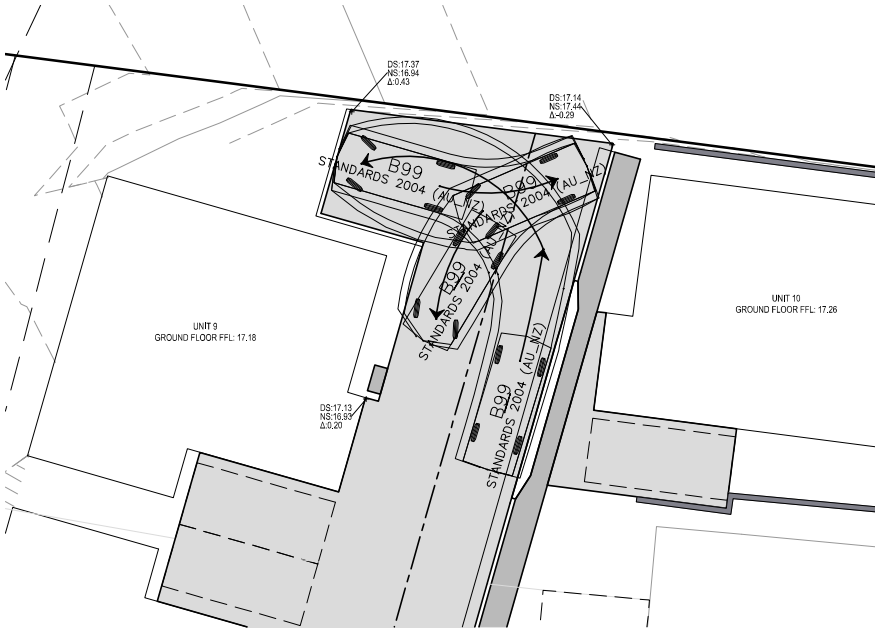
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

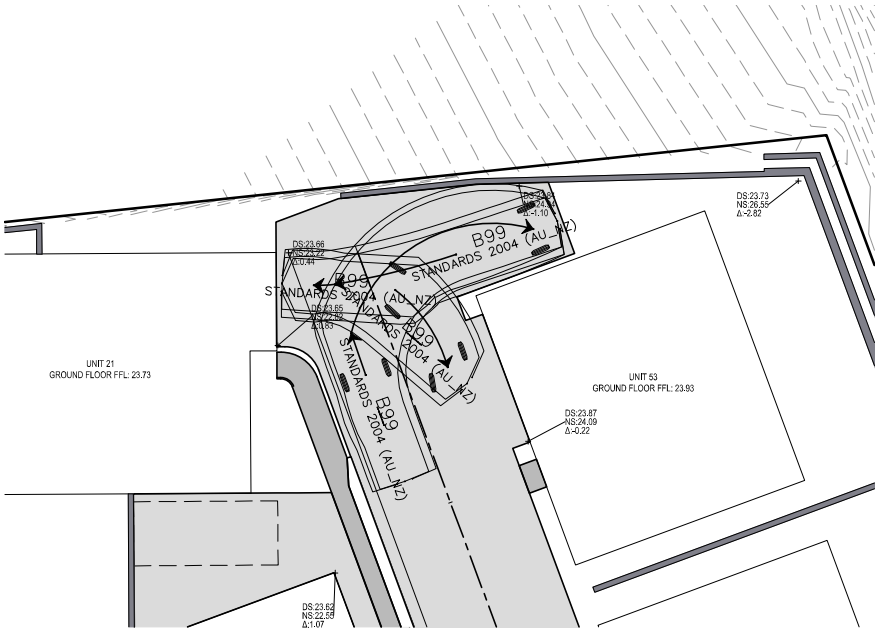
Drawing Name
SEWER LONG SECTIONS - SHEET 3

Scale	Size	Project No.	Dwg No.	Rev.
-	A1	2023-02-05	C4203	D1



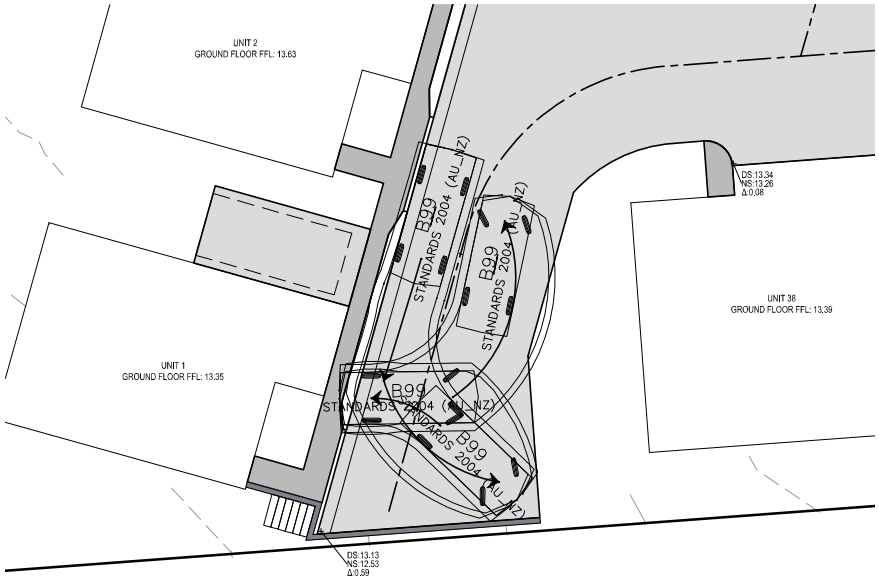
B99 VEHICLE TURNING PLAN - END OF CL2

SCALE 1:100



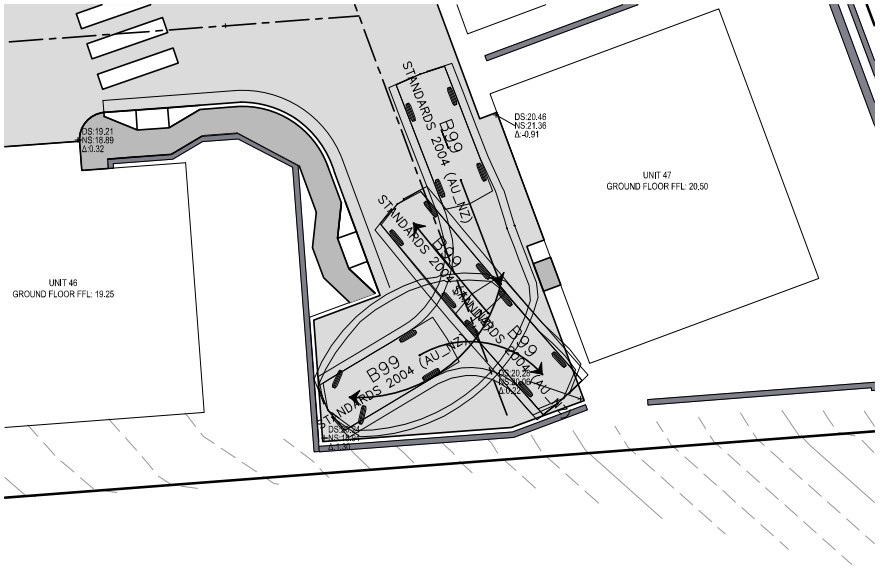
B99 VEHICLE TURNING PLAN - START OF CL5

SCALE 1:100



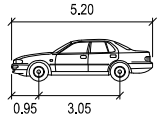
B99 VEHICLE TURNING PLAN - START OF CL4

SCALE 1:100



B99 VEHICLE TURNING PLAN - END OF CL5

SCALE 1:100



B99	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

SCALE: 1:100 @ A1

0 1 2 3 4 5m

No.	Revision	Date
D2	DEVELOPMENT APPROVAL	01/05/2024

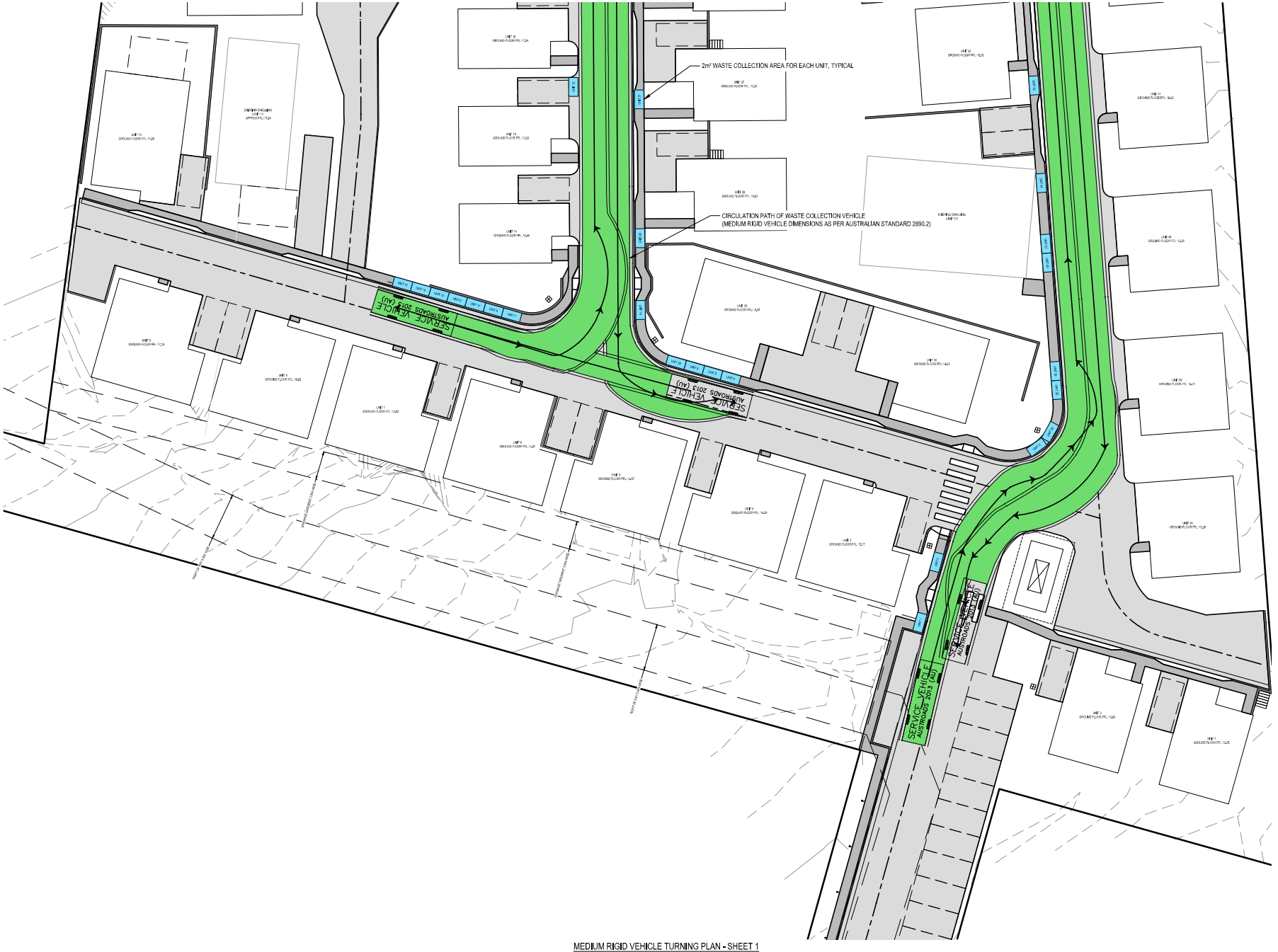
ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

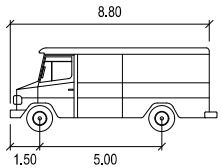
Drawing Name
B99 VEHICLE TURNING PLANS

Scale	Size	Project No.	Dwg No.	Rev.
1:100	A1	2023-02-05	C5001	D2



MEDIUM RIGID VEHICLE TURNING PLAN - SHEET 1

SCALE 1:200



SERVICE VEHICLE meters

Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

SCALE: 1:200 @ A1

0 2 4 6 8 10m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024

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STRUCTURAL | CIVIL | HYDRAULIC
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Project Details
PROPOSED UNIT DEVELOPMENT
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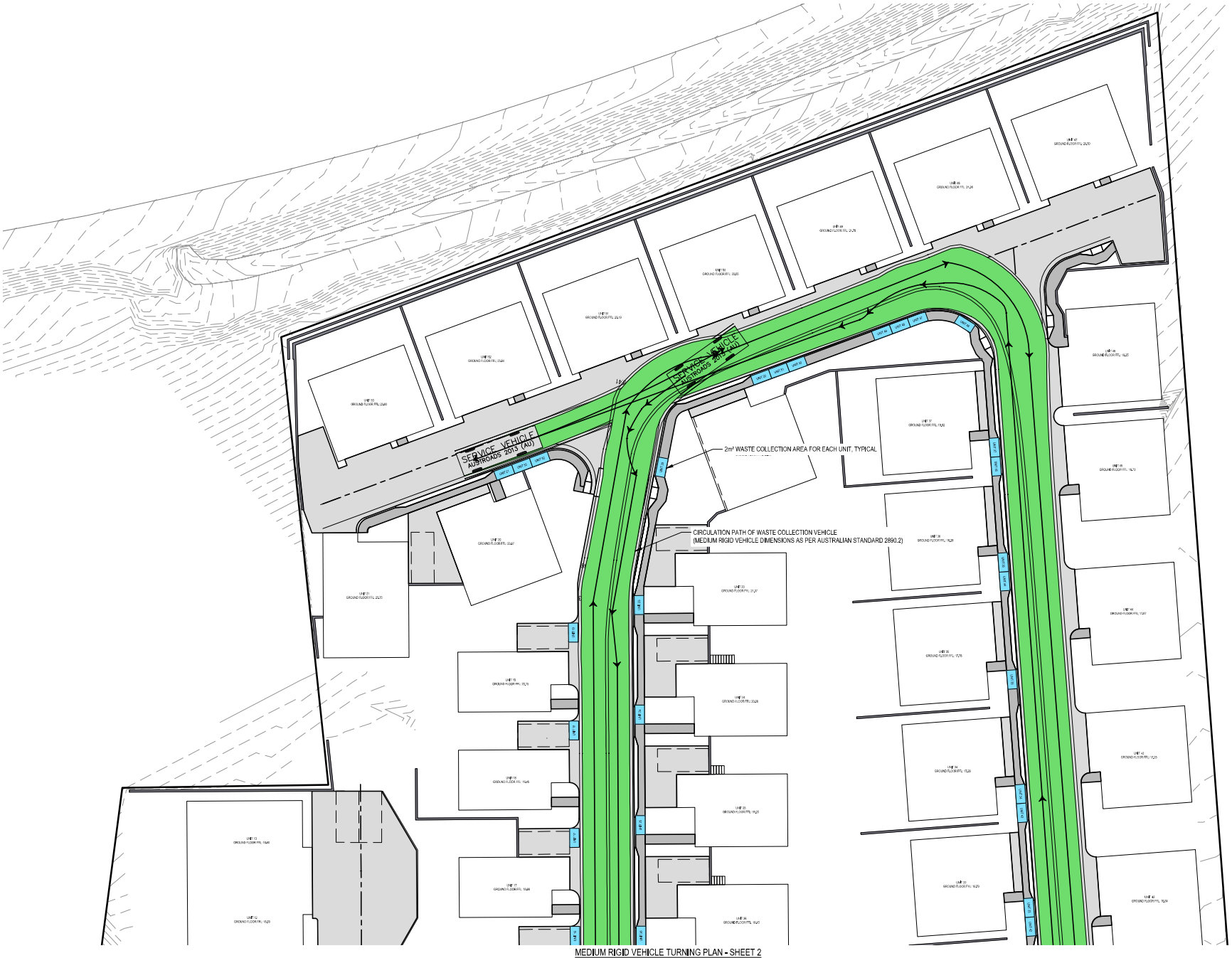
Client
GIC ESTATES PTY LTD

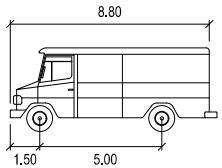
Drawing Name
MEDIUM RIGID VEHICLE TURNING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:200	A1	2023-02-05	C5101	D3



MEDIUM RIGID VEHICLE TURNING PLAN - SHEET 2

SCALE 1:200



SERVICE VEHICLE meters

Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

SCALE: 1:200 @ A1

0 2 4 6 8 10m

No.	Revision	Date
D3	DEVELOPMENT APPROVAL	20/05/2024
D2	DEVELOPMENT APPROVAL	01/05/2024

ACACIA ENGINEERING
STRUCTURAL | CIVIL | HYDRAULIC
PO Box 670 Kingston
Tasmania 7050
0447 595 514
admin@acaciaeng.com.au
www.acaciaeng.com.au
Licence No: CC5587I

Project Details
PROPOSED UNIT DEVELOPMENT
24B & 38 JETTY ROAD, OLD BEACH

Client
GIC ESTATES PTY LTD

Drawing Name
MEDIUM RIGID VEHICLE TURNING PLAN

Scale	Size	Project No.	Dwg No.	Rev.
1:200	A1	2023-02-05	C5102	D3

Submission to Planning Authority Notice

Council Planning Permit No.	DA2024/061	**Council notice date**	3/04/2024
TasWater details			
TasWater Reference No.	TWDA 2024/00375-BTN	**Date of response**	15/05/2024
TasWater Contact	Huong Pham	**Phone No.**	0427 471 748
Response issued to			
Council name	BRIGHTON COUNCIL		
Contact details	development@brighton.tas.gov.au		
Development details			
Address	38 JETTY RD, OLD BEACH	**Property ID (PID)**	3076510
Description of development	Multiple Dwellings x 53 (51 new + 2 ex)		

Schedule of drawings/documents

Prepared by	Drawing/document No.	Revision No.	Date of Issue
Prime Design	Sheet PD23405 -12	05	02/05/2024
Acacia Engineering	2023-02-05 sheet C4001	D2	01/05/2024
	2023-02-05 sheets C4002-C4009	D1	21/03/2024

Conditions

Pursuant to the *Water and Sewerage Industry Act* 2008 (TAS) Section 56P(1) TasWater imposes the following conditions on the permit for this application:

CONNECTIONS, METERING & BACKFLOW

1. A suitably sized water supply with metered connections and sewerage system and connections to the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit.
2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost.
3. Prior to commencing construction of the subdivision/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater.

ASSET CREATION & INFRASTRUCTURE WORKS

4. The developer must pay a special infrastructure contribution charge of $20,500.00 for an additional 4.1 kL of emergency storage at TasWater's Jetty Rd No 5 Sewage Pump Station (Asset number: GRPSP09). The fee is required to be paid prior to the issue of a Certificate for Certifiable Work and can be made as a pro rata amount per unit, in conjunction with any council approved staging.The fee is subject to CPI, all Hobart group rate, from the date of this permit, until the date paid.

   Advice: In accordance with TasWater's 'Developer Charges Policy' for developments located within of Serviced Land where insufficient capacity is available within an existing system, the developer pays the costs of Extension, including connection, to that system and Expansion of the system to the level of capacity required to service the development.
   The additional amount of storage has been determined using tables 6.1 & 6.2 of TasWater Supplement to WSA 04-2005 2.1 WSAA Sewage Pumping Station Code of Australia Version 3.0.

FINAL PLANS, EASEMENTS & ENDORSEMENTS

5. Prior to the Sealing of the Final Plan of Survey, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions when application for sealing is made.
Advice: Council will refer the Final Plan of Survey to TasWater requesting Consent to Register a Legal Document be issued directly to them on behalf of the applicant.

56W CONSENT

6. Prior to the issue of the Certificate for Certifiable Work (Building) and/or (Plumbing) by TasWater the applicant or landowner as the case may be must make application to TasWater pursuant to section 56W of the Water and Sewerage Industry Act 2008 for its consent in respect of that part of the development which is built within a TasWater easement or over or within two metres of TasWater infrastructure.

DEVELOPER CHARGES

7. Prior to TasWater issuing a Certificate(s) for Certifiable Work (Building) and/or (Plumbing), the applicant or landowner as the case may be, must pay a developer charge totalling $66,063.20 to TasWater for water infrastructure for 37.6 additional Equivalent Tenements, indexed by the Consumer Price Index All groups (Hobart) from the date of this Submission to Planning Authority Notice until the date it is paid to TasWater.

8. Prior to TasWater issuing a Certificate(s) for Certifiable Work (Building) and/or (Plumbing), the applicant or landowner as the case may be, must pay a developer charge totalling $83,457.50 to TasWater for sewerage infrastructure for 47.50 additional Equivalent Tenements, indexed by the Consumer Price Index All groups (Hobart) from the date of this Submission to Planning Authority Notice until the date it is paid to TasWater.

9. In the event Council approves a staging plan, prior to TasWater issuing a Certificate(s) for Certifiable Work (Building) and/or (Plumbing) for each stage, the developer must pay the developer charges commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

DEVELOPMENT ASSESSMENT FEES

10. The applicant or landowner as the case may be, must pay a development assessment fee of $1,263.70 and a Consent to Register a Legal Document fee of $248.30 to TasWater, as approved by the Economic Regulator and the fees will be indexed, until the date paid to TasWater.

    The payment is required within 30 days of the issue of an invoice by TasWater.

11. In the event Council approves a staging plan, a Consent to Register a Legal Document fee for each stage, must be paid commensurate with the number of Equivalent Tenements in each stage, as approved by Council.

Advice

General

For information on TasWater development standards, please visit https://www.taswater.com.au/building-and-development/technical-standards

For application forms please visit https://www.taswater.com.au/building-and-development/development-application-form

Developer Charges

For information on Developer Charges please visit the following webpage - https://www.taswater.com.au/building-and-development/developer-charges

Water Submetering

As of July 1 2022, TasWater's Sub-Metering Policy no longer permits TasWater sub-meters to be installed for new developments. Please ensure plans submitted with the application for Certificate(s) for Certifiable Work (Building and/or Plumbing) reflect this. For clarity, TasWater does not object to private sub-metering arrangements. Further information is available on our website (www.taswater.com.au) within our Sub-Metering Policy and Water Metering Guidelines.

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

(a) A permit is required to work within TasWater's easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater.

(b) TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit https://www.taswater.com.au/building-and-development/service-locations for a list of companies.

(c) Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

NOTE: In accordance with the WATER AND SEWERAGE INDUSTRY ACT 2008 - SECT 56ZB A regulated entity may charge a person for the reasonable cost of –

(a) a meter; and

(b) installing a meter.

56W Consent

The plans submitted with the application for the Certificate for Certifiable Work (Building) and/or (Plumbing) will need to show footings of proposed buildings located over or within 2.0m from TasWater pipes and will need to be designed by a suitably qualified person to adequately protect the integrity of TasWater's infrastructure, and to TasWater's satisfaction, be in accordance with AS3500 Part 2.2 Section 3.8 to ensure that no loads are transferred to TasWater's pipes. These plans will need to also include a cross sectional view through the footings which clearly shows;

(a) Existing pipe depth and proposed finished surface levels over the pipe;

(b) The line of influence from the base of the footing must pass below the invert of the pipe and be clear of the pipe trench and;

(c) A note on the plan indicating how the pipe location and depth were ascertained.

(d) The location of the property service connection and sewer inspection opening (IO).

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

TasWater Contact Details			
Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
159864	1
EDITION	DATE OF ISSUE
5	25-Jan-2024

SEARCH DATE : 22-Mar-2024
SEARCH TIME : 10.29 AM

DESCRIPTION OF LAND

Parish of FORBES Land District of MONMOUTH
Lot 1 on Sealed Plan 159864
Derivation : Part of 847 Acres Gtd. to C.S.Henty & R.Dry
Prior CTs 105053/1 and 19840/3

SCHEDULE 1

N170260 TRANSFER to GIC ESTATES PTY LTD Registered 25-Jan-2024 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP159864 EASEMENTS in Schedule of Easements
SP159864 FENCING PROVISION in Schedule of Easements
SP19840 FENCING PROVISION in Schedule of Easements
SP19840 COUNCIL NOTIFICATION under Section 468(12) of the Local Government Act 1962
37/2023 FENCING PROVISION and OTHER CONDITIONS in Conveyance

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
159864	3
EDITION	DATE OF ISSUE
3	25-Jan-2024

SEARCH DATE : 22-Mar-2024
SEARCH TIME : 10.29 AM

DESCRIPTION OF LAND

Parish of FORBES Land District of MONMOUTH
Lot 3 on Sealed Plan 159864
Derivation : Part of 847 Acres Gtd. to C.S. Henty and R. Dry.
Prior CT 19840/3

SCHEDULE 1

N170260 TRANSFER to GIC ESTATES PTY LTD Registered 25-Jan-2024 at 12.01 PM

SCHEDULE 2

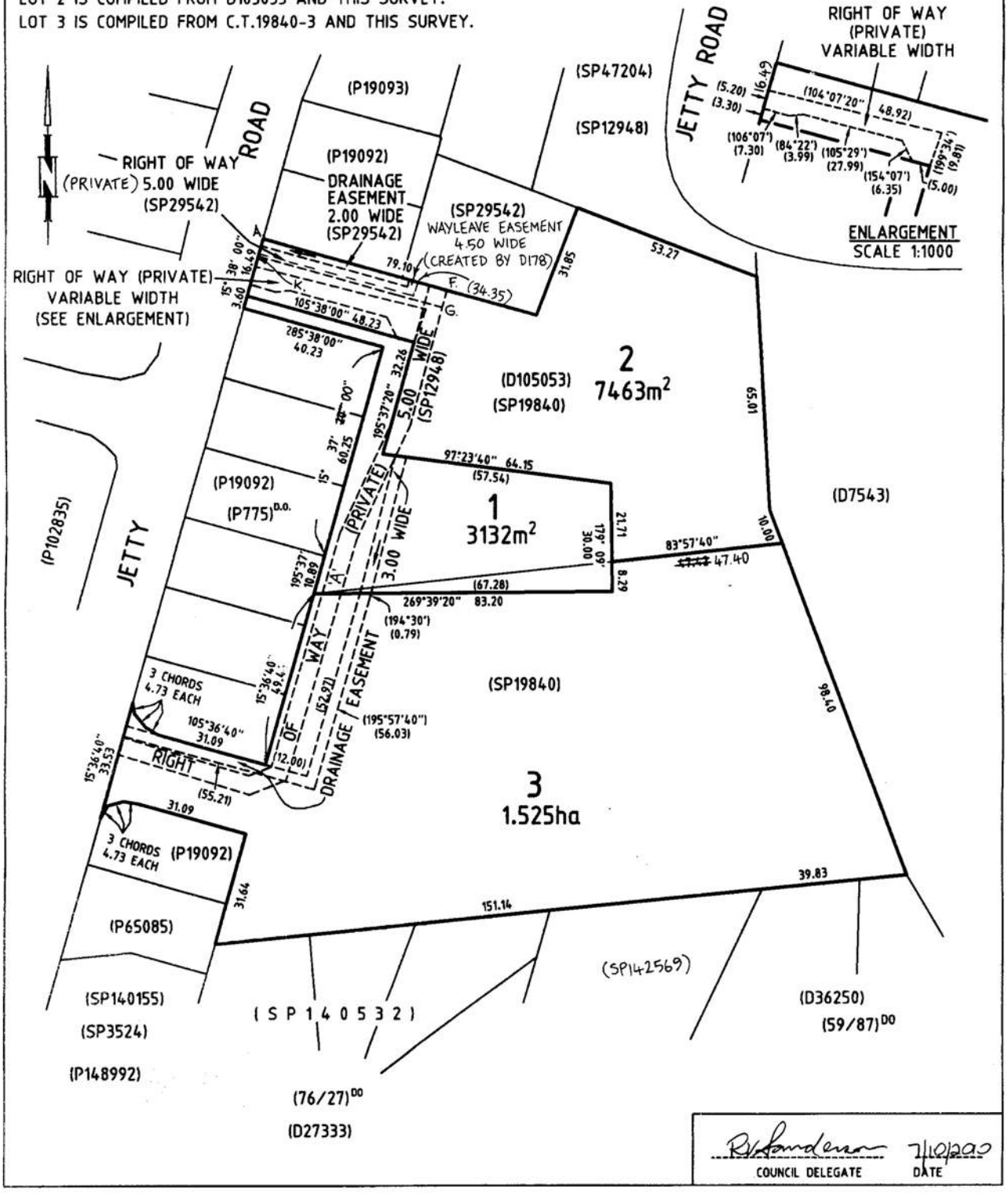
Reservations and conditions in the Crown Grant if any
SP159864 EASEMENTS in Schedule of Easements
SP159864 COVENANTS in Schedule of Easements
SP159864 FENCING PROVISION in Schedule of Easements
SP19840 FENCING PROVISION in Schedule of Easements
SP19840 COUNCIL NOTIFICATION under Section 468(12) of the Local Government Act 1962

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER: MILTON ALLAN KEARNEY & DULCIE JOAN KEARNEY	**PLAN OF SURVEY**		REGISTERED NUMBER **SP159864**
FOLIO REFERENCE: C.T.105053-1, C.T.19840-3	BY SURVEYOR: A. M. PEACOCK of PEACOCK, DARCEY & ANDERSON PTY LTD 127 BATHURST STREET, HOBART		
GRANTEE: PART OF 847 ACRES GTD. TO CHARLES SHUM HENTY AND RICHARD DRY	LOCATION: Land District of FORBES, Parish of MONMOUTH		APPROVED EFFECTIVE FROM 15 DEC 2010 Alice Kawa Recorder of Titles
	SCALE: 1:1000	LENGTHS IN METRES	SURVEYORS REF: J485M-2B
MAPSHEET MUNICIPAL CODE No. 102 (5226-41) 31	LAST UPI No 1222534, 1202660	LAST PLAN No. SP19840 D105053	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 2 IS COMPILED FROM D105053 AND THIS SURVEY.
LOT 3 IS COMPILED FROM C.T.19840-3 AND THIS SURVEY.



Avoid building too close to or blocking access to poles and powerlines

Electricity Infrastructure Easement

An electricity infrastructure easement is an area of land reserved for electricity assets. Easements exist along the route of powerlines and other electricity assets to ensure the infrastructure can be accessed for maintenance and other work.

TasNetworks hold three types of electricity infrastructure easements – registered, unregistered and statutory easements. Registered easements are registered on your land title documents. Unregistered easements are easements that were created by agreement with the landowners at the time the easements were acquired but have not been registered on the land title documents. Statutory easements have been created for all TasNetworks owned electricity infrastructure erected before 6 November 1996.

It is very important to be aware that the owner and/or developer will be responsible for any charges which relate to the relocation of assets or to remove buildings or structures within the easement that have been built without prior approval by TasNetworks.

Is building within the clearance zones ever permitted?

If any construction is proposed to take place within the minimum safety clearance of the powerline, please contact TasNetworks for advice, as it may still be allowed under special circumstances. If your proposal is acceptable, we will clearly identify any conditions required for approval.

In some cases, it may be necessary to relocate the powerlines before construction begins to ensure that safety requirements are met. The cost of the relocation or alteration work, or any other costs involved, may be at the developer's cost. Please call TasNetworks on 1300 13 7008 if you need advice on determining the requirements for your installation.

TasNetworks
Delivering your power

Building near powerlines

your responsibilities as a land owner/occupier

Contact details

Website:
www.tasnetworks.com.au

Building near powerlines advice:
1300 137 008

Faults and emergencies:
132 004

Postal address:
PO BOX 606
Moonah TAS 7009

TasNetworks
Delivering your power

Developing your property? Contact TasNetworks before you start work to ensure you keep your family safe and to avoid having to move a structure or pay for the relocation of a powerline.

Building near electricity assets

Electricity should always be treated with respect, especially when undertaking any construction work near powerlines, such as building or extending. Remember, you don't have to touch the lines for fatal results. Electricity can arc or jump across a gap. To protect people and equipment, minimum safe clearances have been established.

These are legal requirements and they are there to protect lives. Overlooking or ignoring these requirements could result in building delays or even cost you your life.

Your responsibility

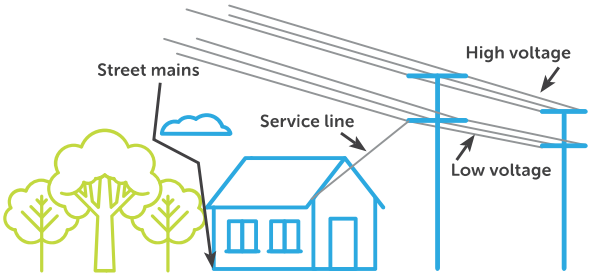
Did you know that as a landowner you are responsible for ensuring that all structures on your property are built outside powerline clearance zones? You are required to make sure that your architects, builders, landscapers and developers provide safe clearance distances and access to TasNetworks' assets.

The restrictions on building clearance zones near powerlines apply in addition to Council approval – so don't start building until you have checked that these requirements have been met. Failure to do so may result in the removal or relocation of your structure, or the relocation of the electricity assets at your expense.

Please see the section 'Powerline Clearance Zones' for help in determining the requirements of your site. If you are still unsure how this applies to your proposed structure please call TasNetworks on 1300 13 7008 for advice before starting any construction work.

TasNetworks can help

TasNetworks provides advice on safe approach limits to powerlines for people and construction equipment, access requirements to our electricity equipment, and on the clearance zones around our equipment. Gathering this information early can prevent you from making a costly mistake.



Powerline clearance zones

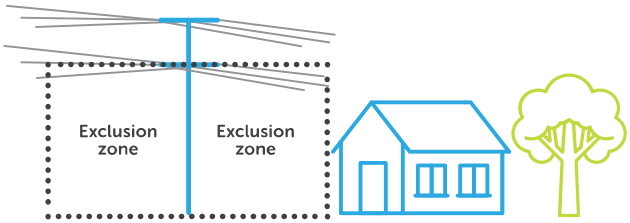
Overhead distribution powerlines

The minimum safe clearance between distribution powerlines and structures is six metres horizontally from the centre of the pole line (see diagram below).

Overhead transmission powerlines

Please contact TasNetworks directly regarding safe clearances for transmission powerlines and towers. These clearances are much greater than distribution powerlines and are assessed via site specific criteria.

When measuring the clearance distance it is important that you only measure it at ground level. **At no stage should you put any part of your body or an object within three metres of the overhead line.**



Measure the distance horizontally at ground level

These clearances should be considered when planning the following activities:

- change or alteration to any structure (i.e. buildings, decks, awnings, building sign, flag pole, pergola);
- altering the ground level;
- erecting a fence higher than two metres; and
- installation of any type of swimming pool.

It is unsafe to locate a swimming pool under any powerline.

Please note: the clearance restrictions explained above are for powerlines near completed structures. They are not safe working distances while building or operating machinery.

Underground powerlines

Since the mid-1970s the majority of new powerlines in new housing developments have been placed underground. You should contact both TasNetworks and Dial Before You Dig on www.1100.com.au before starting any excavation. The minimum safe clearance for underground powerlines is two metres either side. If your property is supplied from a turret (green box), you must not construct or place anything next to or over it – including fences, retaining walls and large rocks – which may prevent safe access.

If you require underground powerlines or any equipment owned by TasNetworks to be relocated, these requirements and any associated costs should be agreed with us well in advance of the commencement of any site works.