

Form 2

NOTICE OF AN APPLICATION FOR PLANNING PERMIT

The land affected by the application is located at:	33 Wood Street METUNG 3904 Lot: 2 LP: 219368, Lot: 1 LP: 219368
The application is for a permit to:	Use and Development of a Resort, Vegetation Removal, Signage and Car Parking Waiver
The applicant for the permit is:	Development Solutions Victoria Pty Ltd
The application reference number is:	5.2023.504.1

You may look at the application and any documents that support the application free of charge at: <https://www.eastgippsland.vic.gov.au/building-and-development/advertised-planning-permit-applications>

You may also call 5153 9500 to arrange a time to look at the application and any documents that support the application at the office of the responsible authority, East Gippsland Shire. This can be done during office hours and is free of charge.

Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

An objection must

- ♦ **be made to the Responsible Authority in writing,**
- ♦ **include the reasons for the objection, and**
- ♦ **state how the objector would be affected.**

The responsible authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.

The Responsible Authority will not decide on the application before:	Subject to the applicant giving notice
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If you object, the Responsible Authority will tell you its decision.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09943 FOLIO 494

Security no : 124110427373A
Produced 10/11/2023 04:25 PM

LAND DESCRIPTION

Lot 1 on Plan of Subdivision 219368W.
PARENT TITLE Volume 09242 Folio 437

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
WINDMILL HOTSPRING RESORT PTY LTD of 16 OAK HILL ROAD MOUNT WAVERLEY VIC
3149
AW980051A 27/06/2023

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP219368W FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 33 WOOD STREET METUNG VIC 3904

ADMINISTRATIVE NOTICES

NIL

eCT Control 17032Q MJ CONVEYANCING
Effective from 27/06/2023

DOCUMENT END

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09943 FOLIO 495

Security no : 124110427375X
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Lot 2 on Plan of Subdivision 219368W.
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Additional information: (not part of the Register Search Statement)

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ADMINISTRATIVE NOTICES

NIL

eCT Control 17032Q MJ CONVEYANCING
Effective from 27/06/2023

DOCUMENT END



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APPLICATION FOR PLANNING PERMIT

USE AND DEVELOPMENT OF A RESORT, VEGETATION REMOVAL AND SIGNAGE

33 WOOD STREET, METUNG
Windmill Hotspring Resort Pty Ltd
REF: 23099

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C	Geotechnical Risk Assessment Waiver
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G	NVIM Report
H	Landscape Plan
I	Site Management Drainage Plan

DOCUMENT REVISION

1	Draft Report	DAC	30/11/2023
2	Final Report	CMC	02/12/2023

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1. INTRODUCTION

Development Solutions Victoria Pty Ltd act on behalf of Windmill Hotspring Resort Pty Ltd, the owner of land and the applicant for this planning permit application for the use and development of a resort, vegetation removal and signage at 33 Wood Street, Metung.

The proposal is seeking the use and development of a resort that will support the economic sector of Metung to provide a unique high quality development.

This submission and supporting documentation provide details of the subject site, relevant planning controls and policies and delivers an assessment against the provisions of the East Gippsland Planning Scheme.

The proposal is consistent with the objectives of the East Gippsland Planning Scheme, is an appropriate development in this location and will result in a positive planning outcome.

Address	33 Wood Street, Metung
Site Description	Lot 1 & 2 on Plan of Subdivision 219368W
Title Particulars	Vol 09943 Fol 494 & Vol 09943 Fol 495
Site Area	8,596m ²
Proposal	Use and Development of a Resort, Vegetation Removal and Signage
Planning Scheme	East Gippsland Planning Scheme
Zone	General Residential Zone Schedule 1
Overlays	Design and Development Overlay – Schedule 11 Erosion Management Overlay Vegetation Protection Overlay – Schedule 3
Aboriginal Cultural Heritage	Not identified as an area of Cultural Heritage Sensitivity
Permit Triggers	Clause 32.08-2 – General Residential Zone – Use Clause 32.08-9 General Residential Zone – Buildings and works Clause 43.02-2 Design and Development Overlay – Buildings and works Clause 44.01-2 Erosion Management Overlay – Buildings and Works Clause 42.02-2 Vegetation Protection Overlay – Permit Requirement Clause 52.05 Signage Clause 52.06 Car parking Clause 52.17 Native Vegetation
Notice	Exempt from notice at Clause 44.01-7
Referrals	DEECA
Work Authority Licence	Not Applicable
Planning Scheme requirements	Municipal Planning Strategy – Clause 02 Planning Policy Framework – Clause 10 Settlement – Clause 11 Environmental and landscape values – Clause 12 Environmental risks and amenity – Clause 13 Erosion and landslip – Clause 13.04-2S Built environment and heritage – Clause 15 Economic Development – Clause 17 General Residential Zone – Clause 32.08 Design and Development Overlay – Clause 43.02 Erosion Management Overlay – Clause 44.01 Vegetation Protection Overlay – Clause 42.02 Signage – Clause 52.05 Car parking – Clause 52.06 Native Vegetation – Clause 52.17 Significant Economic Development – Clause 53.22 Decision guidelines – Clause 65

2. SITE CONTEXT

Site

The subject site is located at 33 Wood Street, Metung. A copy of the Title and Plan of Subdivision is contained in **Appendix A**. The titles are not affected by any restrictive covenants or agreements.

The site is rectangular in shape with a total area of approximately 8596m² and is currently vacant land.

The site is undulating in nature and contains scattered vegetation throughout. Details of the site are depicted in the photographs provided below.

There is no existing formal vehicle access to the site. A new access will be located along the eastern boundary directly from Wood Street. Wood Street is a bitumen sealed road with roll over kerb and channel traversing in a north to south direction.

The subject site in relation to Metung as well as the surrounding land, is shown in the locality plans in **Figure 1** and **Figure 2**.

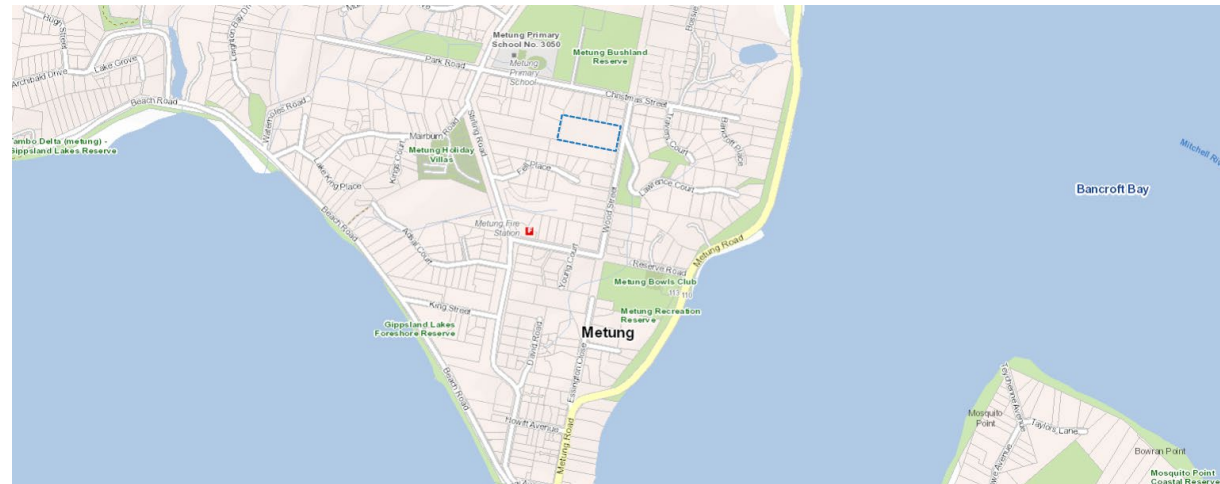


Figure 1 – Locality Plan – 33 Wood Street, Metung (source: mapshare.vic.gov.au)

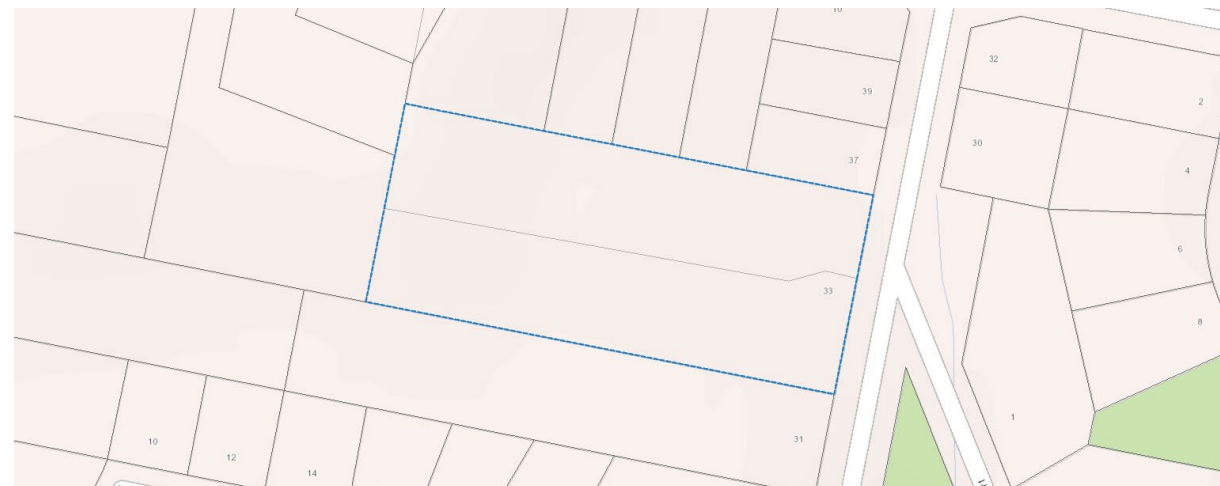


Figure 2 – Locality Plan – 33 Wood Street, Metung (source: mapshare.vic.gov.au)

Surrounds

The land in this locality is predominantly residential development and public land.

Adjoining the subject site to the north is existing residential development containing dwellings and associated facilities and further north to the Metung Bushland Reserve, adjoining the southern and western boundaries is residential development containing existing dwellings and associated facilities and adjoining the eastern boundary is Wood Street, Lawrence Court intersection and further residential development.

Metung is a small village located on the Gippsland Lakes, centrally between Bairnsdale and Lakes Entrance. Metung is a significant fishing village with a focus on tourism and water sports. Metung contains several styles of tourism accommodation with a significant focus on increasing the range and scale available.

Metung has a suitable level of community and commercial services and facilities to support the existing residential component.

The subject site in relation to Metung is shown in the aerial photograph below.



Photograph 1 – Aerial Photograph of the subject site and surrounding land
 – 33 Wood Street, Metung (source: doi.vic.gov.au)
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Metung



Photograph 2 – Proposed access to subject site at 33 Wood Street, Metung



Photograph 4 – Subject site facing east.



Photograph 6 – Subject site facing south.



Photograph 3 – Subject site facing west.



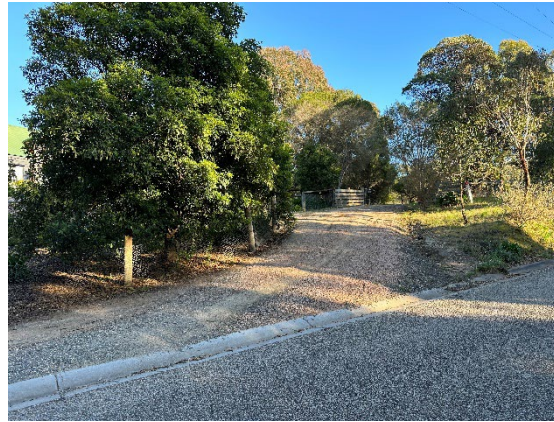
Photograph 5 – Subject site facing north along the western boundary.



Photograph 7 – Subject site facing southeast.



Photograph 8 – Neighbouring property adjoining the western boundary at 49 Park Road, Metung.



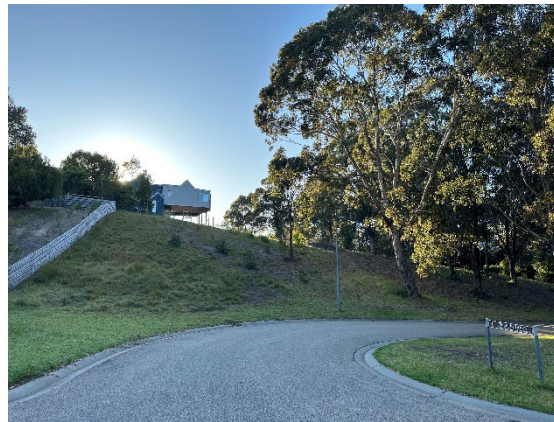
Photograph 10 – Neighbouring property adjoining the southern boundary at 31 Wood Street, Metung.



Photograph 12 – Wood street facing north.



Photograph 9 – Neighbouring property adjoining the northern boundary at 37 Wood Street, Metung.



Photograph 11 – Property directly opposite the subject site at 1 Lawrence Court, Metung.



Photograph 13 – Wood street facing south.

3. THE PROPOSAL

This application seeks approval for the use and development of a resort, vegetation removal and signage. The proposed development plans are contained in **Appendix B**.

The proposed resort will occupy the entire site and will include 16 cabin houses, 6 of which will be double storey cabins, referred to as Cabin B and 10 of which will be loft style cabins, referred to as Cabin A. The proposal also includes a multipurpose room, reception, indoor swimming pool, tennis court and scattered outdoor areas. The proposed single and double storey cabins will be scattered throughout the property as indicated on the proposed development plans.

The proposed loft style cabins (Cabin A) will include 2 bedrooms, 2 bathrooms and will have a total area of 86m². The finished material of cabin A will be Colorbond cladding in Monument. The proposed double storey cabins will have 4 bedrooms, 2 bathrooms and will have a total area of 140m². The finished material of cabin B will be Colorbond cladding in Monument. A full colour schedule is contained in the proposed development plans contained in **Appendix B**. The proposal will include a reception building that will be located in the northeastern portion of the site near the

proposed entrance. A multi-purpose hall and indoor swimming pool will be located in the southeastern portion of the site as indicated in the concept plan below in figure 3.

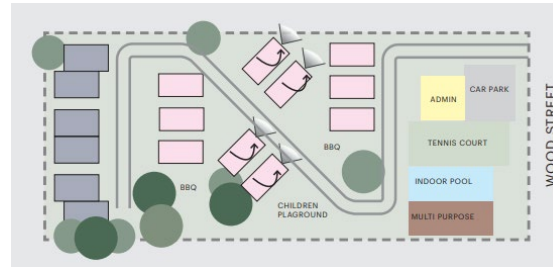


Figure 3– Concept Plan – AXE Architects

Use

The proposed use of the site will be for resort accommodation and associated facilities.

Access

Vehicle access will be provided in the northern portion of the eastern boundary, directly from Wood Street as detailed in the Traffic Impact Assessment contained in **Appendix D**, this assessment also contains a series of swept path diagrams, car spacing and passing diagrams.

Car parking

Each cabin will be provided with one car parking space that will be accessed via the private internal road. A car parking area for staff and visitors will be located to the east of the reception/ administration building and will provide 7 car parking spaces with one being

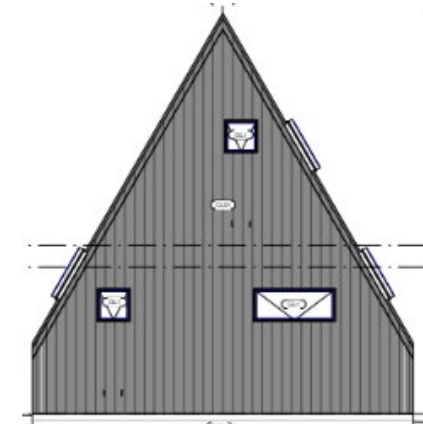


Figure 4– West elevation cabin A – AXE Architects



Figure 5– East elevation cabin B – AXE Architects

Vegetation removal

The subject site does contain existing native vegetation and will require removal to facilitate the proposed resort. An arborist report is contained in **Appendix F** which provides details on the existing vegetation including species and health status. A Native Vegetation Information Management Report is contained in **Appendix G** that concludes the owner will be required to purchase a general offset to the value of 0.058 GHU. A vegetation removal plan is contained in the proposed development plans.

Signage

The proposal will require business identification signage. The proposed signage will be located along the reception building as indicated in red on proposed signage plan below. The proposed signage will be a total of 8.6m² and have back lit illuminated letters.

Landscaping

The proposal includes general landscaping around the perimeter of the site and amongst cabins. Further landscaped areas will include the tennis court, children's playground and BBQ areas. A proposed Landscape Plan is contained in **Appendix H**. An extract from the proposed landscape plan is provided to the right in figure 8.

Earthworks

Earthworks will be required to facilitate the proposed development. A Geotechnical Risk Assessment Waiver is contained in **Appendix C** that concludes with appropriate mitigation measures the risks associated with erosion can be reduced to an acceptable level. Retaining structures of various heights will be required as indicated in the Site Management Drainage Plan contained in **Appendix I**. The plan also provides specific site drainage details and recommended location of a rain garden.

WINDMILL HOTSPRING RESORT METUNG

Figure 7– Proposed signage lettering – AXE Architects

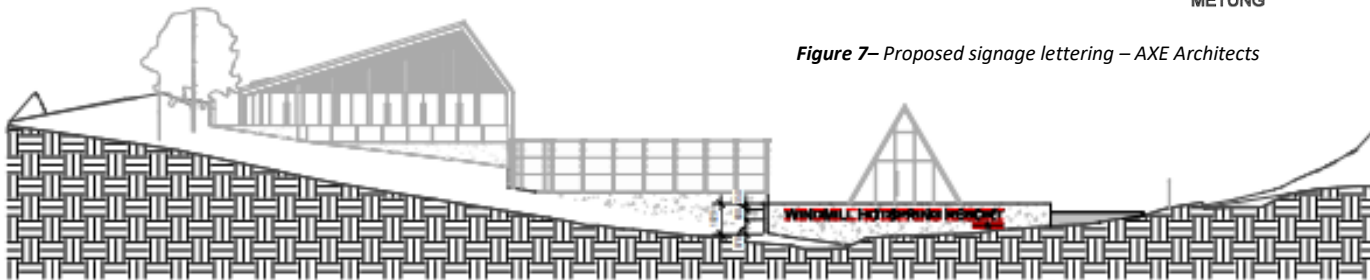


Figure 6– East elevation facility zone and signage – AXE Architects



Figure 8– Landscape Plan – John Patrick Landscape Architects

4. ZONES AND OVERLAYS

General Residential Zone – Schedule 1

The purpose of the General Residential Zone is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To encourage development that respects the neighbourhood - character of the area.
- To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.
- To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.

An extract of the General Residential Zone Map is provided to the right in **Figure 9**.

Clause 32.08 -2 provides a permit is required to use the site for accommodation.

Clause 32.08-9 provides a permit is required to construct a building associated with a section 2 use as such a permit is required under the provisions of the General Residential Zone. The relevant decision guidelines are addressed in Section 5 of this submission.

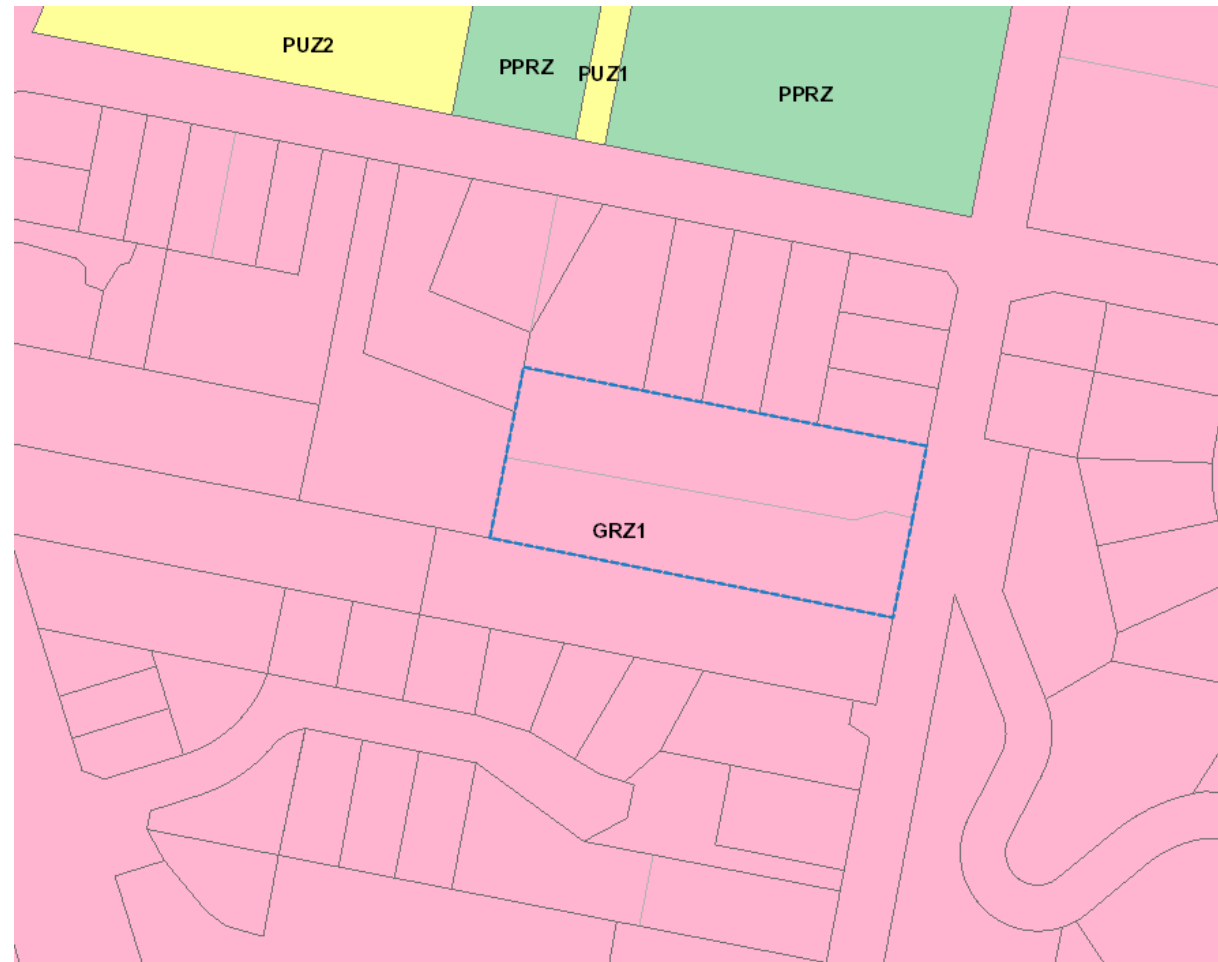


Figure 9 – General Residential Zone – (source - mapshare.vic.gov.au)

Design and Development Overlay – Schedule 11

The purpose of the Design and Development Overlay is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To identify areas which are affected by specific requirements relating to the design and built form of new development.

An extract of the Design and Development Overlay Map is provided to the right in **Figure 10**.

Clause 43.02-2 provides a permit is required to construct a building or construct or carry out works.

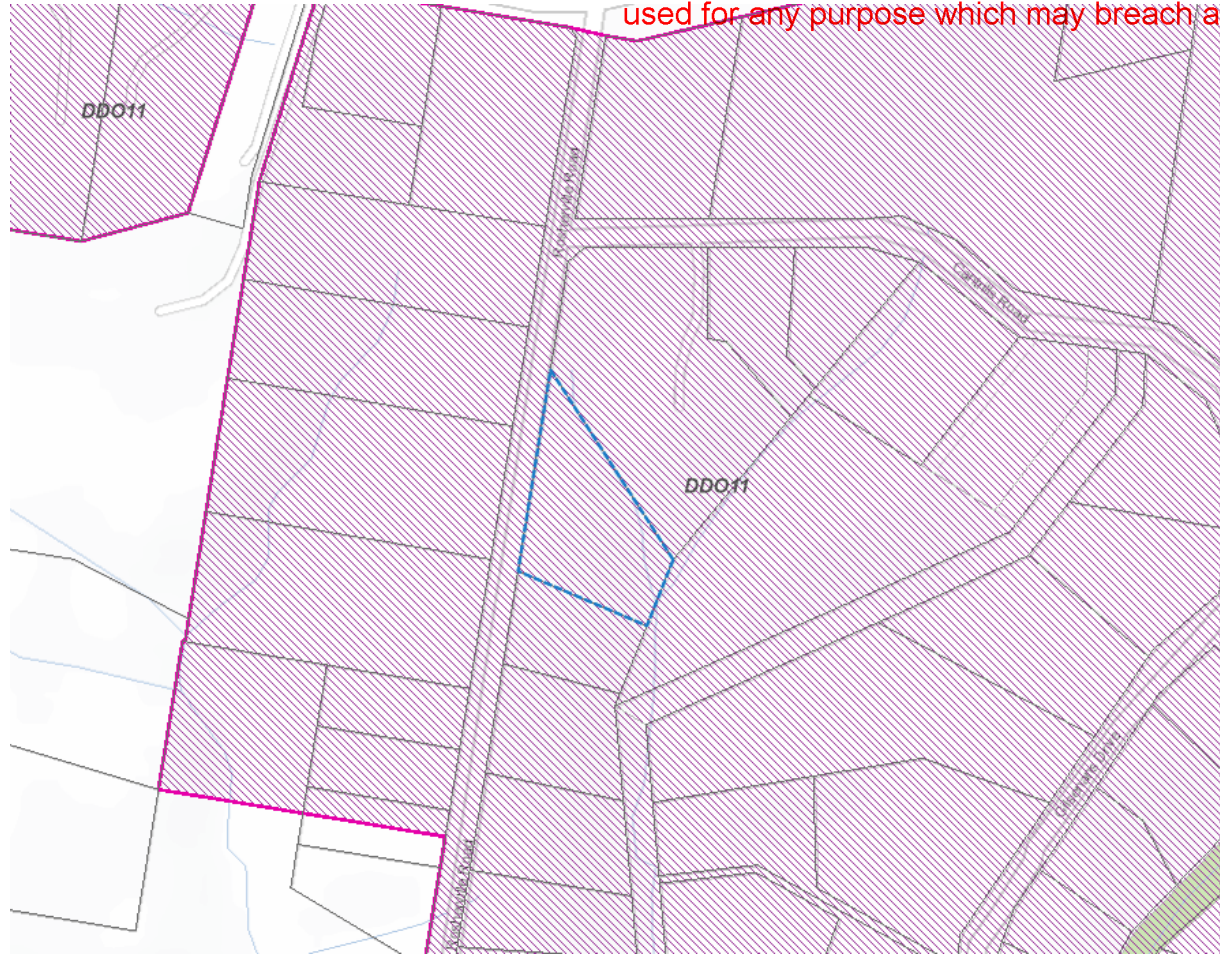


Figure 10 – Design and Development Overlay – (source - mapshare.vic.gov.au)

Design and Development Overlay – Schedule 11 continued:

Schedule 11 to the Design and Development Overlay relates to Residential Development in Coastal Settlements and contains the following design objectives:

- *To protect and manage the township character of coastal settlements.*
- *To ensure that the height and visual bulk of new development is compatible with the coastal neighbourhood setting.*
- *To ensure that new development is designed to minimise visual impacts on the natural landscape.*
- *To ensure that new development is visually and physically integrated with the site and surrounding landscape.*
- *To ensure that new development is sited and designed to be visually unobtrusive through and above the surrounding tree canopy when viewed from nearby streets, lakes, coastal areas, or other distant viewpoints.*
- *To protect the vegetated character of the landscape, particularly where it is a*

dominant visual and environmental feature.

- *To ensure that the scale and character of existing development in areas fronting Marine Parade in Marlo and on the lake frontage at Newlands Arm is preserved and that any new development should be consistent with the prevailing development form and height to retain the existing character and view corridors.*
- *To ensure that the subdivision of land within the Newlands Arm Estate is consistent with the Newlands Arm Estate Restructure Plan, Version 7 (March 2017).*

The schedule provides in 2.0 that a permit is required for buildings with an overall height that exceeds 7.5 metres, total building footprint that exceeds 300 square metres and where the slope exceeds 15 percent.

The proposal will have a total building footprint that will exceed 300 square metres and as such the relevant decision guidelines of the Design and Development Overlay and Schedule 11 are addressed in Section 5.

Erosion Management Overlay

The purpose of the Erosion Management Overlay is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To protect areas prone to erosion, landslip, other land degradation or coastal processes by minimising land disturbance and inappropriate development.

An extract of the Erosion Management Overlay Map is provided to the right in **Figure 11**.

Clause 44.01-2 provides a permit is required to construct a building or construct or carry out works.

The schedule does not provide any exemptions for the proposed accommodation resort. Earthworks will exceed 1 metre in depth and as such a permit is required under the provisions of the Erosion Management Overlay. The relevant decision guidelines are addressed in Section 5 of this submission.

A Geotechnical Risk Assessment waiver is contained in **Appendix C**.



Figure 11 – Erosion Management Overlay – (source - mapshare.vic.gov.au)

Vegetation Protection Overlay – Schedule 3

The purpose of the Vegetation Protection Overlay is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To protect areas of significant vegetation.
- To ensure that development minimises loss of vegetation.
- To preserve existing trees and other vegetation.
- To recognise vegetation protection areas as locations of special significance, natural beauty, interest and importance.
- To maintain and enhance habitat and habitat corridors for indigenous fauna.
- To encourage the regeneration of native vegetation.

An extract of the Vegetation Protection Overlay Map is provided to the right in **Figure 12**.

Clause 42.02-2 provides a permit is required to remove, lop or destroy any native vegetation. The proposal requires the removal of existing native vegetation and as such a permit is required under the provisions of the Vegetation Protection

Overlay. The relevant decision guidelines are addressed in Section 5 of this submission.

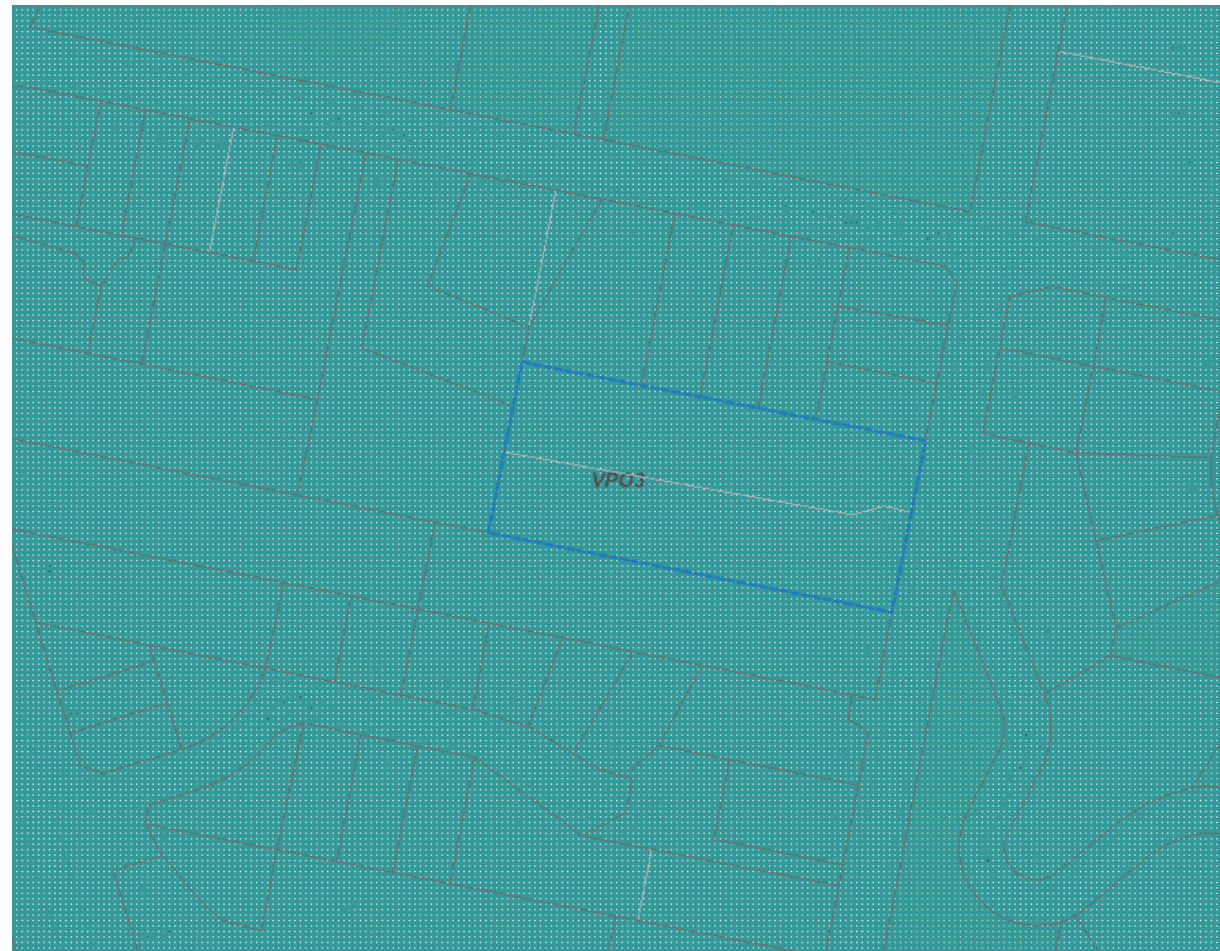


Figure 12 – Vegetation Protection Overlay – (source - mapshare.vic.gov.au)

Vegetation Protection Overlay – Schedule 3 continued:

Schedule 3 to the Vegetation Protection Overlay relates to Nungurner – Metung Vegetation Protection Area and contains the following statement of nature and significance to be protected:

- *The Nungurner-Metung area is located on the shores of the Gippsland Lakes and comprises large areas of remnant native vegetation and tree-lined roadsides. Much of the area constitutes a Site of Biological Significance, whilst significant areas of native vegetation are also located within the built up areas.*
- *Vegetation contributes significantly towards aesthetic values of the area and provides for a unique character in a lakeshore setting, resulting in a highly attractive area to both local residents and visitors.*
- *Remnant native vegetation throughout the area, including important examples of coastal vegetation, Gippsland Coastal Grey Box and Box - Ironbark communities, is of high conservation value and provides important fauna habitat.*
- *Remnant native vegetation plays an important role in stabilising the often*

highly erodible dissected gullies characteristic of the area.

- *Conservation and enhancement of this area is generally important to, and supported by, the local community.*

The vegetation protection objectives to be achieved include:

The Nungurner-Metung Vegetation Protection Overlay seeks to conserve high conservation value vegetation and vegetation with high aesthetic and landscape value. The overlay objective is to ensure that development occurs so as:

- *To conserve areas of high conservation value vegetation by minimising the extent of vegetation loss.*
- *To preserve existing trees and other vegetation where it contributes to high landscape and aesthetic values of the area.*
- *To conserve and enhance fauna habitat and habitat corridors by minimising the extent of vegetation loss and encouraging regeneration of indigenous species.*
- *To reduce the risk of soil erosion and degradation of water quality by minimising the extent of vegetation loss.*

The schedule provides in 3.0 that a permit is required to remove, destroy or lop any vegetation. An arborist Report is contained in **Appendix F.**

Aboriginal Cultural Heritage

Under the provisions of the *Aboriginal Heritage Act 2006* the subject site is not recognised as being within an area of Aboriginal Cultural Heritage Sensitivity. As such that application does not require the preparation of a Cultural Heritage Management Plan.

5. OTHER PLANNING PROVISIONS

CLAUSE 52.05 – SIGNS

The purpose of the Signs provisions at Clause 52.05 are:

- *To regulate the development of land for signs and associated structures.*
- *To ensure signs are compatible with the amenity and visual appearance of an area, including the existing or desired future character.*
- *To ensure signs do not contribute to excessive visual clutter or visual disorder.*
- *To ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance of efficiency of a road.*

The subject site is within a General Residential Zone which identifies the land to be within Category 3 – High amenity areas. Clause 52.05-13 includes the following purpose:

- *To ensure that signs in high-amenity areas are orderly, of good design and do not detract from the appearance of the building on which a sign is displayed or the surrounding area.*

Clause 52.05-13 provides a business identification sign is a section 2 - permit required sign.

The decision guidelines of Clause 52.05-8 are addressed below in Section 5 of this submission.

The proposal will require business identification signage to be located along the reception/ administration building as indicated on the proposed development plans. The proposed signage will be a total of 8.6m² and have back lit illuminated letters. An extract from the proposed development plans indicating the signage is located below in figure 13.

WINDMILL HOTSPRING RESORT
METUNG

Figure 13– Proposed signage lettering – AXE Architects

CLAUSE 52.06 – CAR PARKING

The purpose of the Car parking provisions at Clause 52.06 are:

- To ensure that car parking is provided in accordance with the Planning Policy Framework and Municipal Planning Strategy.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car use.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

Clause 52.06-1 applies to:

- A new use;
- An increase in the floor area or site area of an existing use; or

- An increase to an existing use by the measure specified in Column C of Table 1 in Clause 52.06-5 for that use.

Clause 52.06-3 provides a permit is required to:

- Reduce (including reduce to zero) the number of car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay.
- Provide some or all of the car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay on another site.
- Provide more than the maximum parking provision specified in a schedule to the Parking Overlay.

The proposed use of the site is best described as accommodation. This is not a use listed in table 1 of Clause 52.06 and as such car parking needs to be provided to the satisfaction of the responsible authority as set out in Clause 52.06-6.

The proposed resort will have a total of 16 cabin houses. Each cabin will be provided with one car parking space. There will also be a car parking area located to the east of the proposed reception/ administration building that will provide for 7 car parking spaces with one being disabled compliant. The proposed

car parking area will be used for staff, visitors and customers checking in and out of the accommodation.

Car parking is addressed in Section 4 of the Traffic Impact Statement contained in **Appendix D**.

CLAUSE 53.22 – SIGNIFICANT ECONOMIC DEVELOPMENT

The purpose of Significant Economic Development at Clause 53.22 is:

- *To prioritise and facilitate the planning, assessment and delivery of projects that will make a significant contribution to Victoria's economy and provide substantial public benefit, including jobs for Victorians.*
- *To provide for the efficient and effective use of land and facilitate use and development with high quality urban design, architecture and landscape architecture.*

Clause 53.22-1 provides the application is a Category 1 and conditions are:

- *The use must be specified in Table 2 and the condition corresponding to that use must be met. If the application includes more than one use in Table 2, only one use must meet the corresponding condition.*
- *Must have written advice from the Chief Executive Officer, Invest Victoria confirming the likely financial feasibility of the proposal.*

The application meets the proposed use set out in table 2 for group accommodation and must meet the following conditions:

The estimated cost of the development must be at least:

- *\$10 million if any part of the land is in metropolitan Melbourne; or*
- *\$5 million if any part of the land is not in metropolitan Melbourne.*

The owners have applied for written advice from the Chief Executive Officer, Invest Victoria and will be provided when available.

6. PLANNING ASSESSMENT

This proposal has been assessed against the objectives and standards of applicable clauses of the East Gippsland Planning Scheme and it is considered that the proposal is appropriate for the following reasons:

- The proposal meets the objectives of the Municipal Planning Strategy at **Clause 02** and the Planning Policy Framework at **Clause 10** providing for an appropriate accommodation resort that can be respectful of the existing surrounding development and the environment.
- The proposal will contribute to a high standard of environmental sustainability, urban design and amenity by designing the resort to meet the constraints of the land reducing any potential negative environmental implications as sought to achieve by the relevant clauses including **Clause 02.03** and **Clause 11**.
- **Clause 02.03-1** identifies Metung as a coastal settlement. Metung is identified as a key destination for visitors and has a strong residential community. The proposed use and development of a resort will connect to all available services and infrastructure including reticulated water, sewerage, electricity, telecommunications and a good quality road network.
- **Clause 13.04-25** requires consideration of erosion and landslip. The subject site and proposed use and development is within an area identified as being susceptible to erosion. The proposed earthworks associated with the development will exceed 1 metre in depth. All preventative measures will be undertaken during the construction phase of the proposed development to ensure no erosion hazards occur. A Geotechnical Risk Assessment Waiver is contained in **Appendix C**.
- The proposed use of resort accommodation will contribute to economic development by providing for a high quality unique resort within a tourist destination. **Clause 17** considers all sectors to be critical in achieving economic prosperity. The proposal will result in an accommodation resort that will provide a range of ongoing employment opportunities as well as contributing to the tourism sector of Metung. There are other existing luxury accommodation properties in Metung however, the proposed accommodation resort has been designed to be unique and provide an alternative option for those seeking accommodation. Facilitating tourism within an existing settlement will maximise existing infrastructure. The proposal includes an extensive landscaping plan to ensure integration with the surrounding environment.
- The proposal is generally consistent with the decision guidelines of the General Residential Zone at **Clause 32.08-12** which seeks to encourage development that respects the neighbourhood character.
- The proposed use for resort accommodation and signage has been designed to be respectful of the existing neighbourhood character of the area as much as possible given the constraints of the site. The proposal will provide for high quality resort that will support the tourism component of Metung. The proposal will include 16 cabin houses, reception/administration building, indoor swimming pool, tennis court, multipurpose room and multiple outdoor areas.
- The development in the area is varied with dwellings at various heights, styles and setbacks primarily due to the sloping nature of the area. Tourism style accommodation is located throughout the residential areas in Metung providing for a unique experience.
- Vehicle access will be provided in the northern portion of the eastern boundary, directly from Wood Street as detailed in the Traffic Impact Assessment contained in **Appendix D**, this assessment also contains a

- series of swept path diagrams, car spacing and passing diagrams.
- The proposal is consistent with the decision guidelines of the Design and Development Overlay at **Clause 43.02-6** which seeks to identify areas which are affected by specific requirements relating to the design and built form of new development.
 - The proposed use for resort accommodation will support economic development. The proposed cabins will be located throughout the subject site and will have appropriate setbacks from the boundaries and adjoining road reserve.
 - The subject site and proposed resort is well setback from the nearby waterway surrounding Metung. The proposed development is unlikely to be visible from the water, particularly given the topography of the area, surrounding development and vegetation.
 - There is a colour schedule located in the proposed development plans contained in **Appendix B** with a visual description. The development is unlikely to be visually obtrusive and will be well integrated with the surrounding development and environment particularly given the proposed landscaping. The proposed colours are low reflective and muted in toning.

- **Schedule 11** refers to residential development in coastal settlements and recognises the importance of the landscape.
- The application is seeking approval for the use and development of resort that will support economic development and the tourism role of Metung and surrounds. The roof form of the proposed buildings will be below the prevailing tree canopy and will not be a prominent feature of the landscape. A landscape plan is contained in **Appendix H** that includes plant schedules and the proposed location of landscaping.
- Earthworks will be required for the proposed development and will exceed 1 metre in depth. The proposal does also require the removal of native vegetation to facilitate the development.
- The proposal is consistent with the decision guidelines of the Erosion Management Overlay at **Clause 44.01** which seeks to protect areas prone to erosion, landslip, other land degradation.
- There is no evidence of any existing erosion or sedimentation however, the proposal requires earthworks that will exceed 1 metre in depth. Disturbed ground will be appropriately battered, retained with structures and be re-grassed to minimise any erosion hazards.

- Some existing vegetation will be required to be removed. An arborist report is contained in **Appendix F** and a Native Vegetation Information Management Report is contained in **Appendix G**. The vegetation removal is unlikely to contribute or cause additional erosion hazards. The replanting of additional landscaping and building works will adequately manage any potential erosion hazards.
- A Geotechnical Risk Assessment waiver is contained in **Appendix C** that concludes the risks associated with erosion can be reduced to an acceptable level with the use of mitigation measures.
- The proposal is generally consistent with the decision guidelines of the Vegetation Protection Overlay at **Clause 42.02-5** which seeks to protect areas of significant vegetation.
- The application seeks approval for the removal of vegetation. The area of vegetation to be removed is identified within the proposed development plans and within the Native Vegetation Information Management Report contained in **Appendix G**.
- The removal of vegetation is inevitable to facilitate the proposed use and development of a resort.

- An arborist report prepared by Roots 2 Leaves is contained in **Appendix F** that provides details of the existing vegetation on the site.
- The proposal is generally consistent with the decision guidelines of **Clause 52.17** which seeks to ensure no net loss to biodiversity as a result of native vegetation removal.
- The report undertaken by Roots 2 Leaves contained in **Appendix C** provides detail on the proposed vegetation to be removed. A NVIM Report is provided in **Appendix G** and concluded the owner will be required to purchase a general offset to the value of 0.058 general habitat units.
- Vehicle access will be provided in the northern portion of the eastern boundary, directly from Wood Street as detailed in the Traffic Impact Assessment contained in **Appendix D**, this assessment also contains a series of swept path diagrams, car spacing and passing diagrams.
- Pedestrian access to Metung Road and the surrounding areas is via Lawrence Court and Wood Street.
- The proposal is consistent with the decision guidelines of **Clause 52.05-8** signage which seeks to regulate the development of land for signs and associated structures.
- The proposed signage will include a business identification sign that will be located on the reception/ administration building. A detailed signage plan is located in the proposed development plans contained in **Appendix B**. The total area of the proposed signage is 8.6m².
- The business identification signage will provide customers the ability to easily identify the business upon approach ensuring safe entry to the site. The signage will have back lit illuminated letters however will not distract or dazzle drivers.
- The signage is considered to be a simple yet high quality design that is respectful of the area. The signage will not contain any flashing light and will not distract drivers or create any visual clutter in this location.
- This submission has addressed the relevant decision guidelines of **Clause 52.06** - Car Parking which seeks to ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- This application is seeking approval for the use and development of a resort, vegetation removal and signage.
- The proposal includes a total of 23 car parking spaces providing for each of the proposed cabins to have one car parking space allocated. There is an additional car parking area located to the east of the reception building which contains 7 car parking spaces with one being disable compliant.
- Vehicle access will be provided in the northern portion of the eastern boundary, directly from Wood Street as detailed in the Traffic Impact Assessment contained in **Appendix D**.
- This submission is consistent with the decision guidelines of **Clause 53.22** significant development which seeks to prioritise and facilitate the planning, assessment and delivery of projects that will make a significant contribution to Victoria's economy and provide substantial public benefit, including jobs for Victorians.
- The proposal will support an effective use of land and facilitate use and development that is of a high quality urban design, architecture and landscape.
- The owners have applied for written advice of the Chief Executive Officer, of Invest Victoria and are awaiting response. Given the scale and cost of the proposed development, it is expected that this will fall within the significant development category. The proposal is expected to generate up to 20 jobs.

- This submission has addressed the decision guidelines of **Clause 65**, and the proposed use and development of a resort, vegetation removal and signage supports orderly planning of the area whilst taking into consideration the potential effect on the environment, human health and the amenity of the area.
- The proposal has been assessed against all relevant components of the East Gippsland Planning Scheme and it is determined that given the lack of large land available and the need for this type of development in the region, this is a suitable site and any potential hazards can be adequately managed to an acceptable level.
- It is concluded that there is unlikely to be a negative impact on the existing road network or the surrounding land uses and development.
- There are no factors of this proposal that are likely to cause or contribute to land degradation, salinity or reduce water quality.
- This development is considered to be a significant economic benefit to the region and will generate additional employment opportunities in both the short term, during construction and the long term in the tourism role.

7. CONCLUSION

This submission is in support of a planning permit application for the use and development of a resort, vegetation removal and signage at 33 Wood Street, Metung.

The relevant provisions of the East Gippsland Planning Scheme have been addressed and it has been ascertained that the proposed use and development is appropriate in this location. It is requested that the proposal be supported for the following reasons:

- The proposal is consistent with the objectives and strategies outlined in the Municipal Planning Strategy and the Planning Policy Framework.
- The proposal is generally consistent with the objectives of the General Residential Zone, Design and Development Overlay, Erosion Management Overlay and the Vegetation Protection Overlay.
- The proposal will support and enhance economic development and the tourism component of Metung.

It is requested that a planning permit be granted for this development.

Development Solutions Victoria

Disclaimer:

This document has been prepared for planning permit application purposes only. The report has been made with careful consideration and with the best information available to Development Solutions Victoria Pty Ltd at the time.

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CHRIS O'BRIEN & COMPANY PTY LTD

CONSULTING CIVIL & STRUCTURAL ENGINEERS

Reference No: B23308

Project No: 50823

14/08/2023

Rubiks Development Australia Pty Ltd
68 LaTrobe Street
MELBOURNE Vic 3000

Attn: Martin Zhang

Email: martin.z@rubiksdevelopment.com.au

Dear Martin,

**RE: Windmill Hotspings Resort
33 Wood Street, Metung.**

INTRODUCTION

Chris O'Brien & Company Pty Ltd have been engaged by Martin Zhang of Rubiks Development Australia Pty Ltd to provide a Geotechnical risk assessment report for a proposed Windmill Hotspings Resort at 33 Wood Street, Metung Vic 3904. An erosion management overlay exists over the property.

The purpose of this letter is to determine if the works to be carried out on this site will be a risk to the surrounding environment and is to be used in the planning application process only. This letter is not a soil classification report and shall not be used for this purpose.

Information contained in this letter is from a visual inspection of the site and based on information supplied to Chris O'Brien & Company Pty Ltd on the work to be completed on the site.

Note that in accordance with "Guidelines for Landslide Susceptibility" Section 5: Landslide Zoning: the subject site would not be considered in a landslide hazard zone.

The site was inspected by Andrew Powell on the 10th August 2023.

SITE DESCRIPTION

The approximate 0.86 hectare site is located on the western side of Wood Street which is located on the east side of the Metung township. The allotment has residential properties to north, south and west with the intersection with Lawrence Court located across from the north east corner of the allotment. The site had low to moderate falls with a maximum fall observed on the site of approximately 1 in 4 with the site generally falling towards Wood Street except the south west corner which falls to the south west. The site has a very good cover of grass with significant vegetation in numerous areas over the allotment and numerous trees existing in the Wood Street nature strip. No visible erosion is currently occurring on the allotment with a number of cut batters already formed on the allotment

All correspondence to:
P.O. Box 18
Traralgon Vic. 3844

13A Church Street
Traralgon Vic. 3844

Telephone (03) 5174 9911
Facsimile (03) 5174 0011

and retaining structures along the northern boundary in neighbouring properties. All services are available to the site from Wood Street with a sewer main inside an easement along the eastern boundary. Storm water is to an existing side entry pit located at the low point of Wood Street. Wood Street is a fully constructed road with bitumen seal and kerb and channel down both sides. A series of photos is attached to the end of this report showing site features as described.

PROJECT DETAILS

The proposed Windmill Hotsprings Resort is to consist of 10 - 2 bedroom units and 6 - 3 bedroom units along with an indoor swimming pool and multi-purpose hall. A tennis court is to be provided along with reception/admin building, all carparking and access driveways along with a walking path for access around the facility. The construction work will be as follows.

- Access to the allotment from Wood Street with some vegetation removal and minor earthworks required. Compaction and placement of materials to form the driveway is also required.
- Vegetation removal from the site along with the stripping and stockpiling of re-usable topsoil on the site.
- Significant bulk earthworks cut and fill to form flat areas for building and for the formation of all driveways, carparks and the tennis court.
- Excavation of trenches for the provision of all services to the proposed units including provision of storm water drainage treatment and retention systems as required.
- Placement and compaction of all materials to form the driveways, carparks and the tennis court.
- Construction of significant retaining structures required to support proposed cut and fill batters. The use of stabilised grassed batters will have limited areas of use due to the nature of the site and the proposed development.
- Construction of all buildings associated with the development.
- Provision of site storage, fuel and machinery storage, site sheds etc. for the entire duration of the project.

FIELD INVESTIGATION

The site was inspected on the 10th August 2023 to assess what is currently occurring on site in regards to erosion, to determine services available to the site and to assess soil conditions on the site.

Visual inspection of the site confirmed no erosion currently occurring onsite. Site access has been located so as to minimise the amount of vegetation removal works to be done.

Inspection confirmed that all services are available to the site, with water and Ausnet available from Christmas Street. Storm water and sewer to the east.

A soil investigation was completed for the site with the typical soil profiles of the site listed below.

0 – 180	Dark grey silty loam topsoil, Damp & Firm, with coarse grass roots
180 – 350	Fawn & grey clayey silt, Damp & Stiff
350 – 800	Fawn & Orange sandy silty clay, Damp & Very Stiff

SUMMARY OF RISK

LANDSLIDE	LOW
SHEET/RILL EROSION	LOW
TUNNEL EROSION	LOW

- Low to moderate grades over the entire site ranging from about 1 in 10 to 1 in 4.
- There is no evidence of any landslide or soil erosion and any of the surrounding properties
- Vegetation removal in Wood Street road reserve to create access to proposed development. Provide erosion and sediment control measures i.e. silt fences to protect the existing area from any sediment run-off.
- A construction management plan will need to be implemented for entire construction time for the driveways, carparks, tennis courts, all buildings and associated underground services. The plan will need to show measures to be undertaken to control erosion and storm water during the construction period. The following will have to be considered:
 - i. Location of any temporary construction works office and machinery storage area.
 - ii. Identification and location of areas suitable for the stockpile of topsoil with measures of erosion control to be shown (i.e. diversion banks and sediment fences)
 - iii. Measures and techniques to protect drainage lines and watercourses from sediment runoff from disturbed or under construction areas.
 - iv. Drainage of all construction and stockpile areas for the duration of the works and details of stormwater treatment to be provided.
 - v. A stabilized vehicle access point to and from all storage areas on the site for the entire length of the construction
 - vi. The form, bulk, scale and location of cut and fill is to be controlled to ensure no adverse effects on the natural water course to the north. (i.e. diversion banks and spoon drains)
 - vii. All erosion and sediment control measures will need to be inspected on a daily basis by the site manager with any maintenance required to be rectified immediately.
- Storm water management plan for the whole site, with drainage treatment and details and control of storm water run-off to be clearly indicated. Control of sediment run-off and erosion control details to be shown. It is essential that all storm water run-off from construction areas be treated prior to entering site run-off areas.

The above recommendations will need to be provided and approved prior to the commencement of any construction works on site. All storm water pits, silt fences etc will need regular maintenance to ensure the systems work as intended, as any silt build up in pits etc could cause the system to fail.

CONCLUSION

We therefore suggest that a full geotechnical risk assessment report is not required for this development. As long as all recommendations above are strictly adhered to, we anticipate no environmental risks with the work to be undertaken.

Should you need to clarify anything, please contact the Andrew Powell on 0402384596

Yours faithfully,

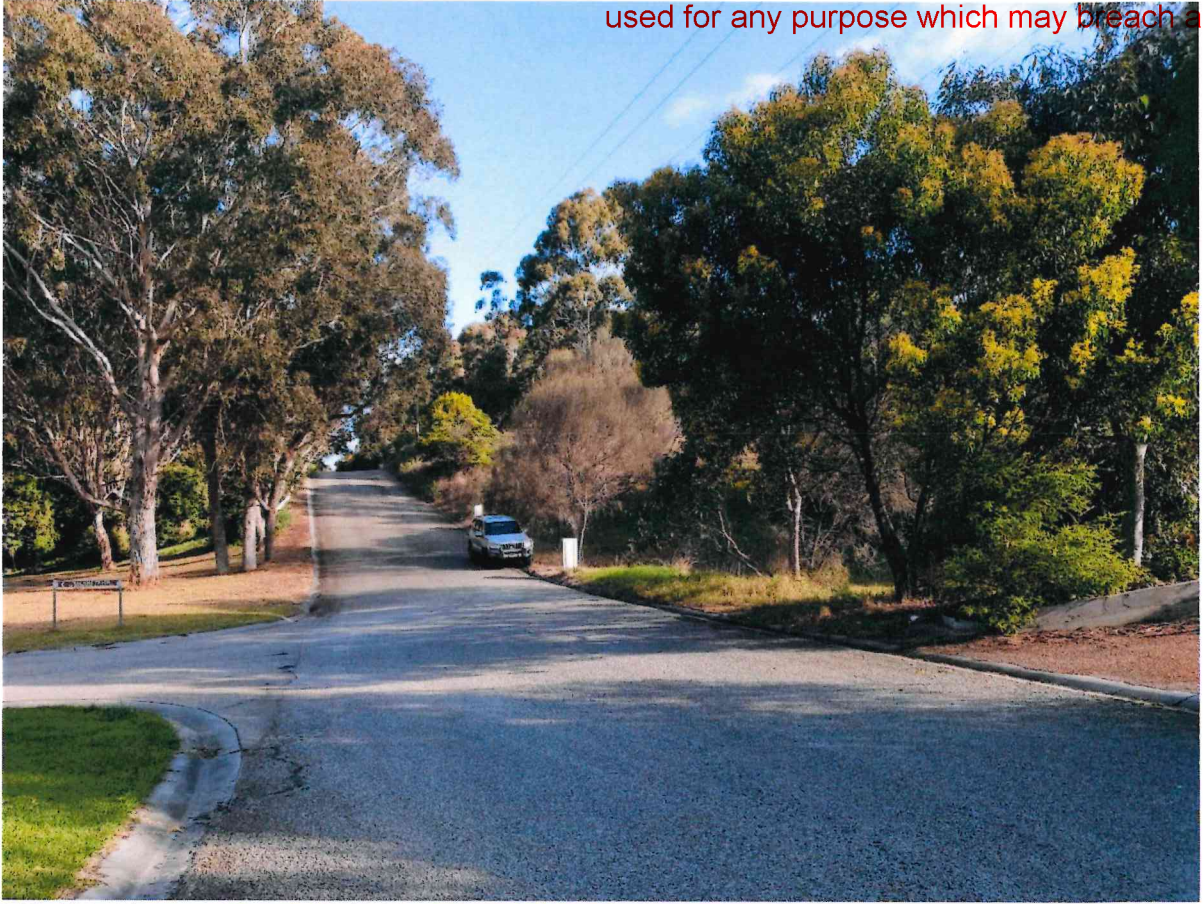


Andrew Powell Assoc.Dip (Civil)
for CHRIS O'BRIEN & COMPANY PTY LTD

Photos below show Wood Street.



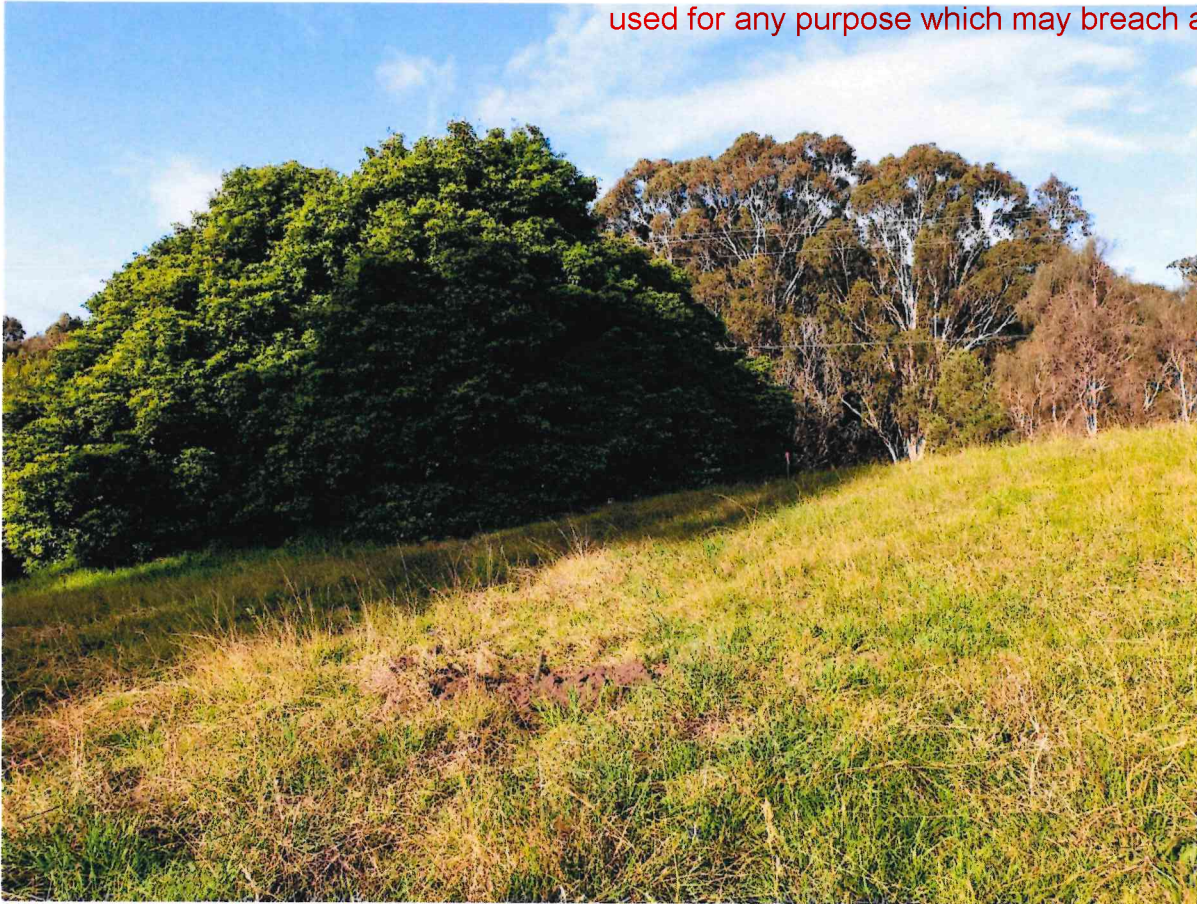




Photos below show the soil tests done.



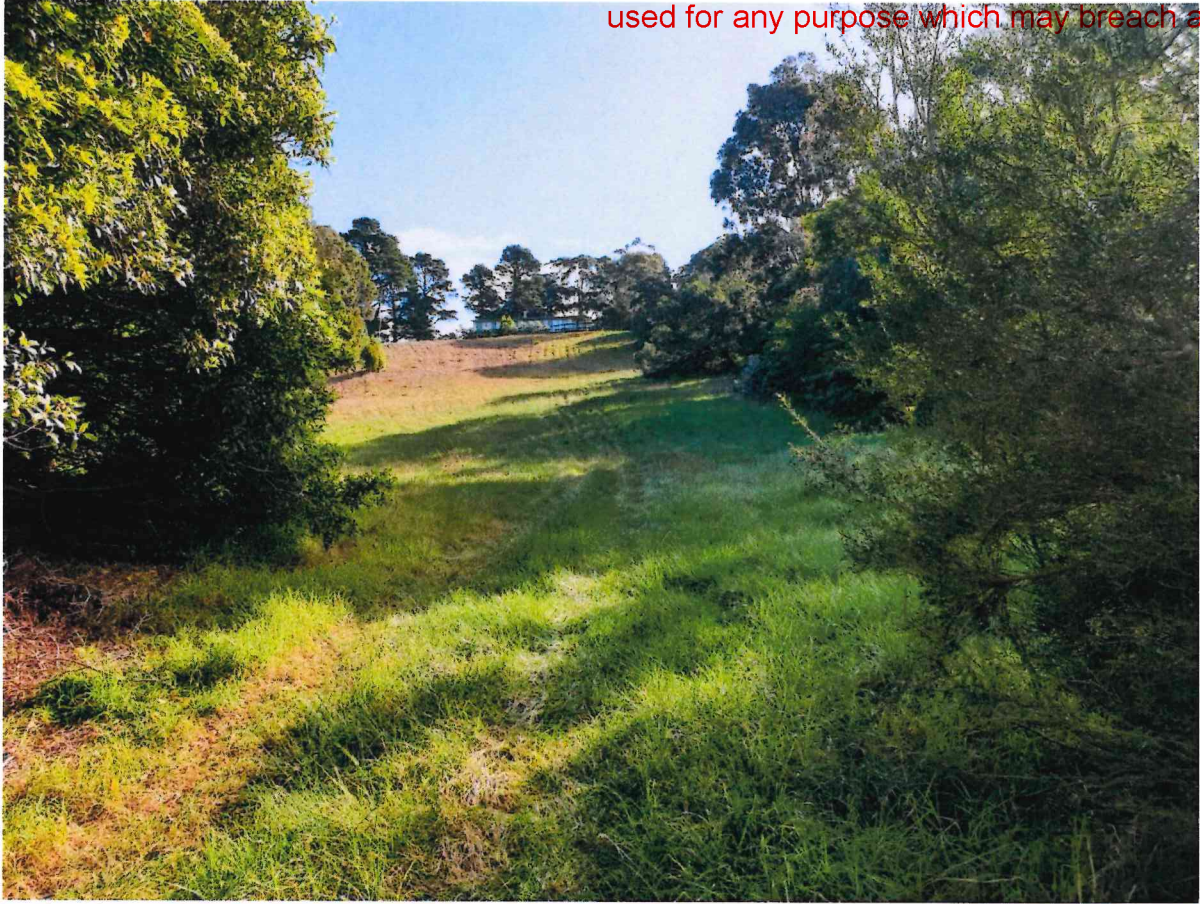


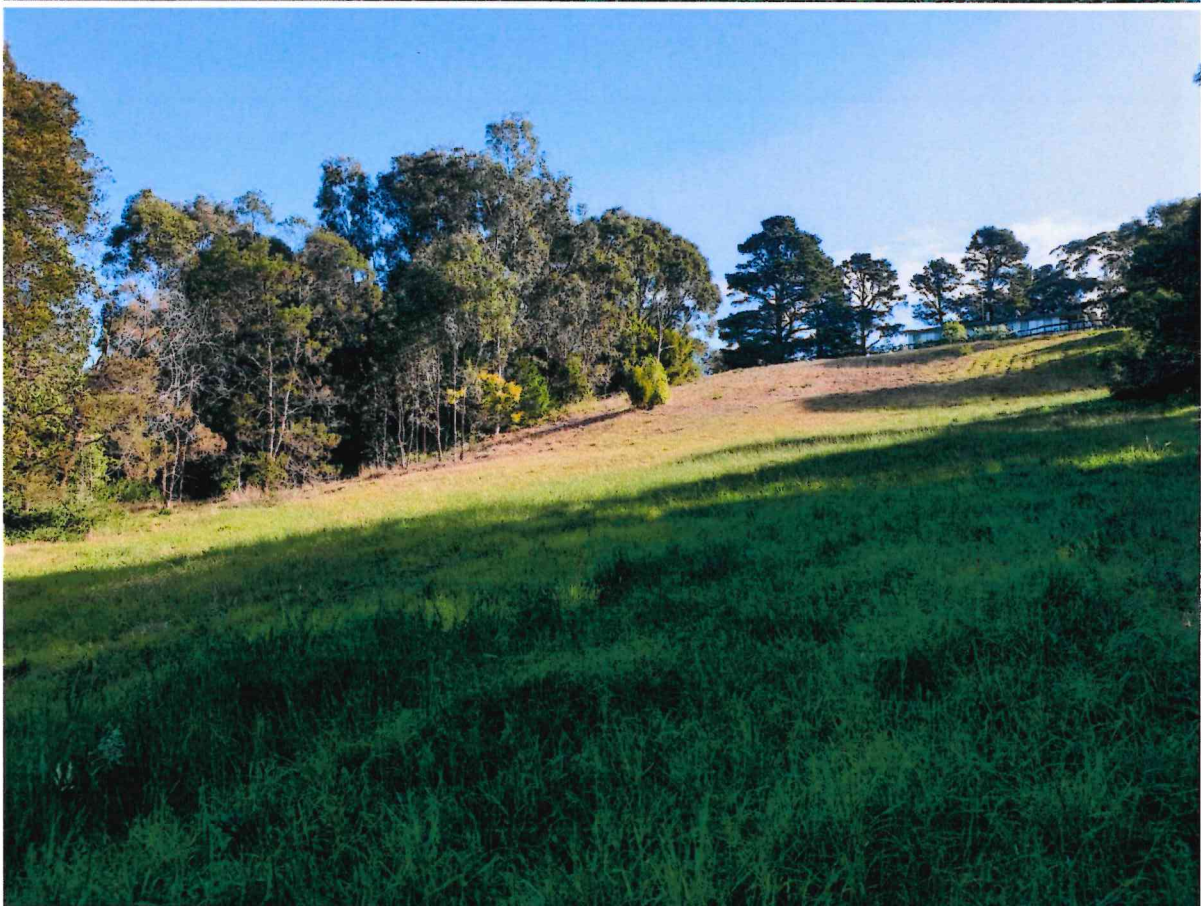


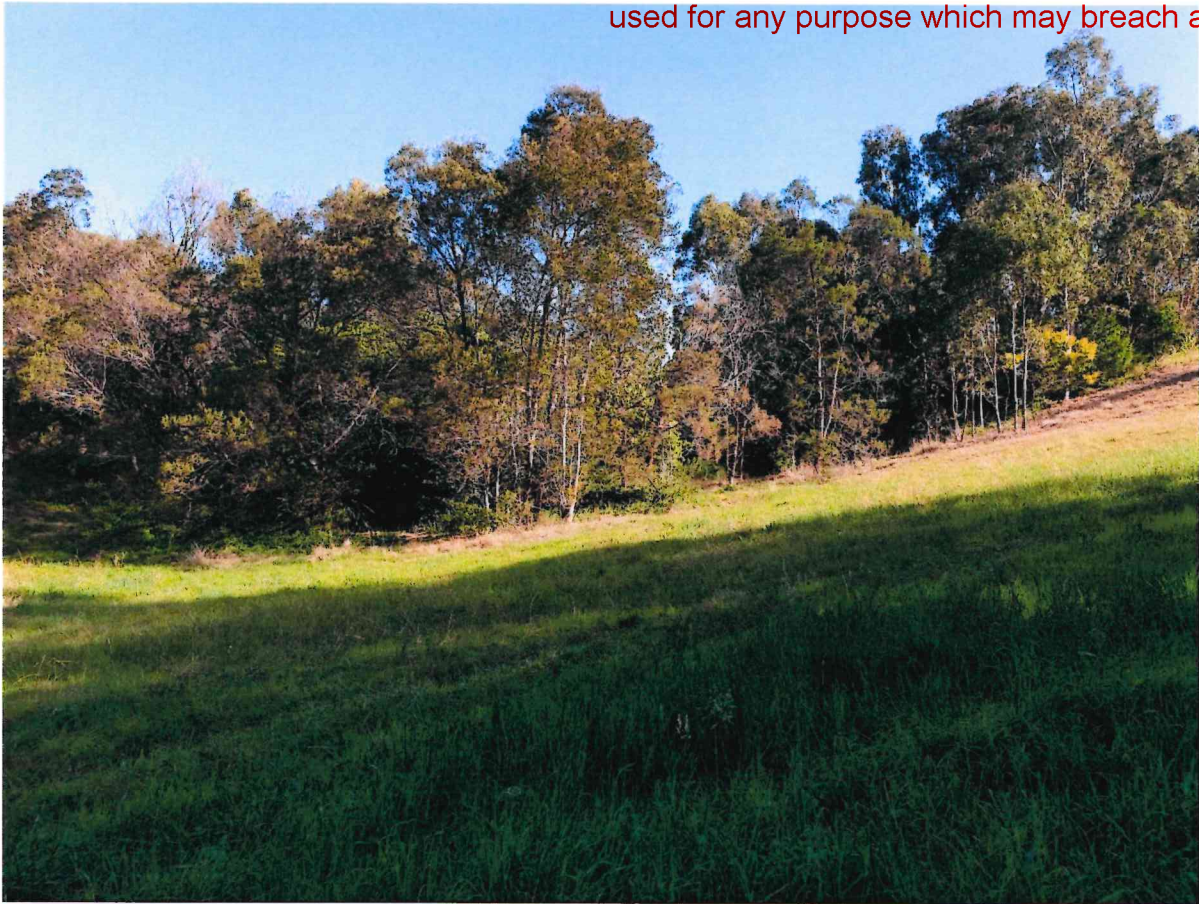


Photos below show general site and features.

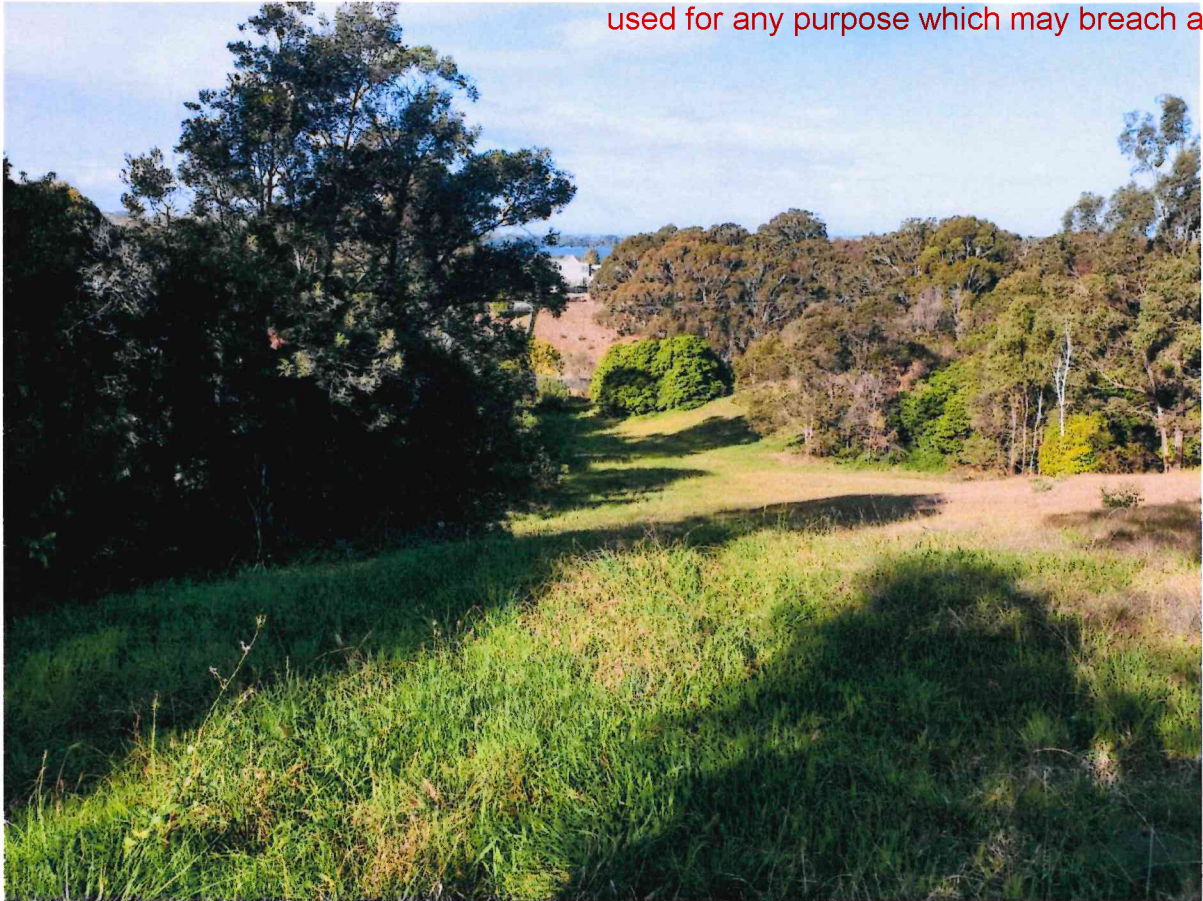






















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PROPOSED ACCOMMODATION/RESORT DEVELOPMENT

33 WOOD STREET, METUNG

TRAFFIC IMPACT ASSESSMENT REPORT

SALT³

Printed 30/01/2024
Page 54 of 124

PROPOSED ACCOMMODATION/RESORT DEVELOPMENT 33 WOOD STREET, METUNG

Client: Windmill Hotspring Resort

Report Reference: 23265TREP01F01

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Thursday, October 12, 2023

Document Control

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MELBOURNE

Level 3, 51 Queen St Melbourne VIC 3000

T: +61 3 9020 4225

SYDNEY

Suite 303/61 Marlborough St Surry Hills NSW 2010

T: +61 2 9068 7995

HOBART

Level 4, 116 Bathurst St Hobart TAS 7000

T: +61 400 535 634

CANBERRA

Level 3, 33-35 Ainslie PI Canberra ACT 2601

T: +61 2 9068 7995

ADELAIDE

Level 21, 25 Grenfell St Adelaide SA 5000

T: +61 8 8484 2331

www.salt3.com.au

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1 INTRODUCTION

SALT has been engaged by Windmill Hotspring Resort to undertake a traffic engineering assessment of the proposed accommodation/resort development at 33 Wood Street, Metung.

In the course of preparing this assessment:

- A desktop inspection of the site and its surrounds was undertaken;
- Development plans were reviewed, and design advice was provided in relation to car parking and access; and
- The traffic and parking implications of the proposal have been assessed.

The following sets out SALT's findings with respect to the traffic engineering matters of the proposal.

2 EXISTING CONDITIONS

2.1 LOCATION AND ZONING

The subject site is located on the west side of Wood Street opposite Lawrence Court in Metung, as shown in the map in **Figure 1**. The subject site is rectangular in shape and is currently vacant.

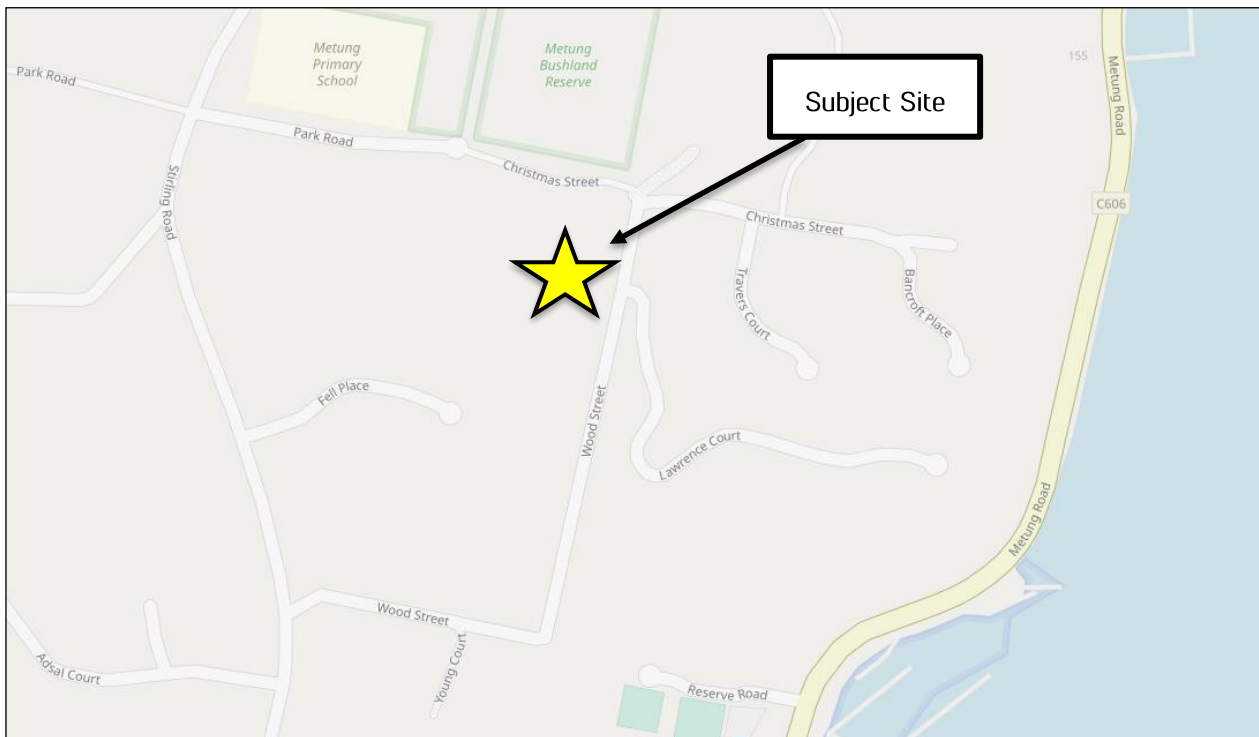


Figure 1 Subject site locality

Source: online.melway.com.au

The subject site is situated within a General Residential Zone – Schedule 1 (GRZ1) under the East Gippsland Planning Scheme, as shown in the zoning map in **Figure 2**.

Existing land uses within the immediate area surrounding the site are predominantly residential in nature.

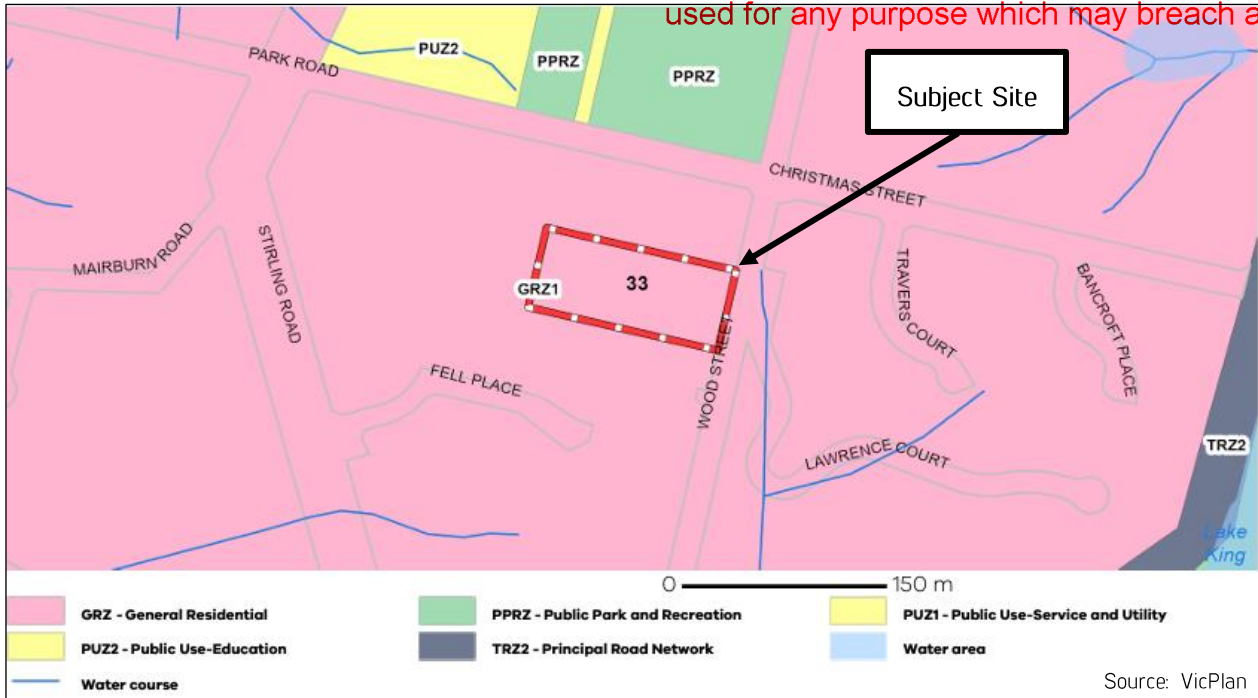


Figure 2 Zoning Map

2.2 ROAD NETWORK

Wood Street

Wood Street is a local Council road which extends in a north-south direction past the site. Adjacent to the site, it has an undivided carriageway accommodating two-way traffic movements.

The default speed limit of 50 km/h applies to Wood Street.

Lawrence Court

Lawrence Court is a local dead-end Council road which extends to the east of Wood Street. In the vicinity of the site, it has an undivided carriageway accommodating two-way traffic movements.

The default speed limit of 50 km/h applies to Lawrence Court.

3 PROPOSAL

The proposal is for the construction of an accommodation/resort development on the site comprising 16 dwellings and associated ancillary facilities including a tennis court, swimming pool, multi-purpose hall and a children's playground.

We are instructed that the ancillary facilities, including the multi-purpose hall, will only be used by residents of the resort and will not be open to the general public.

Each dwelling is to be allocated a single car space within its vicinity, provided via a mixture of parallel and 90-degree car spaces, and accessed via a private internal road. The internal road provides a single access point connection with Wood Street, located adjacent to the site's northern boundary.

A car parking area accommodating a total of seven (7) car spaces (including a disabled car space) is also proposed adjacent to the reception building on the site, with these spaces intended to accommodate staff parking and temporary parking associated with visitors checking in and/or out of the accommodation.

A loading bay is to be provided to the west of the reception building accessed off the internal road. This loading bay has been designed to accommodate vehicles up to an 8.8m long Medium Rigid Vehicle (MRV).

Plans of the proposed development are attached at **Appendix 1**.

4 CAR PARKING CONSIDERATIONS

4.1 STATUTORY REQUIREMENT

Table 1 under Clause 52.06 of the Planning Scheme outlines the statutory car parking requirement for a range of land uses.

The proposed land use is best described by the land use term 'Accommodation' as defined under Clause 73.03 of the Planning Scheme. This land use term is not included under Table 1 of Clause 52.06 of the Planning Scheme, and accordingly, car parking needs to be provided to the satisfaction of the responsible authority as outlined under Clause 52.06-6.

4.2 PROJECTED PARKING DEMAND

We are of the opinion that proposed use will operate in a similar manner to a 'Motel' use given the type of dwellings proposed. Column A under Table 1 of Clause 52.06 of the Planning Scheme outlines the following car parking rate for a 'Motel' use:

- *1 space to each unit, and 1 space to each manager dwelling, plus 50% of the relevant requirement of any ancillary use*

Based on this rate, the proposed development is projected to generate a parking demand for up to 16 car spaces associated with visitors, noting that there will be no manager dwelling on the site.

Whilst the parking rate for a 'Motel' also requires a provision of 50% of the relevant requirement for an ancillary use, the proposed development in this case provides ancillary facilities which will only be used by residents of the accommodation and will not be open for use by the general public. No additional parking will therefore be generated by the proposed ancillary facilities on the site.

4.3 ADEQUACY OF PARKING PROVISION

The proposed development provides a single car space to each dwelling/accommodating unit, which is considered to be sufficient to accommodate the likely parking demands associated with visitors.

A car parking area accommodating a total of seven (7) car spaces (including a disabled car space) is also proposed adjacent to the reception building on the site, with these spaces intended to accommodate staff parking and temporary parking associated with visitors checking in and/or out of the accommodation.

We are therefore satisfied that sufficient parking is to be provided on the site for the proposed development to accommodate its likely parking demands.

4.4 CAR PARKING LAYOUT AND ACCESS DESIGN

SALT provided design input into the development of the proposed car parking layout and access arrangements to ensure that an appropriate outcome is achieved.

The proposed car parking layout and access arrangements have been checked against the relevant requirements of the Planning Scheme and Australian Standards (where applicable), with the following being noted:

Car Spaces

- The car parking area adjacent to the reception building will accommodate a single disabled car space and six (6) standard spaces. All standard spaces are measured to be at least 2.6m wide, 4.9m long and accessed from an aisle that is 6.4m wide, in accordance with the requirements of the Planning Scheme. The disabled car space is measured to be 2.4m wide and 4.9m long, with an abutting shared area in excess of these dimensions. This satisfies the requirements of the Planning Scheme and what is suggested under the Australian Standard for people with disabilities.
- All 90-degree car spaces accessed off the internal roads are measured to be 2.8m wide, 5.4m long and accessed from an aisle (or roadway) that is 6.0m wide, in accordance with the requirements of the Planning Scheme.
- Parallel spaces accessed off the internal roads are measured to be 2.3m wide and between 5.9m and 6.5m long. These spaces are accessed via an aisle that is 5.4m wide. Whilst these dimensions do not strictly accord with the requirements of the Planning Scheme, they satisfy what is suggested under AS/NZS 2890.1:2004.

- A 1:16 maximum grade/slope is to be provided perpendicular to 90 degree spaces. This satisfies what is suggested under AS/NZS 2890.1:2004.
- A 1:31 maximum grade/slope is to be provided past parallel car space. This satisfies what is suggested under AS/NZS 2890.1:2004.

Access

- Internal roads are measured to have a trafficable width of between 4.0m and 6.0m. This exceeds the requirements of the Planning Scheme.
- The access road connecting with Wood Street at the entrance has a trafficable width of 5.5m which exceeds the requirements of the Planning Scheme and satisfies what is suggested under AS/NZS 2890.1:2004 for a two-way driveway.
- Passing opportunities will be readily accommodated at a number of locations along the internal road, including adjacent to car spaces and between Wood Street and the loading bay.
- A sight triangle in accordance with the requirements of the Planning Scheme is to be provided on the departure side of the access road at the boundary.
- A grade no steeper than 1:10 is to be achieved for at least the first 5.0m into the site, in accordance with the requirements of the Planning Scheme.
- Appropriate grades and grade changes are to be achieved along the internal road in accordance with the relevant requirements of the Planning Scheme, noting that the maximum grade to be provided along any section of road is 1:5.5.

Manoeuvrability

To check the accessibility of the most critical to access car spaces under the proposed layout, we have prepared swept path diagrams for the B85 design vehicle (as defined under AS/NZS 2890.1:2004) using AutoTURN. These swept path diagrams are attached at **Appendix 2** and show that the relevant car spaces can be accessed in an appropriate and acceptable manner.

Swept path diagrams for the B85 and the B99 design vehicles have also been prepared to demonstrate passing along the different sections of the internal road. These are also attached at **Appendix 2** and show that vehicle passing can readily occur. If considered necessary, convex mirrors can be installed around road bends to enhance driver intervisibility.

Based on the foregoing, we are satisfied that the proposed car parking layout and vehicle access arrangements are appropriate for the proposed development and will provide for convenient and accessible parking.

5 BICYCLE PARKING CONSIDERATIONS

The statutory bicycle parking requirement for the proposed development is outlined under Clause 52.34 of the Planning Scheme and is summarised in **Table 1**, noting that the proposed land use is best described by the land use term 'Motel' as defined under Clause 73.03 of the Planning Scheme.

Table 1 Statutory Bicycle Parking Requirement

Land Use	Quantity	Statutory Parking Rate		No. Spaces Required	
		Residents	Visitors	Residents	Visitors
Motel	16 no.	1 to each 40 rooms	none	0 spaces	0 spaces
TOTAL				0 spaces	0 spaces

Table 1 indicates that the proposed development does not have a statutory requirement to provide bicycle parking. No bicycle parking is proposed on the site which satisfies the statutory requirement.

6 TRAFFIC CONSIDERATIONS

The RTA *Guide to Traffic Generating Developments (October 2002)* outlines the following traffic generation rates for a Motel land use:

- *Daily vehicle trips = 3 per unit*
- *Evening peak hour vehicle trips = 0.4 per unit*

Based on these rates, the proposed development is projected to generate a daily traffic volume of 48 vehicle trips, with six (6) vehicle trips expected to occur during the evening peak hour. This level of traffic will be generated to/from Wood Street.

It is noted that passing opportunities will be accommodated at a number of locations along the internal road, including adjacent to car spaces and between Wood Street and the loading bay, in the unlikely event where two vehicles travelling in opposite directions meet along the internal road.

Based on the foregoing, we are of the opinion that the level of traffic that is likely to be generated by the proposed development is negligible from a traffic engineering perspective and will be readily accommodated by Wood Street and the surrounding road network, without any unreasonable detrimental impacts.

7 WASTE AND LOADING CONSIDERATIONS

A loading bay is to be provided to the west of the reception building accessed off the internal road. This loading bay has been designed to accommodate vehicles up to an 8.8m long Medium Rigid Vehicle (MRV) and is considered appropriate to cater for waste collection and loading activities associated with the proposed development.

To check the accessibility of this loading bay, we have prepared swept path diagrams for an 8.8m long MRV. These swept path diagrams are attached at **Appendix 3** and show that the design vehicle can access the loading bay in an appropriate and acceptable manner, with the design vehicle able to exit the site in a forward direction.

Based on the foregoing, we are satisfied that suitable waste collection and loading arrangements can be readily achieved for the proposed development.

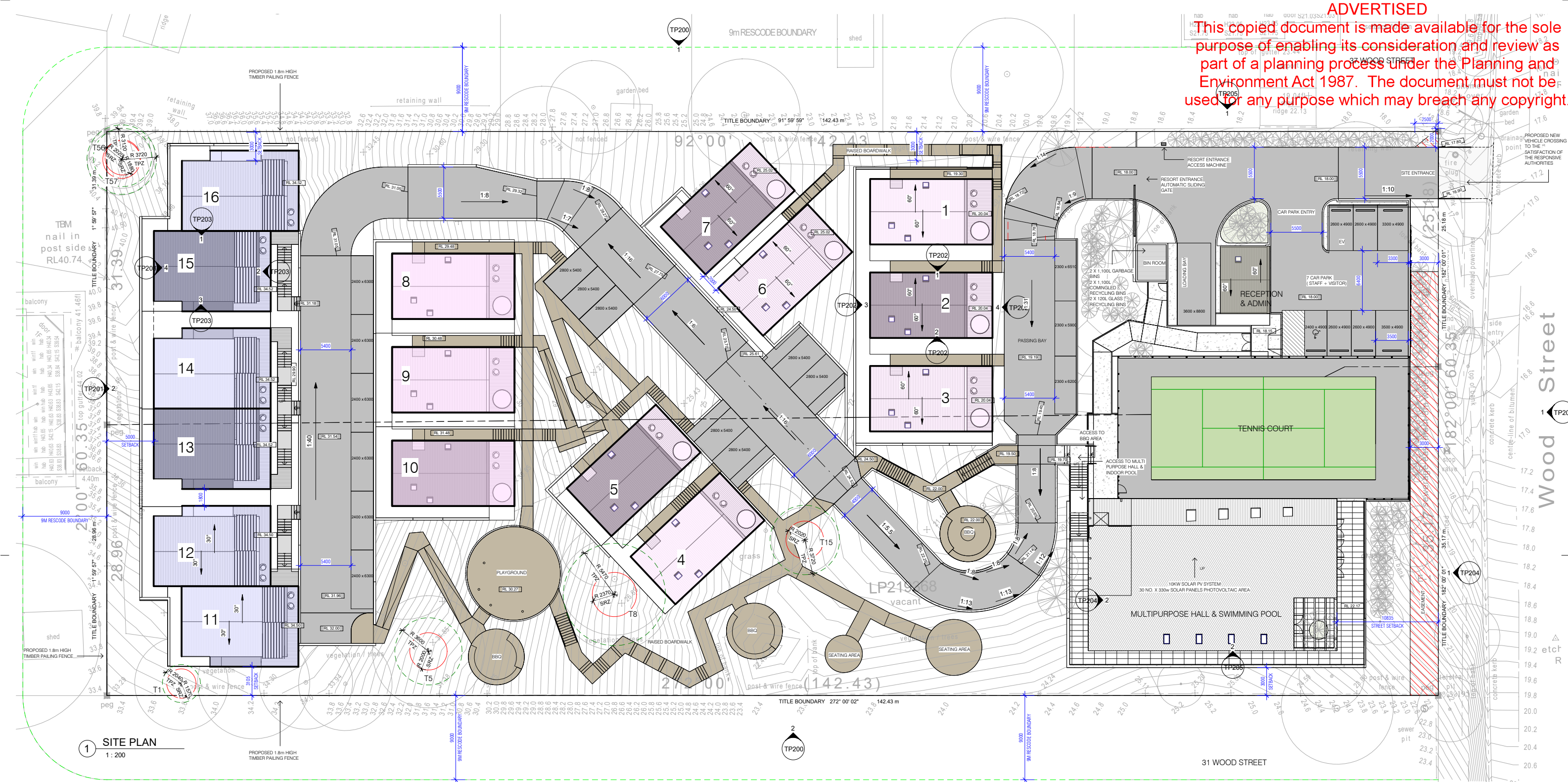
8 CONCLUSION

Having undertaken a detailed traffic engineering assessment of the proposed accommodation/resort development at 33 Wood Street, Metung, we are of the opinion that:

1. The proposed development is required to provide on-site car parking to the satisfaction of the responsible authority.
2. Sufficient parking is to be provided on the site for the proposed development to accommodate its likely parking demands, noting that the ancillary facilities on the site will not be open for use by the general public.
3. The proposed car parking layout and vehicle access arrangements are appropriate for the proposed development and will provide for convenient and accessible parking.
4. The proposed development does not have a statutory requirement to provide bicycle parking.
5. The level of traffic that is likely to be generated by the proposed development is negligible from a traffic engineering perspective and will be readily accommodated by Wood Street and the surrounding road network, without any unreasonable detrimental impacts.
6. Suitable loading and waste collection arrangements can be readily achieved for the proposed development.
7. There are no traffic engineering reasons why a Planning Permit should not be issued for the proposed development, subject to appropriate conditions.

APPENDIX 1 DEVELOPMENT PLAN

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1 SITE PLAN
1:200

- ESD NOTES**
- WATER & STORMWATER MANAGEMENT**
 - ROOF CATCHMENT AREA TO BE DIVERTED TO THE RAINWATER TANK – IF REQUIRED, THE USE OF CHARGED PIPE SYSTEM WILL NOT BE EXPLICITLY ACKNOWLEDGED ON THE DRAWINGS AND CHARGED PIPES WILL NOT BE RUNNING UNDERNEATH THE BUILDING FOOTPRINT.
 - SEE SITE PLAN FOR LOCATION AND SIZE OF EACH RAINWATER TANK PROPOSED STORMWATER CONNECTION TO THE TOILETS.
 - THE ENTIRE DRIVEWAY TO BE DIVERTED TO THE PROPOSED ATLAS STORMSACK AND THE ENTIRE SITE TO DIVERT TO THE ATLAS FLOWFILTER.
 - LOCATION OF THE PROPOSED ATLAS STORMSACKS AND ATLAS FLOWFILTER.
 - NATIVE OR DROUGHT TOLERANT SPECIES FOR LANDSCAPED AREA. WATERING WILL NOT BE REQUIRED AFTER AN INITIAL PERIOD WHEN PLANTS ARE GETTING ESTABLISHED. IF IRRIGATION IS REQUIRED, IT WILL BE CONNECTED TO RAINWATER TANKS.
 - WELLS RATING FOR WATER FITTINGS/FIXTURES (REFER TO REPORT) – FIXTURES (E.G. DISHWASHER) PROVIDED AS PART OF BASE BUILDING WORK HAVE TO BE CHOSEN WITHIN ONE WELS STAR OF BEST AVAILABLE AT THE TIME OF PURCHASE.
 - ENERGY EFFICIENCY**
 - COMMITMENT TO EXCEEDING SECTION J ENERGY EFFICIENCY REQUIREMENT OF NCC 2019
 - THE MAXIMUM ILLUMINATION POWER DENSITY (W/M²) OF THE DEVELOPMENT MEET THE REQUIREMENTS IN NCC 2019
 - COMMITMENT TO 4W/M² LIGHTING DENSITY IN THE CABINS
 - LIGHTING SENSORS FOR EXTERNAL LIGHTING (MOTION DETECTORS, TIMERS ETC.)
 - COMMITMENT TO 6.5 STAR AVERAGE ENERGY RATING FOR THE DEVELOPMENT (ON PLANNING AND CONSTRUCTION DRAWINGS)
 - 10KW SOLAR PV SYSTEM ON THE ROOF OF THE DEVELOPMENT
 - INDOOR ENVIRONMENT QUALITY**
 - GLAZING TO IMPROVE DAYLIGHT PERFORMANCE BY MAXIMISING VLT TARGETING 40% DOUBLE GLAZING ON ALL HABITABLE ROOMS FOR RESIDENTIAL SPACES (FLOOR PLANS AND ELEVATIONS)
 - URBAN ECOLOGY**
 - THE GARDEN AREA PLAN SHOW EXTENT OF VEGETATED AREAS AROUND THE SITE (INCLUDES LAWN)

SITE PLAN LEGEND					
WM	WATER METER	WT	3000 LITRE WATER TANK		PROPOSED CANOPY TREES (3 - 5m HIGH)
GM	GAS METER	A/C	AIR CONDITIONING CONDENSER UNIT		PROPOSED SHRUBS (1 - 3m HIGH)
EM	ELECTRIC METER. RECESSED INTO BRICKWALL	HWS	HOT WATER SERVICES		EXISTING TREE TO BE REMOVED
		CL	RETRACTABLE CLOTHES LINE		STEPPING STONED
MB	MAILBOX	NH	ADJOINING NON-HABITABLE WINDOW		DECORATIVE PEBBLES
	EXTERNAL SENSOR LIGHTING	HW	ADJOINING HABITABLE WINDOW		PERMEABLE DRIVEWAY
	BOLLARD LIGHT	F	1.2/2.0m HIGH NEW PALING FENCE		CABIN 2 BED 2 BATH
	BIKE SPACE	TPZ	TREE PROTECTION ZONE LINE		CABIN 4 BED 2 BATH
			REFER TO ARBORIST REPORT FOR INFORMATION.		

PEDESTRIAN VISIBILITY SPY MUST BE 50% CLEAR OF ANY VISUAL OBSTRUCTIONS AND ANY STRUCTURES OR VEGETATION WITH THE SPY MUST BE NOT MORE THAN 900mm IN HEIGHT

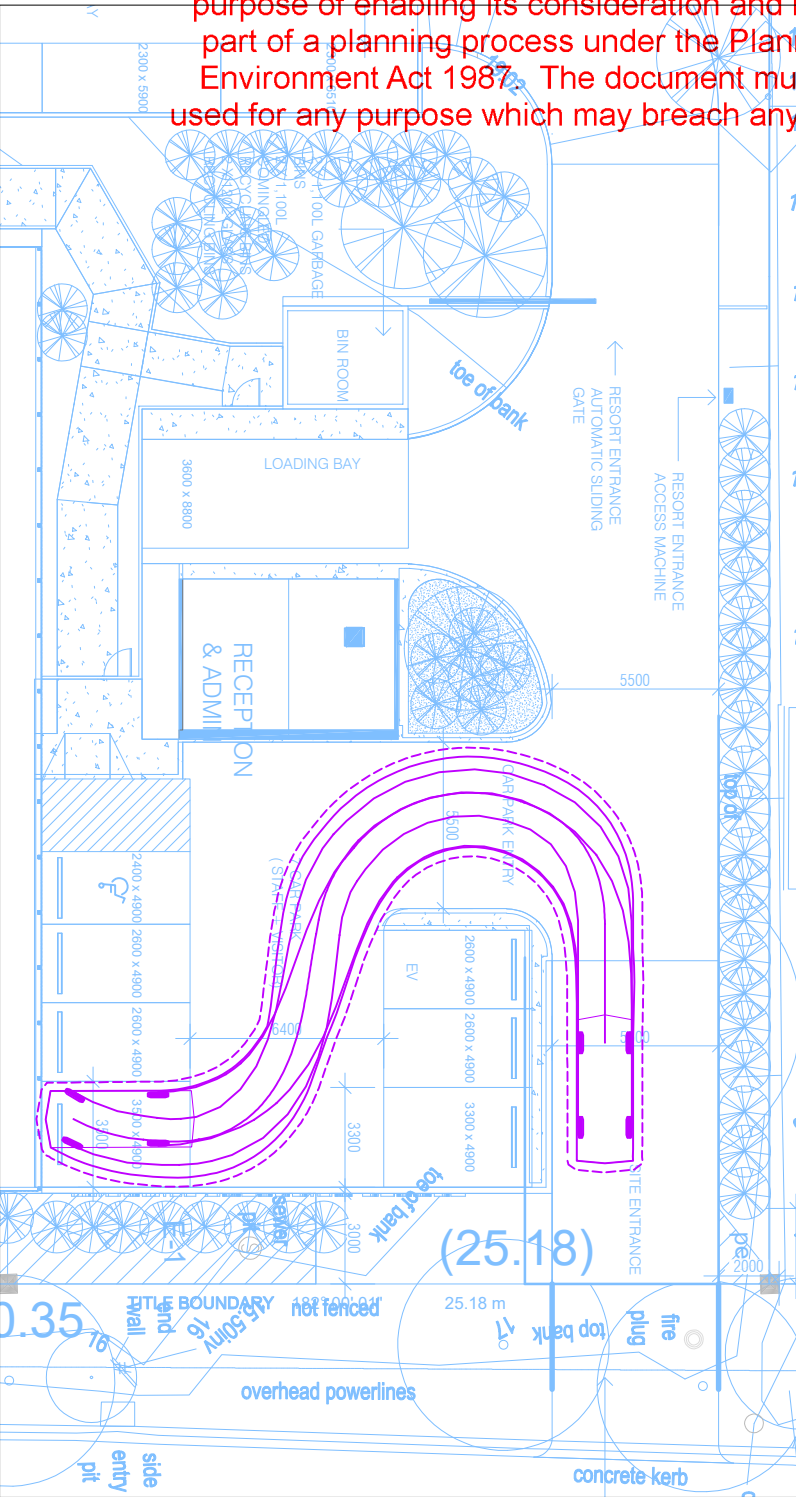
NOTES:

- REFER TO LANDSCAPE DRAWING AND DETAILS FOR PROPOSED LANDSCAPING.
- PROVIDE WATER EFFICIENT GARDEN TO ALL LANDSCAPED AREAS.
- PROVIDE EXTERNAL LIGHTING SENSORS.
- PROVIDE OUTDOOR TAP AND FLOOR WASTE IN PRIVATE OPEN SPACE/ BALCONY/ TERRACE
- 7 STAR AVERAGE ENERGY RATING TO THE DEVELOPMENT.
- 4W/M² LIGHT DENSITY IN THE DWELLINGS.
- WELS RATING FOR WATER FITTINGS / FIXTURES (REFER TO BESS REPORT FOR DETAILS). FIXTURES SUCH AS DISHWASHER HAS TO BE CHOSEN WITHIN ONE WELS STAR OF BEST AVAILABLE AT TIME OF PURCHASE.
- PROVIDE DOUBLE GLAZING TO ALL HABITABLE ROOMS
- LANDSCAPE DESIGN TO ENSURE WATERING WILL NOT BE REQUIRED AFTER AN INITIAL PERIOD WHEN PLANTS ARE GETTING ESTABLISHED AFTER THE USE OF NATIVE OR DROUGHT TOLERANT SPECIES FOR LANDSCAPED AREA.

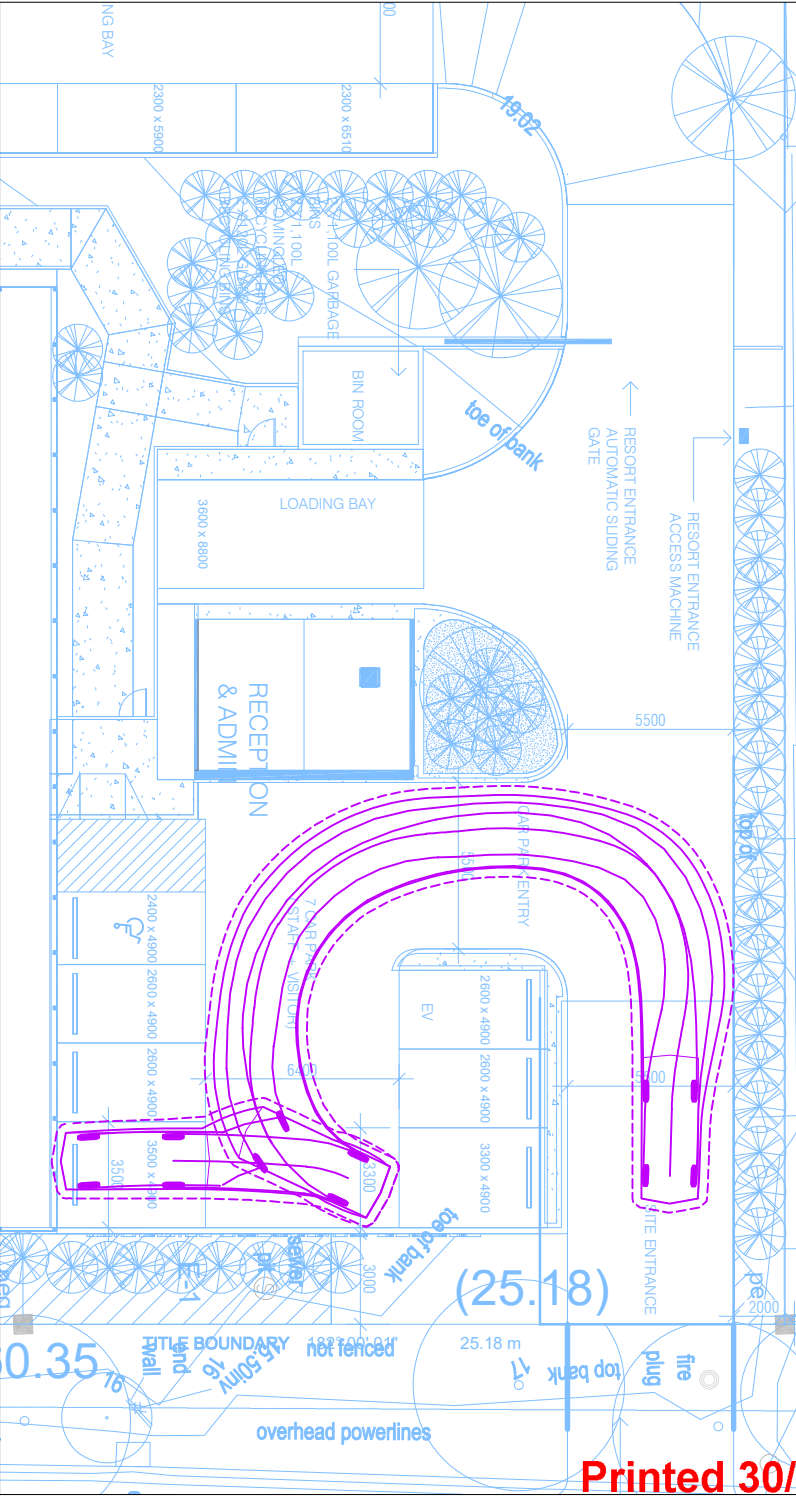
APPENDIX 2 SWEPT PATH DIAGRAMS – CAR SPACES AND PASSING

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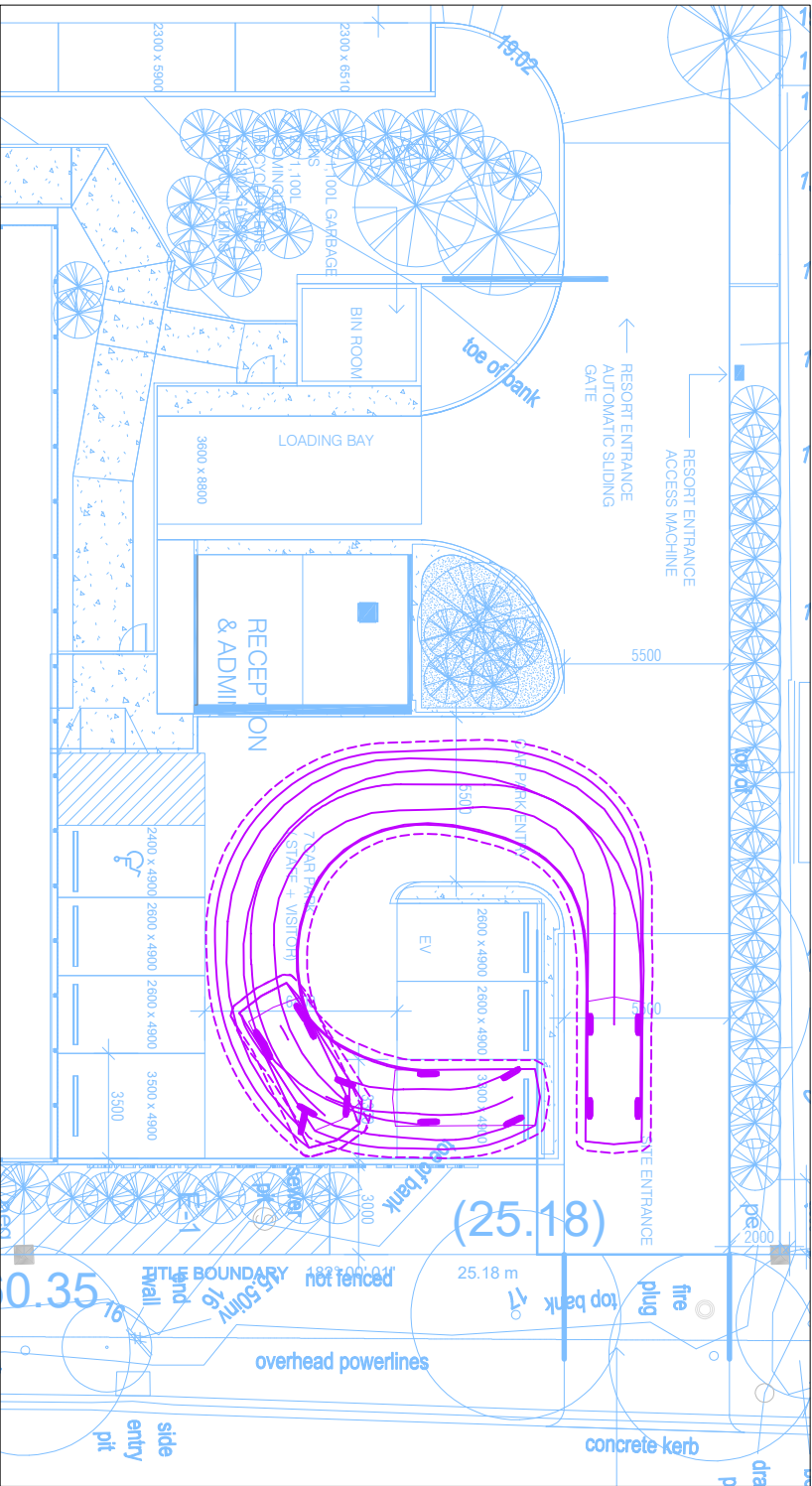
CAR SPACE - INGRESS



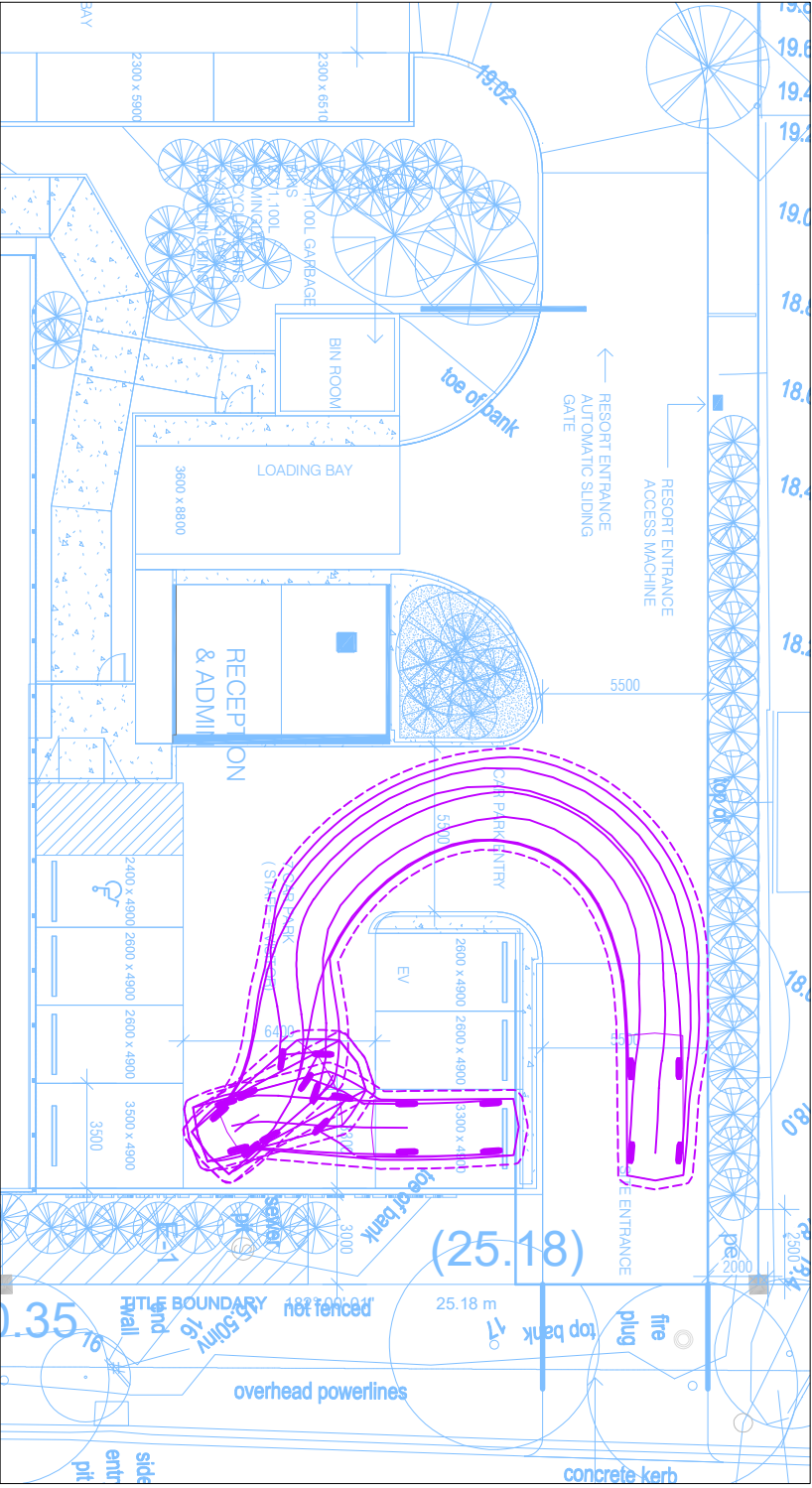
CAR SPACE - EGRESS



CAR SPACE - INGRESS

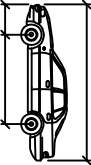


CAR SPACE - EGRESS



VEHICLE USED IN SIMULATION

4.91



B85 DESIGN VEHICLE
(AS/NZS 2890.1:2004)

Width : 1.87m
Track : 1.77m
TURNING CIRCLE (K-K) : 11.5m
300MM BODY CLEARANCE ADOPTED.

WINDMILL HOTSPRING RESORT

PROPOSED ACCOMMODATION / RESORT

33 WOOD STREET

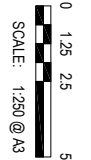
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B85 DESIGN VEHICLE SWEPT PATHS



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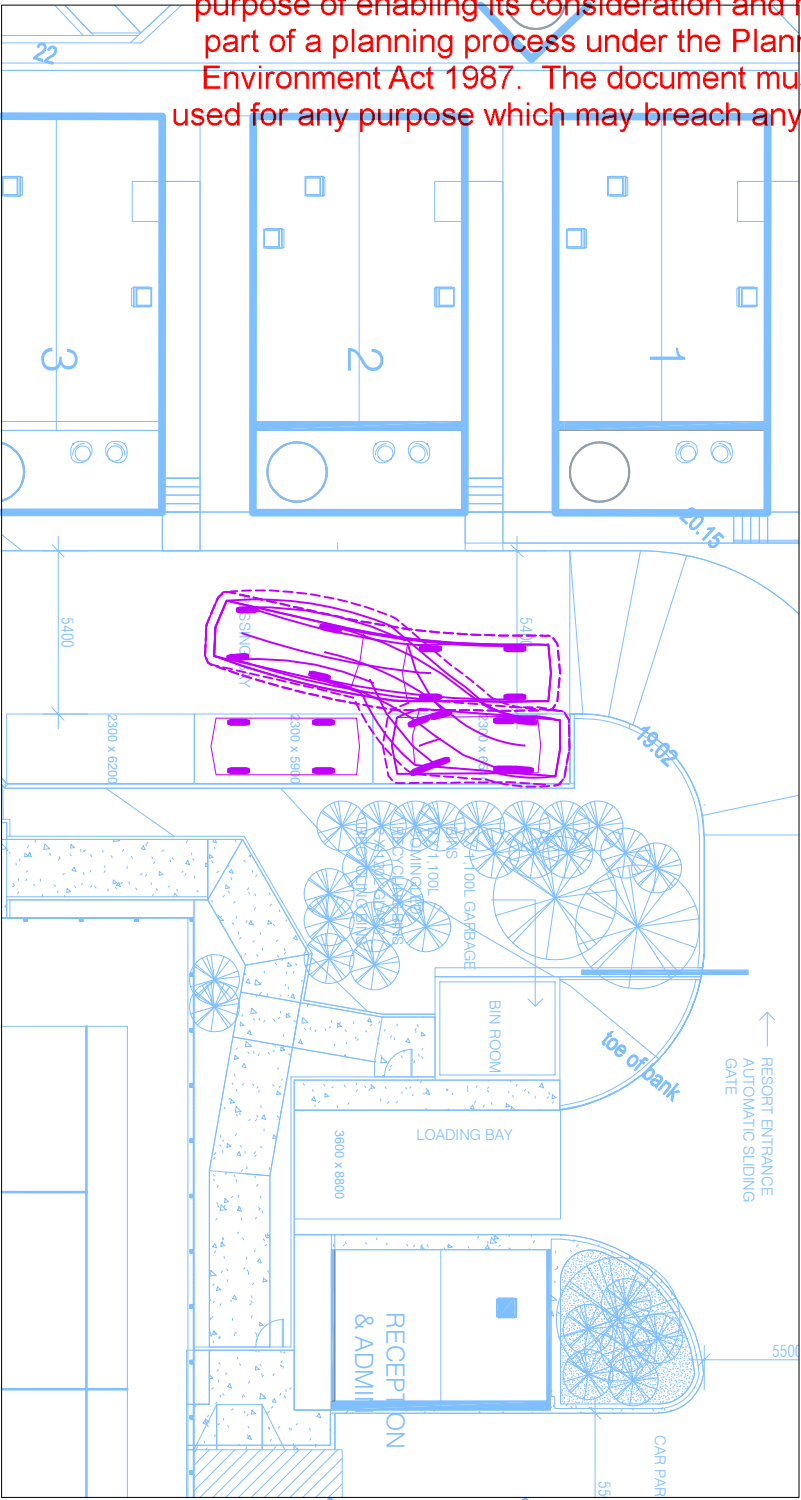
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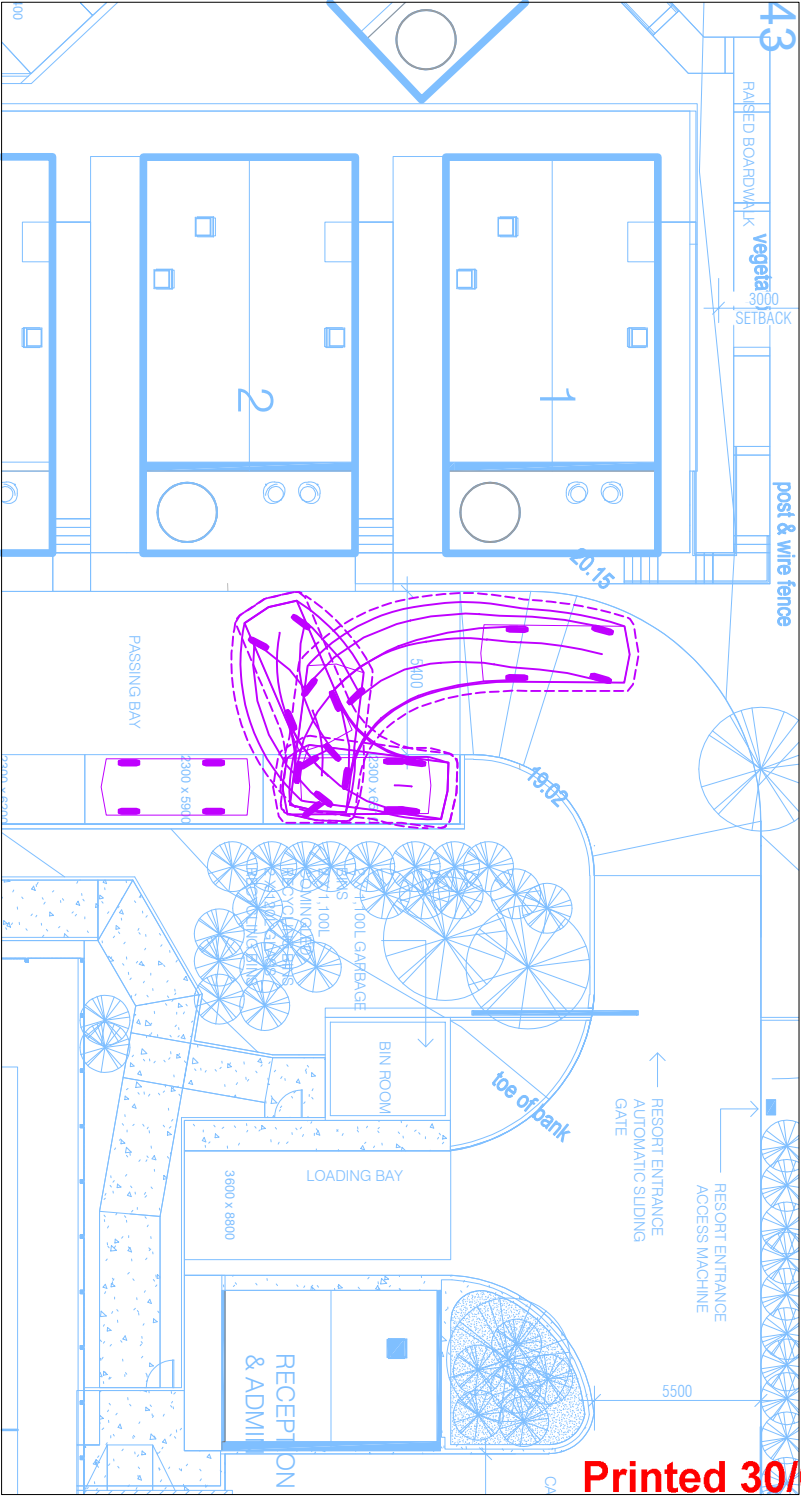
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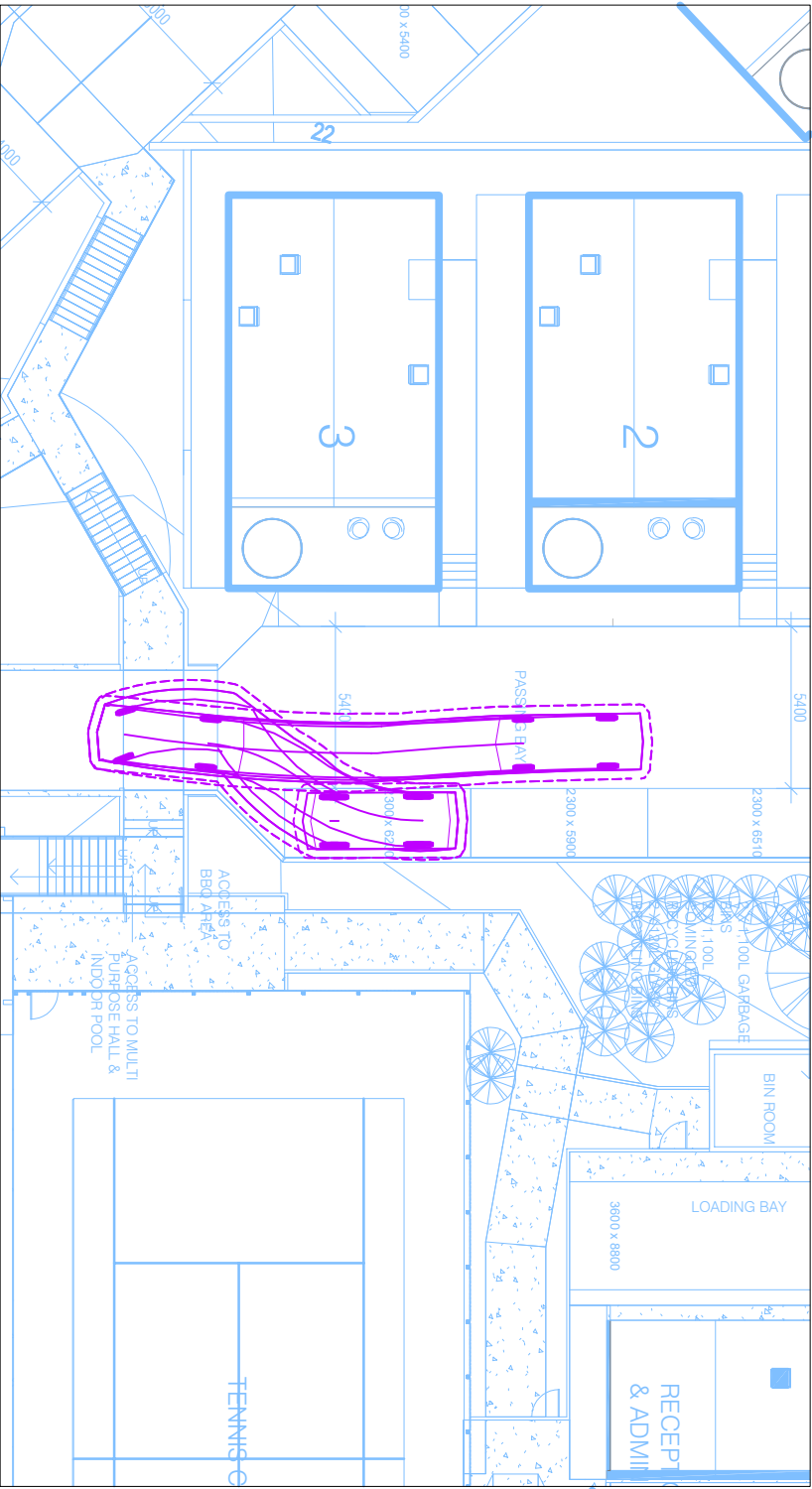
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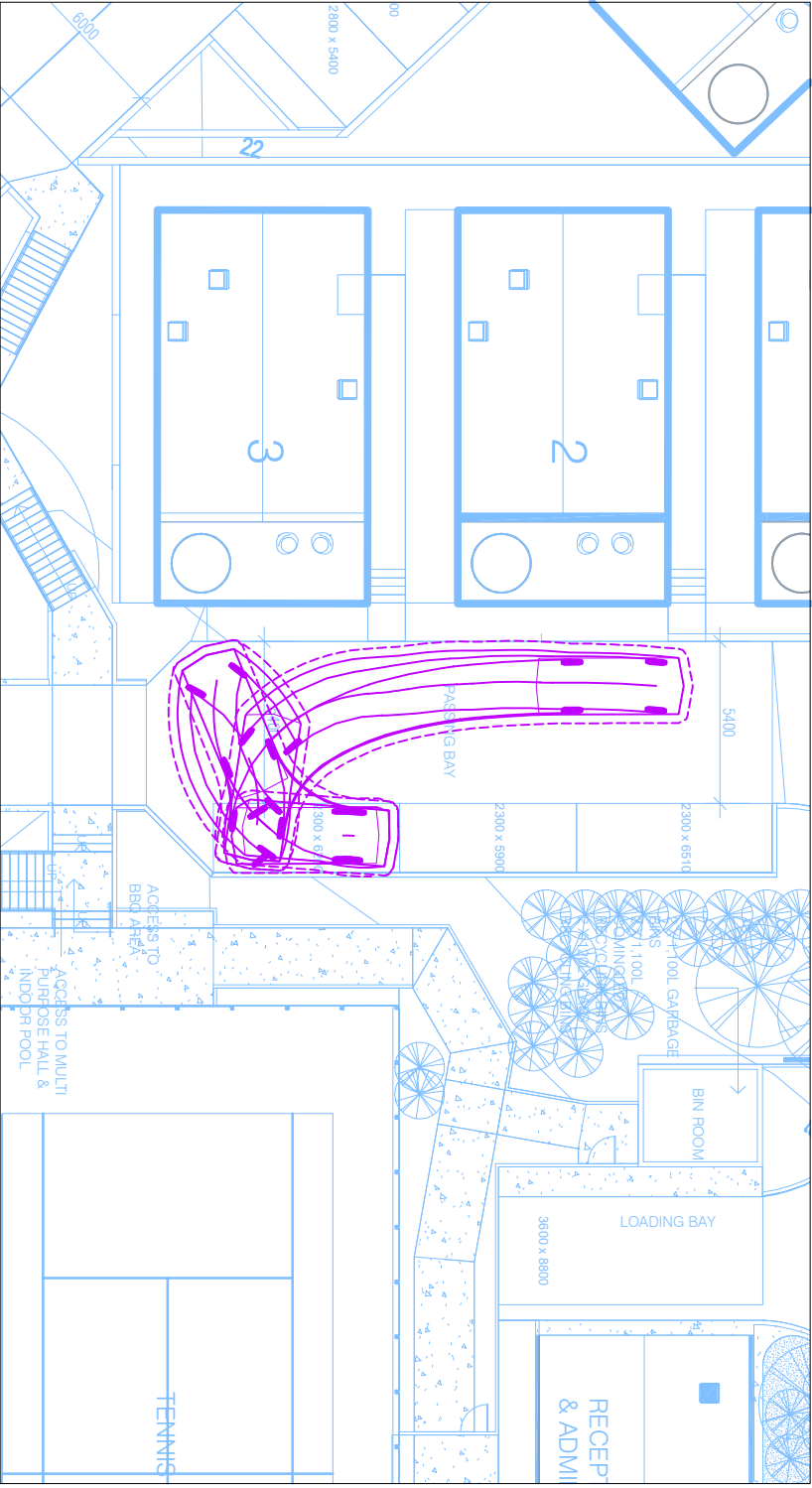
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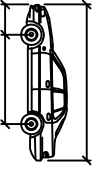


CAR SPACE - EGRESS



VEHICLE USED IN SIMULATION

4.91



B85 DESIGN VEHICLE
(AS/NZS 2890.1:2004)

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Track : 1.77m
TURNING CIRCLE (K-K) : 11.5m
300MM BODY CLEARANCE ADOPTED.

WINDMILL HOTSPRING RESORT

PROPOSED ACCOMMODATION / RESORT

33 WOOD STREET

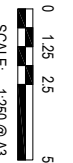
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B85 DESIGN VEHICLE SWEEP PATHS



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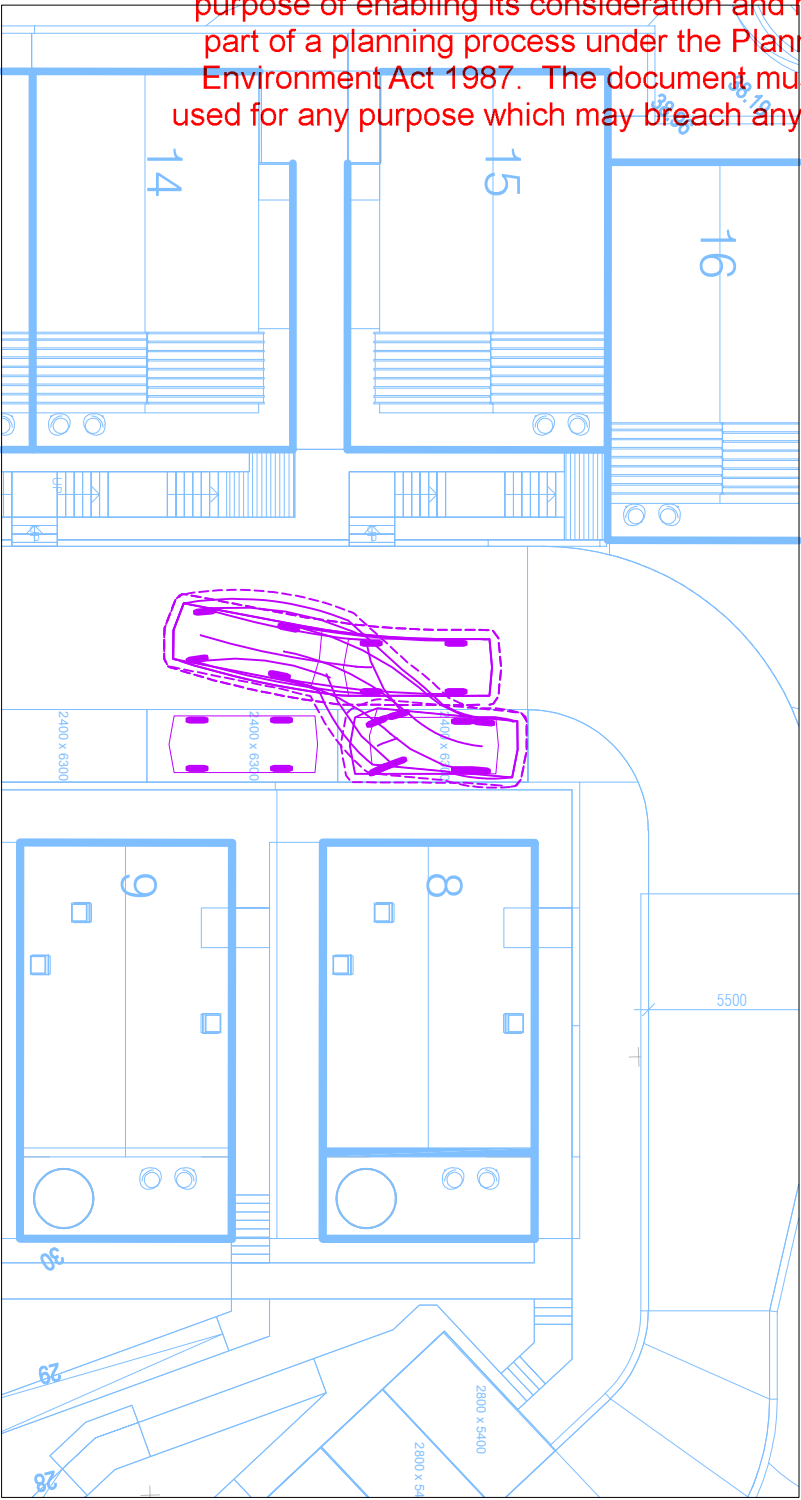
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Sydney, Level 4, 116 Belmore St, Sydney NSW 2010
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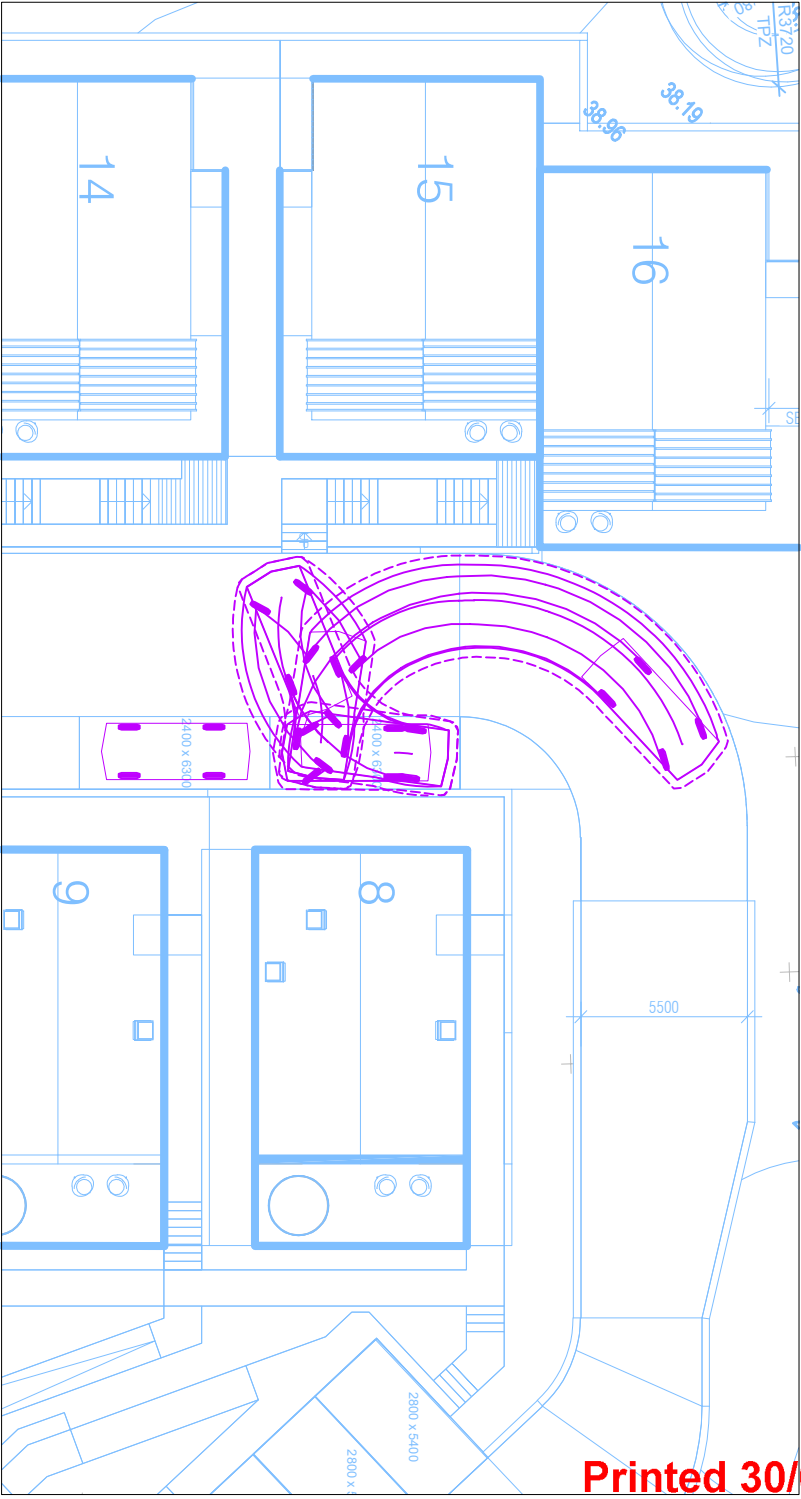
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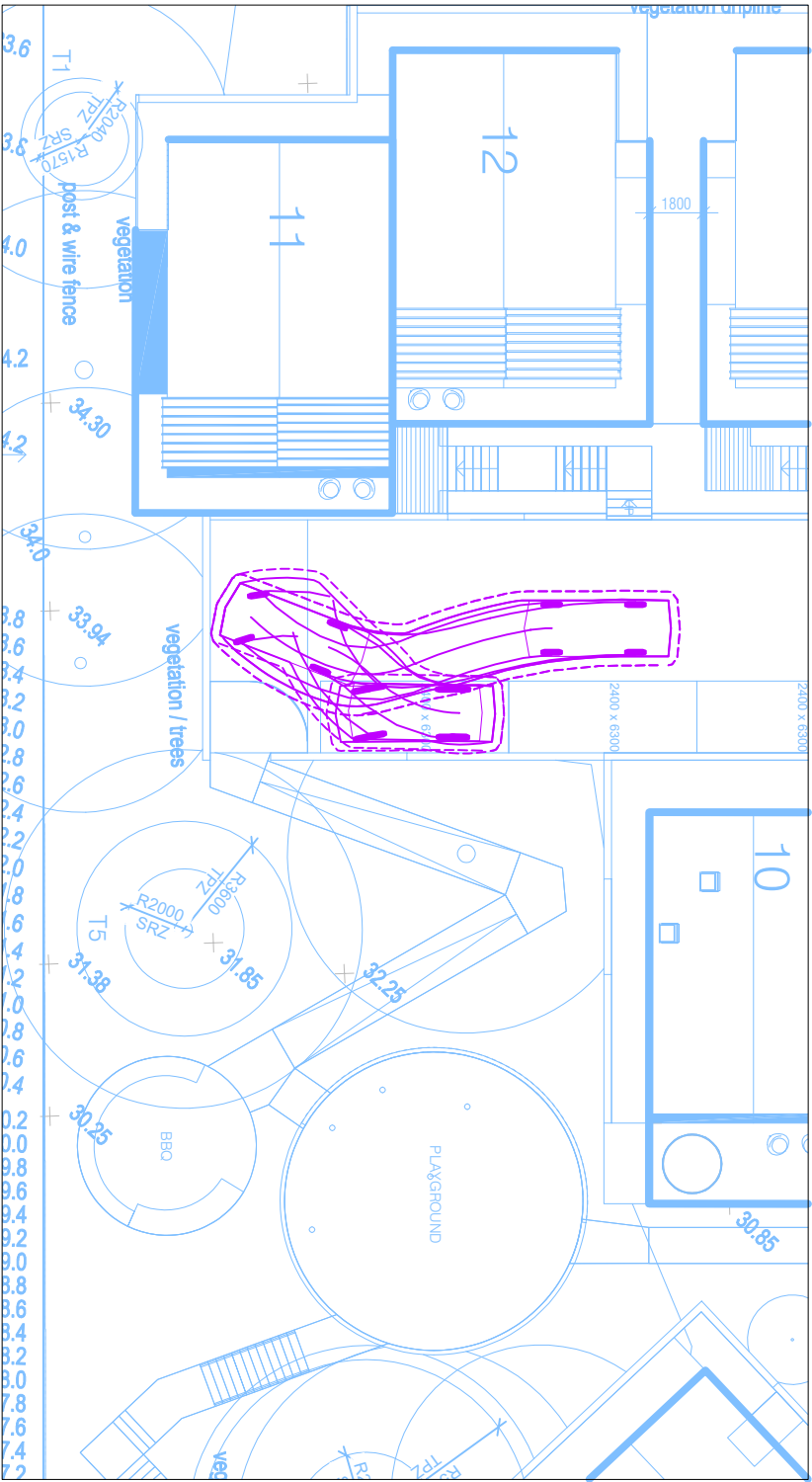
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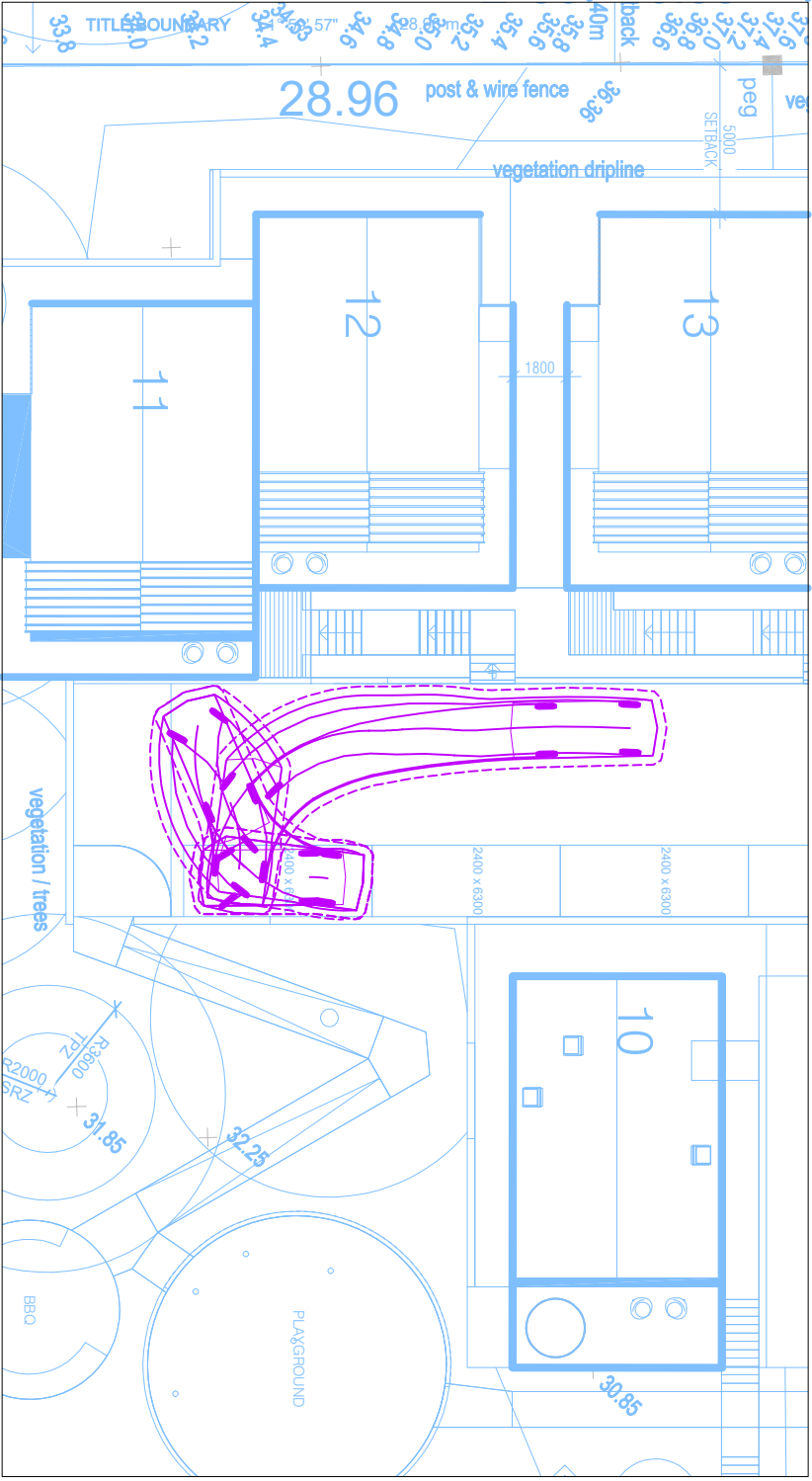
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CAR SPACE - INGRESS

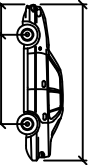


CAR SPACE - EGRESS



VEHICLE USED IN SIMULATION

4.91



B85 DESIGN VEHICLE
(AS/NZS 2890.1:2004)

Width : 1.87m
Track : 1.77m
TURNING CIRCLE (K-K) : 11.5m
300MM BODY CLEARANCE ADOPTED.

WINDMILL HOTSPRING RESORT

PROPOSED ACCOMMODATION / RESORT

33 WOOD STREET

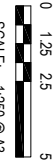
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B85 DESIGN VEHICLE SWEEP PATHS



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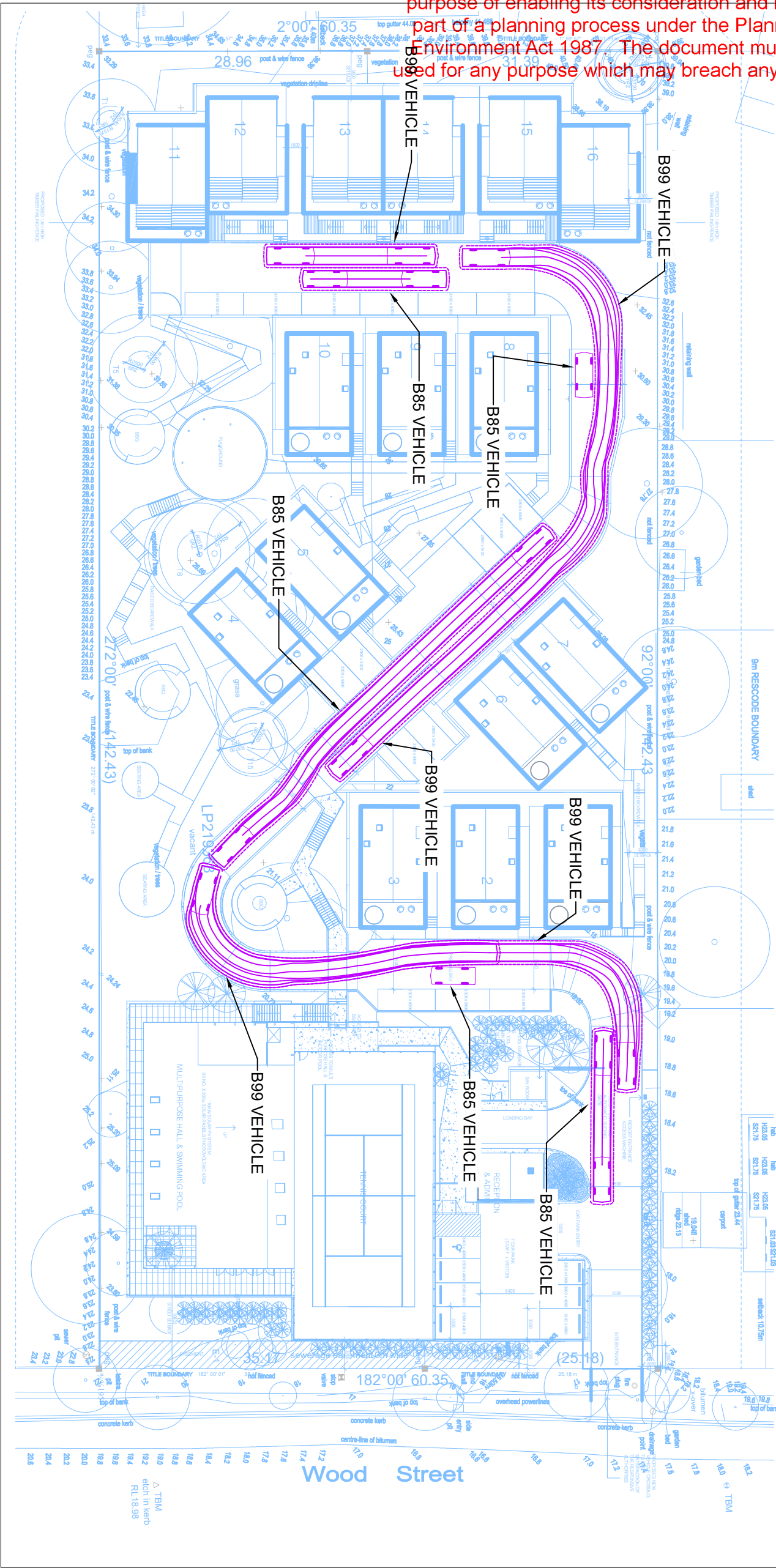
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VEHICLE PASSING AND CIRCULATION



VEHICLE USED IN SIMULATION

B85 DESIGN VEHICLE
(AS/NZS 2890.1:2004)

Width : 4.91m
Track : 0.92m
TURNING CIRCLE (K-K) : 2.80m

VEHICLE USED IN SIMULATION

B89 DESIGN VEHICLE
(AS/NZS 2890.1:2004)

Width : 5.20m
Track : 0.96m
TURNING CIRCLE (K-K) : 3.05m

300MM BODY CLEARANCE ADOPTED.

300MM BODY CLEARANCE ADOPTED.

WINDMILL HOTSPRING RESORT

PROPOSED ACCOMMODATION / RESORT

33 WOOD STREET

METUNG

DESIGN VEHICLE SWEEP PATHS

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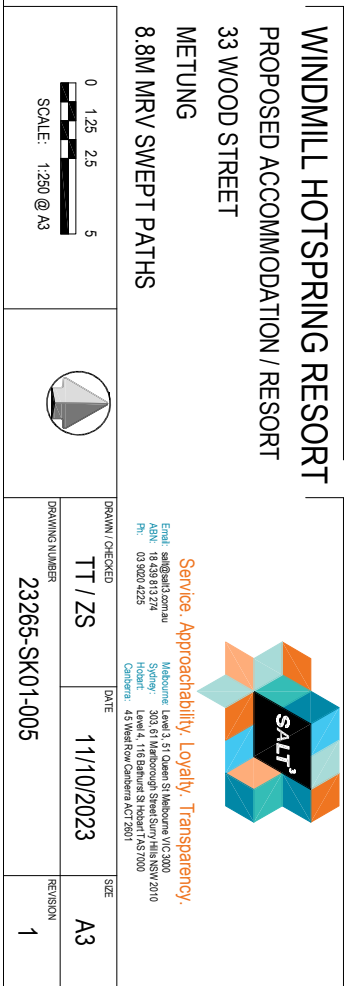
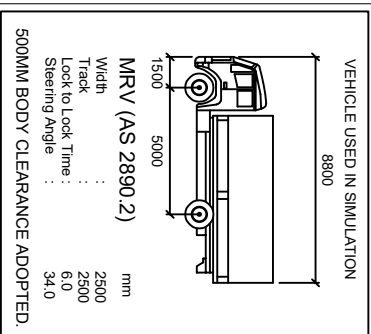
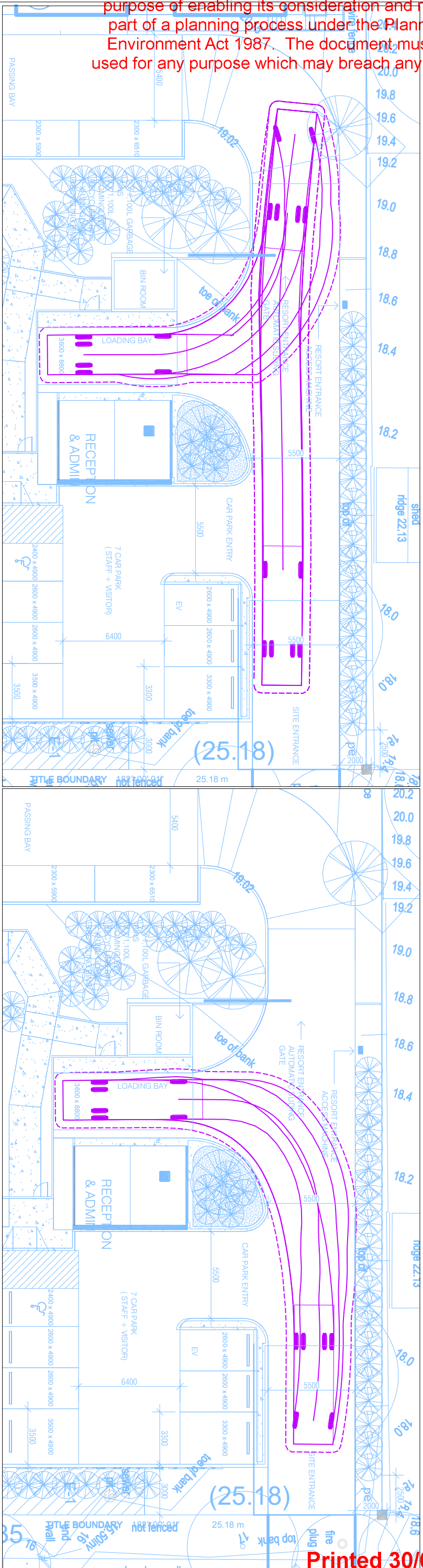
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APPENDIX 3 SWEPT PATH DIAGRAMS – LOADING BAY



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ESD Statement

33 Wood Street, Metung
VIC

21/09/2023



Framer
Consulting
Services Pty Ltd

(03) 8691 6928

admin@fraterconsultingservices.com.au
fraterconsultingservices.com.au



a part of
Sustainability
Tech Partners Pty Ltd

Environmentally Sustainable Design Statement

Proposed Resort Development

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DOCUMENT VERSION

Version	Date	Changelog	Author	Review
0	21/09/23	Issued for Client Review	LA	DG
1	04/10/23	Updated roof catchment to RWT as per latest drawings	LA	-

INITIATIVES TO BE MARKED ON DRAWINGS

Water & Stormwater Management

- ☐ Mark-up showing roof catchment area to be diverted to the Rainwater tank – If required, the use of charged pipe system will be explicitly acknowledged on the drawings and charged pipes will not be running underneath the building footprint.
- ☐ Location and size of each Rainwater tank proposed
- ☐ Note showing connection to the toilets.
- ☐ Mark-up/note showing the entire driveway to be diverted to the proposed Atlan® Stormsack and the entire site to divert to the Atlan FlowFilter®
- ☐ Location of the proposed Atlan stormsacks® and Atlan FlowFilter®
- ☐ Note showing use of native or drought tolerant species for landscaped area. Watering will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.
- ☐ Note showing WELS rating for water fittings/fixtures (refer to report) – Fixtures (e.g. dishwasher) provided as part of base building work have to be chosen within one WELS star of best available at the time of purchase.

Energy Efficiency

- ☐ Note showing commitment to exceeding section J energy efficiency requirement of NCC 2019
- ☐ Note showing the maximum illumination power density (W/m^2) of the development meet the requirements in NCC 2019
- ☐ Note showing commitment to $4W/m^2$ lighting density in the cabins
- ☐ Lighting sensors for external lighting (motion detectors, timers etc.)
- ☐ Commitment to 6.5 Star average energy rating for the development (on planning and construction drawings)
- ☐ 10kW Solar PV system on the roof of the development

Indoor Environment Quality

- ☐ Glazing to improve daylight performance by maximising VLT targeting 40%
- ☐ Note showing double glazing on all habitable rooms for residential spaces (floor plans and elevations)

Urban Ecology

- ☐ Show extent of vegetated areas around the site (includes lawn)

INTRODUCTION

Frater Consulting Services have been engaged to undertake an ESD Statement for the proposed mixed-use development located at 33 Wood Street, Metung. This has been prepared to address the East Gippsland Shire Council's sustainability SDAPP requirements.

East Gippsland Shire Council has identified the following key categories to be addressed

- Energy Performance;
- Water Resources;
- Stormwater Management;
- Indoor Environment Quality;
- Building Materials;
- Construction, Building & Waste Management;
- Transport; and
- Urban Ecology / Innovation.

The usual sustainability benchmarking tool (BESS) for a development of this scale is not available as East Gippsland Shire Council is not yet a member.

BESS was developed by association of councils led by Merri-bek City Council. This tool assesses the energy and water efficiency, thermal comfort and overall environmental sustainability performance of new buildings or alterations. It was created to demonstrate how new development can meet sustainability requirements as part of a planning permit application for the participating council.

All initiatives described in the report are in line with the usual BESS tool requirements to achieve compliance.

The MUSIC tool, which addresses stormwater quality considerations, has been used for the development to ensure that stormwater management best practice requirements have been achieved. The result of the MUSIC assessment is included as Appendix A.

SITE DESCRIPTION

The proposed site is located at 33 Wood Street, Metung. The 8,596m² site is currently vacant. It is located approximately 1 km north of Metung.

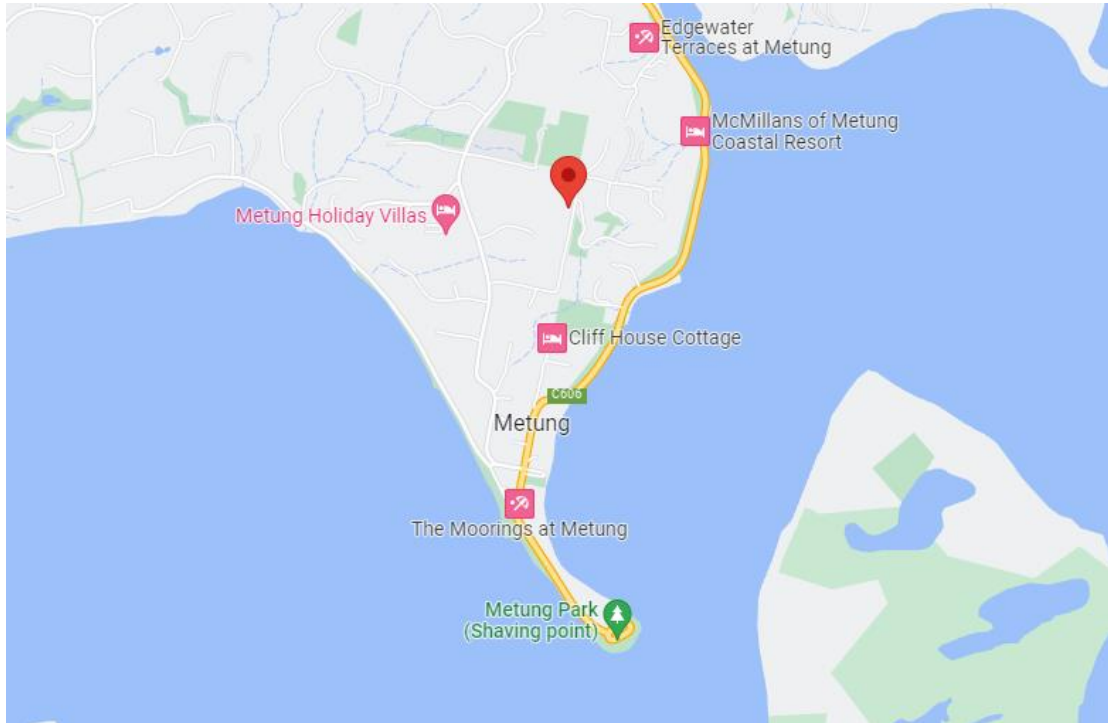


Figure 1: Location of the proposed development in Metung (Source: Google Maps)

PROPOSED DEVELOPMENT

The proposal consists of development of the site into a resort with 20 cabins (14 x 2 bedroom and 6 x 4 bedroom). The area of the site is approximately 8,596m². The facility will also include a multipurpose room, reception, pool and tennis court and large outdoor areas.

ENERGY EFFICIENCY

Energy and its key elements should be integrated into the design of the proposed development. These elements contribute to reducing greenhouse gas emissions by utilising energy efficient appliances, energy conservation measures and renewable energy.

Energy Efficiency

Commercial (Multipurpose Hall & Reception)

Prior to the building construction stage of the project, a section J (NCC 2019) DTS assessment will occur with the following commitments:

- 10% improvement on floor and ceiling insulation level requirement from NCC 2019;
- Wall and glazing performance to be in line with DTS requirements;
- Heating/cooling system to be chosen within one star of the best available product in the range at the time of purchase or COP/EER 85% or better than most efficient equivalent capacity unit available if no star rating is available; and
- Water heating system to be chosen within one star of the best available product in the range at the time of purchase or 85% or better than most efficient equivalent capacity unit available if no star rating is available.

Alternatively, prior to the building construction stage of the project, energy modelling will occur with the aim of exceeding requirement of NCC 2019, using an NCC JV3 modelling process. This will be achieved through the use of high-performance building fabric and glazing, low energy lighting and building services. **The reference building model will include the minimum improvement committed above for floor and ceiling.** This method will allow for flexibility in for glazing performance. Results in BESS using JV3 approach would yield a slightly lower score under BESS Energy 1.1 however our BESS assessment has been prepared to ensure that energy section and overall compliance is maintained.

Residential (Cabins)

Energy ratings will be completed at the building approval stage. A commitment is made that the development will meet the energy efficiency requirements of minimum 6.5-Star average energy rating with no individual dwellings scoring less than 6.0-Stars (10% improvement above BCA requirements). This will be achieved using appropriate insulation level in all external walls, roof and floors as well as the use of double glazing windows throughout habitable rooms.

Heating and Cooling Systems

Commercial (Multipurpose Hall & Reception)

To reduce the energy consumption heating and cooling will be provided by energy efficient air conditioners (chosen within one star of the best available product in the range

at the time of purchase or COP/EER 85% or better than most efficient equivalent capacity unit available if no star rating is available).

Residential (Cabins)

Heating and cooling systems can account to up to 40% of a household's energy use. Therefore, to reduce the energy consumption heating and cooling for townhouses will be provided by energy efficient air conditioners (chosen **within one star of the best available** product in the range at the time of purchase).

Hot Water Heating

Commercial (Multipurpose Hall & Reception)

Hot water for the townhouses will be provided with an efficient electric heat pump system.

Residential (Cabins)

Hot water for the townhouses will be provided with electric instantaneous hot water units chosen as 6 Star minimum or within one star of the best available whichever is greater.

Lighting

Commercial (Multipurpose Hall & Reception)

The maximum illumination power density (W/m^2) of the development will meet NCC 2019 requirements in by the use of LED throughout the development.

Residential (Cabins)

Energy consumption from artificial lighting within the townhouses and childcare will be reduced by using LED lighting. A lighting level of $4W/m^2$ will not be exceeded in the townhouses and childcare. The use of light internal colours will improve daylight penetration thus reducing the need for artificial lighting.

Lighting Sensors

Common areas and transient spaces will be controlled using occupancy sensor and/or daylight sensors. Ventilation in these areas will be controlled using timers and other sensors.

Solar PV System

A 10kW solar photovoltaic for renewable energy generation will be installed on the roof of the development. This will off-set a portion of greenhouse gas emissions and energy use for the project (lighting, pumps etc.).

WATER EFFICIENCY & STORMWATER MANAGEMENT

Water saving-use and reuse and its key elements should be integrated into the design of the proposed development. These principles contribute to reducing the water demand in addition to promoting water reuse. Stormwater management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring natural systems are protected and enhanced whilst promoting on-site retention and aims to reduce runoff or peak flows.

Water Efficient Fittings

The development will include efficient fittings and fixtures to reduce the volume of mains water used in the development. The following WELS star ratings will be specified;

- Toilets – 4 Star;
- Taps (bathroom and kitchen) – 5 Star; and
- Showerhead if provided – 4 Star with aeration device (6.0-7.5L/min)
- Dishwasher – 5 Star.

Rainwater Collection & Use

Rainwater runoff from the multipurpose hall roof will be collected and stored in rainwater tanks¹ with a total effective capacity of 10,000L for the development.

If required, a charged pipe system or multiple tanks will be installed to collect water from the entire roof of each dwelling.

In the case of a charged pipe system, the charged pipes will not be running underneath the building footprint (slab) and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.

Rainwater collected will be used for toilet flushing throughout the development. These initiatives will reduce significantly the stormwater impacts of the development and help achieve compliance with the MUSIC calculator (See Appendix A).

Stormwater Treatment – Atlan FlowFilter / Atlan Stormsack

The entire driveway/car park runoff will be diverted to an Atlan® Stormsack installed on all grated pits and SEPs. The Atlan® Stormsack will filter coarse pollutant from the driveway runoff and act a primary treatment.

The entire site area runoff (all roof areas, overflow from the tank and stormsack) will be diverted to an Atlan FlowFilter. This will treat the stormwater runoff from the site by filtering coarse and fine pollutants before releasing the outflows to the legal point of discharge on site. Please refer to Appendix C for more information on this treatment device.

¹ Please note that any stormwater detention volume requirement for the site will be in addition to the proposed rainwater retention and that the proposed tank will not be directly topped up by mains water.

This treatment measures along with rainwater retention will significantly reduce stormwater pollution from the site. Please refer to Appendix A for the MUSIC assessment by SPEL.

Stormwater Proprietary Product Maintenance

A maintenance contract with the manufacturer or suitably qualified company will be required to be implemented to ensure that the proprietary products installed for stormwater treatment are regularly maintained.

Water Efficient Appliances

All appliances provided in the development as part of the base building work (e.g. dishwasher) will be chosen within one WELS star of the best available.

Water Efficient Landscaping

Native or drought-tolerant plants will be implemented for the landscaped areas on site. Use of water or irrigation will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.

INDOOR ENVIRONMENT QUALITY

Indoor Environment Quality and its key elements should be integrated into the design of the proposed development. These elements play a significant role in the health, wellbeing and satisfaction of the development occupants. Facilitating a good (IEQ) design provides a naturally comfortable indoor environment and less dependence on building services such as, artificial lighting, mechanical ventilation and heating and cooling device.

Volatile Organic Compounds

All paints, adhesives and sealants and flooring will have low VOC content. Alternatively, products will be selected with no VOCs. Paints such as eColour, or equivalent should be considered. Please refer to Appendix E for VOC limits.

Formaldehyde Minimisation

All engineered wood products will have 'low' formaldehyde emissions, certified as E0 or better. Alternatively, products will be specified with no Formaldehyde. Products such as ecological panel – 100% post-consumer recycled wood (or similar) will be considered for use within the development. Please refer to Appendix E for formaldehyde limits.

Daylight Levels

Daylight inputs through windows/openings for the commercial and residential spaces will be enhanced with the use of light internal colours, allowing better internal reflection of daylight. The development will have large glazing to allow for good daylight penetration. The development will achieve good daylight amenities (beyond compliance with the SDAPP guidelines).

Please refer to Appendix D for Daylight Hand Calculation showing compliance with best practice requirements.

CONSTRUCTION, BUILDING & WASTE MANAGEMENT

Building Management and its key elements will be integrated into the design of the proposed development. These principles contribute to ensuring efficient and effective on-going building performance. Waste management and its key elements will be integrated into the design of the proposed development. These principles contribute to ensuring minimal waste is transported to landfill by means of disposal, recycling and on-site waste storage and/or collection methods.

Metering and Monitoring

The development will be separately metered for potable water and energy. Effective metering ensures that residents/tenants are responsible for their consumption and they can reduce their consumption.

Construction Waste Management

A waste management plan will be introduced to all on-site staff at a site orientation session to ensure that the waste generated on site is minimised and disposed of correctly. A minimum 80% of all construction waste generated on site will be reused or recycled.

Construction Environmental Management

The builder will identify environmental risks related to construction and include management strategies such as maintaining effective erosion and sediment control measures during construction and operation and ensure that appropriate staging of earthworks (e.g. avoid bare earthworks in high risk areas of the site during dominant rainfall period).

Operational Waste

A dedicated storage area will be provided on site. The storage area will be sufficiently sized to accommodate the general and recycling waste. Recycling facilities will be as conveniently accessible as the general waste facilities.

Universal Access

The development will be designed for universal access in accordance with AS1428.2 to allow persons with limited mobility to enter and use the premises.

BUILDING MATERIALS

Materials selection should be integrated into the design of the proposed development. The criteria for appropriate materials used are based on economic and environmental cost.

Timber

All timber used in the development will be Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC) certified, or recycled / reused.

Flooring

Wherever possible, flooring will be selected from products/materials certified under any of the following:

- Carpet Institute of Australia Limited, Environmental Certification Scheme (ECS) v1.2;
- Global GreenTag - <https://www.globalgreentag.com/>; and/or
- Good Environmental Choice (GECA).

Joinery

Where possible, joinery will be manufactured from materials/products certified under any of the following:

- Global GreenTag - <https://www.globalgreentag.com/>; and/or
- Good Environmental Choice (GECA); and/or

Steel

Wherever possible, steel for the development will be sourced from a Responsible Steel Maker². Reinforcing steel for the project will be manufactured using energy reducing processes commonly used by large manufacturers such as Bluescope or OneSteel.



² A Responsible Steel Maker must have facilities with a currently valid and certified ISO 14001 Environmental Management System (EMS) in place, and be a member of the World Steel Association's (WSA) Climate Action Program (CAP).

URBAN ECOLOGY

In highly urbanised environments, such as metropolitan Melbourne, it is important to recognise the importance of maintaining and increasing the health of our urban ecosystems to improve living conditions not only for the fauna but also ourselves. We can improve our urban ecosystem through the incorporation of vegetation through landscaping for both new and existing developments.

Landscaping

The landscaping onsite will provide the occupants with a pleasant surrounding environment. The design will incorporate a mix of native species to help maintain local biodiversity.

Insulant ODP

All thermal insulation used in the development will not contain any ozone-depleting substances and will not use any in its manufacturing.

IMPLEMENTATION & MONITORING

The proposed development will meet the best practice requirement of the East Gippsland Shire Council through the different initiatives describe in this report such as thermally efficient building envelope, efficient air conditioning and hot water system and sustainable materials. An appropriate implementation and monitoring of the initiatives outlined within this report will be required.

Implementation of the ESD initiatives outlined in this report requires the following processes:

- Full integration with architectural plans and specifications
- Full integration with building services design drawings and specifications
- Endorsement of the ESD Report with town planning drawings
- ESD initiatives to be included in plans and specifications for building approval

APPENDIX A – WSUD REPORT / MUSIC ASSESSMENT

New development must comply with the best practice performance targets for suspended solids, total phosphorous and total nitrogen, as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, Victoria Stormwater Committee 1999. Currently, these water quality performance targets require:

- Suspended Solids - 80% retention of typical urban annual load.
- Total Nitrogen - 45% retention of typical urban annual load.
- Total Phosphorus - 45% retention of typical urban annual load.
- Litter - 70% reduction of typical urban annual load.

The MUSIC tool, an industry accepted tool, was used to assess the development and ensure that the best practice targets described above are met. A minimum compliance score of 100% is required to achieve for the development.

Site Delineation

For the purpose of the assessment, the development has been delineated into the following surface types:

- Site area of 8,596m²;
- Roof area runoff of 405.0m² which will be diverted into rainwater tank(s);
- Permeable area of 4,203m² comprised of landscaped area,
- Entire driveway/car park to be diverted to Atlan® Stormsack;
- The entire site area including the overflow from the tank will be designed to divert to an Atlan Flow Filter.



Figure 2: Road to RWT (blue) and permeable areas (green).

Stormwater initiatives

Rainwater Tank

(Rainwater tank for toilet flushing)

The roof catchment area of 405m² (as described above) will be diverted to rainwater tank(s) with a total effective capacity of 10,000L for the development. The rainwater collected will be used for toilet flushing in the development.

If required, a charged pipe system or multiple tanks will be installed to collect water from part of the roof of each dwelling.

In the case of a charged pipe system, the charged pipes will not be running underneath the slab and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.

Atlan® Stormsack

The entire driveway runoff will be diverted to Atlan® Stormsack installed on grated pits and SEPs. This will treat the stormwater runoff from the driveway by filtering coarse pollutants. This would be a primary treatment. The outflows from the SPEL® stormsack will be diverted towards the secondary treatment. Please refer to Appendix C for more information on the Atlan® Stormsack.

Atlan® FlowFilter

The entire site and the overflow from the rainwater tank will be diverted to a Atlan® FlowFilter. This will treat the stormwater runoff from the site by filtering coarse and fine pollutants before releasing the outflows to the legal point of discharge on site. Please refer to Appendix C for more information on the Atlan® FlowFilter.

It should be noted that permeable areas have been maximised in the development which will reduce the overall stormwater outflows from the site. Vegetated areas are provided in the proposed development reducing the heat island effect and improving the local habitat.

Stormwater Results

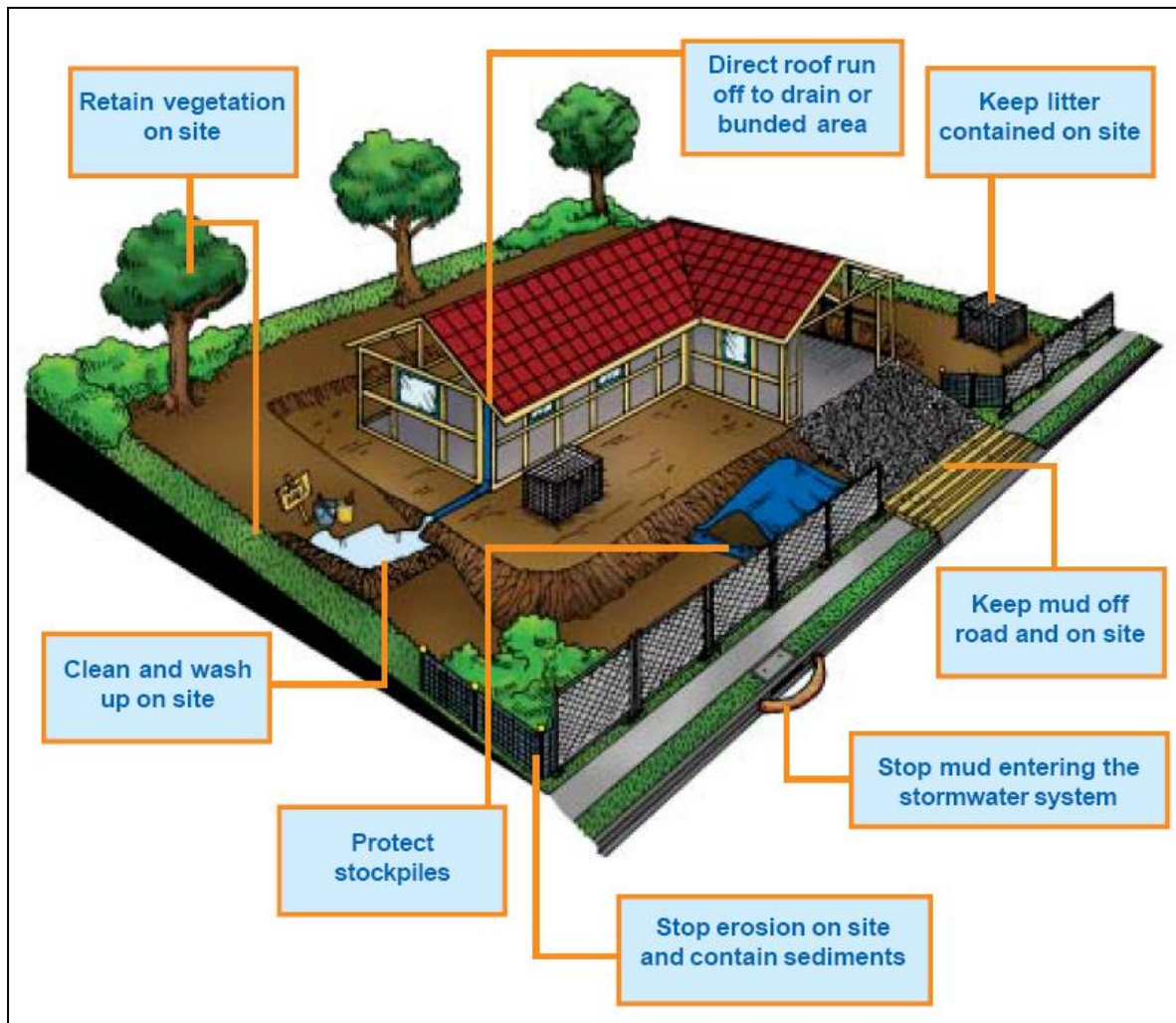
The initiatives and areas described above have been applied to the MUSIC tool by Atlan and the proposed development has achieved the following results:



	Sources	Residual Load	% Reduction
Flow (ML/yr)	3.11	2.92	6.2
Total Suspended Solids (kg/yr)	540	107	80.2
Total Phosphorus (kg/yr)	1.14	0.362	68.3
Total Nitrogen (kg/yr)	8.21	4.24	48.3
Gross Pollutants (kg/yr)	92.9	7.52	91.9

Stormwater Management at Construction Site

To manage stormwater management in the construction stage, measures will be put in place to minimise the likelihood of contaminating stormwater. This will mean ensuring buffer strips are in place, sediment traps are installed, and the site will be kept clean from any loose rubbish. The builder will follow the process outlined in “Keeping Our Stormwater Clean – A Builder’s Guide” by Melbourne Water.



Copies of “Keeping Our Stormwater Clean – A Builder’s Guide” booklet can be obtained from Melbourne Water by ringing on 131 722 or can be downloaded from the following website.

<https://www.clearwatervic.com.au/resource-library/guidelines-and-strategy/keeping-our-stormwater-clean-a-builders-guide.php>

APPENDIX B – WSUD MAINTENANCE & INSTALLATION

Installation

Rainwater Tank(s)

The rainwater tank(s) will be installed above ground. Its manufacturer or material has not been nominated. It will be installed with a mesh insect cover over the inlet pipe to ensure the tank does not become a breeding ground for pests. Mesh needs to be installed over overflow pipes and if a man hole is present it needs to be properly sealed.

Please refer to the architectural drawings for the location of the rainwater tank.

Pumps

The pumps required either to divert the stormwater runoff to the rainwater tank or to distribute the collected water to the end uses (toilets) will be required to be installed as per the chosen manufacturer specifications.

Inspection Requirements

Rainwater Tanks

Inspections of roof areas and gutters leading to the tank should take place every 6 months. Rainwater in the tanks should be checked every 6 months for mosquito infestation.

The rainwater tank should be examined every 2 years for sludge build up.

Ensure the monitoring system (be it digital or a simple float system) is functioning properly by checking the water level in the rainwater tanks.

Pumps

The pumps required will be required to be routinely inspected by listening for the day-to-day operation of the pumps. Unusual noise or no noise should be investigated. Inspection should occur as per the chosen manufacturer specifications.

Clean Out / Maintenance Procedure

Rainwater Tank, Roof and Gutters

Rainwater tanks will require the roof and gutters onsite to be maintained; gutters should be checked, maintained and cleaned every six months to avoid blockages from occurring. If a leaf blocking system is installed this can be completed annually.

Any trees onsite should be maintained every 6 months with branches overhanging the roof removed.

Water ponding in gutters should be avoided as this provides a breeding ground for mosquitos; tanks should also not become breeding grounds for mosquitoes. If mosquitoes are detected in the tank remedial steps need to occur to prevent breeding. If mosquitoes or other insects are found in rainwater tanks, the point of entry should be

located and repaired. As well as preventing further access, this will prevent the escape of emerging adults. Gutters should be inspected to ensure they do not contain ponded water, and be cleaned if necessary.

Please refer to

<http://www.health.gov.au/internet/publications/publishing.nsf/Content/ohp-enhealth-raintank-cnt-l~ohp-enhealth-raintank-cnt-l-5~ohp-enhealth-raintank-cnt-l-5.5> for more information on mosquito control.

Rainwater tanks should be checked by regular maintenance person every 3-6 months to ensure that connection to the building is maintained and there are no blockages.

A simple way to ensure the tank is operating as intended would be through the installation of a smart monitoring device (e.g. OneBox®). These systems allow users to operate tanks remotely from internet or smartphone, monitor and control the tanks in real time, allow automatic release of stored water prior to storm events, alert users if there is any blockage and view tank history and usage patterns.

Alternatively, onsite tank gauges can help those familiar with the tank know if the tank is not working correctly.

Pumps

Maintenance should occur as per the chosen manufacturer specifications. All strainers and filters should be cleaned every 6 months. Good quality pump should provide trouble free service for up to 10 years.

Commissioning

Rainwater Tank

All rainwater tanks should be washed or flushed out prior to use. All inlets and outlets should be correctly sealed to prevent insects entering. Connection to all toilets in the development should be tested (dye test or equivalent).

Please note if new roof coating or paint is to be installed then the first few run-offs after installation need to be discarded.

Pumps

Commissioning should occur as per the chosen manufacturer specifications.

Summary

The following needs to occur onsite to ensure compliance with WSUD requirements and maintain operation of rainwater tank and connections onsite.

Task	When?	Requirement
Inspect Rainwater tanks	Every 6 months	<ul style="list-style-type: none"> • Check for any damage/compression • Mosquitoes infestation
	Every 2 years	<ul style="list-style-type: none"> • Sludge Build up – if sludge build up occurs a vacuum tank needs to be called out to site.
Inspect roofs & gutters	Every 6 months	<ul style="list-style-type: none"> • Clean out of leaves / debris. • Remove any overhanging branches onsite.

APPENDIX C – ATLAN® FLOWFILTER – ATLAN® STORMSACK



SPEL ENVIRONMENTAL
INTEGRATED WATER SOLUTIONS

Address
281 Lygon Street
East Brunswick VIC 3057

Phone
03 8691 6928

Email
admin@fraterconsulting.com.au

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The Technology

A specialist rainwater filter, designed for installation within load bearing shafts and chambers of concrete or plastic construction. The pre fitted plastic housing is safe and easy to fit at site.

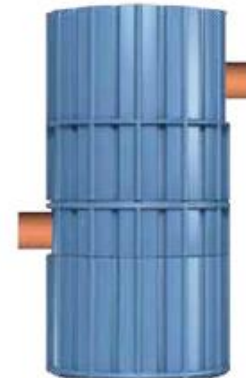
The Hydrosystem 1000 Filter uses an up-flow process. This means there is a minimal head drop between the inlet and the outlet. The cleaned water is of an outstanding water quality. The rainwater is treated within the unit by the following processes: sedimentation, filtration, adsorption and precipitation.

The initial treatment steps take place in the Dynamic Separator, where sedimentation of solid particles occurs within a radial flow regime, characterised by secondary flows.

A settling funnel to the silt trap chamber entrance ensures sediments are not remobilised. Above the separator are the filter inserts, covering the entire diameter of the unit's housing, where the second treatment step takes place.

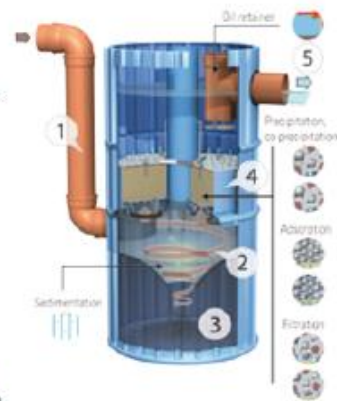
Water flows upwards through the removable filter element. As a result of both the upward flow within the filter element and the fact that the filter remains saturated, the rate of filter clogging by solids is both very limited and slow.

The filter inserts are easy to exchange.



How it works

1. The stormwater from the drained area is fed into the inlet, which is at the lower end of the shaft. A deflector plate sets up a radial flow.
2. Here, sedimentation of particles, especially the sand fraction and above, takes place in the hydrodynamic separator. This is due to turbulent secondary flows within a radial laminar flow regime.
3. The settleable solids are collected via an opening in the silt trap chamber. This chamber is evacuated periodically, via the by-pass central tube at intervals.
4. Four filter elements are located within the filter shaft. As waters flow upwards the finer particles are filtered out, whilst the dissolved pollutants are precipitated and absorbed. The filter is easily backwashed, and if completely clogged or exhausted, is easily replaced.
5. Clean water above the filter elements passes to discharge via an oil trap assembly. In the event of major spill, free floating oils etc are retained here. Normal concentrations of dissolved oils are retained within the filter elements.



Technical Data

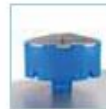
Stormwater filter complying with DIN 1989-2. Connections: DN 200; the various types of filter elements have different material structures.

Housing material: Polyethylene
Housing weight: 68 kg
Total weight: 220 to 350 kg depending on filter type

Packing unit SPEL Hydrosystem 1000: Pallet: 1 piece

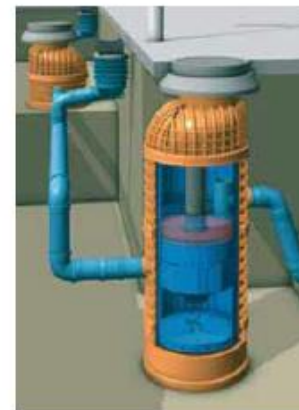
Accessories 1

SPELFilter element
Weight per filter element:
34 kg (roof / traffic)



Accessories 2

SPELFilter element
Weight per filter element:
54 kg (heavy traffic)
66 kg (metal)



Example: Installation in a shaft made of plastic

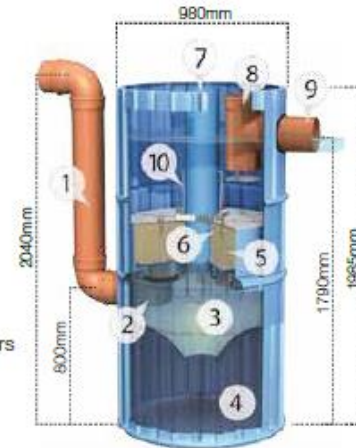


Example:

The SPEL Hydrosystem 1000 traffic installed in a concrete shaft DN1000.

Product structure:

1. Stormwater inlet (DN 200)
2. Deflector plate
3. Hydrodynamic separator
4. Silt trap
5. Filter element
6. Extraction aid for filter element
7. Overflow and suction pipe
8. Oil trap
9. Outlet stormwater storage, soakaway system or surface waters
10. Buoyancy restraint for filter elements



The SPEL Hydrosystem is available with various filter types, depending on the usage of the connected area. The Roof type is used for roof areas that do not have a significant proportion of uncoated metals; the Metal type is employed for metal roof areas, and the Traffic type is used for slightly polluted traffic areas.

The Heavy Traffic type is employed for heavily polluted traffic areas and has been granted general technical approval (Z-84.2-4) by the German Institute for Structural Engineering (DIBt). The maximum areas that may be drained depend on the nature of the surfaces. These are given in the following table.

Type	Nature of the surface to be drained	Weight of filter element / piece	Total Weight
Heavy traffic with technical approval (Z-84.2-4)	Highly polluted traffic areas (car parks in front of supermarkets, main roads, HGV access roads)	54kg	300kg
Traffic	Slightly polluted traffic areas (side streets, staff car parks, yards)	34kg	220kg
Roof	Roofs without a significant proportion of uncoated metals (< 50m²)	34kg	220kg
Metal	Roofs made of uncoated metals (copper, zinc, lead)	66kg	350kg

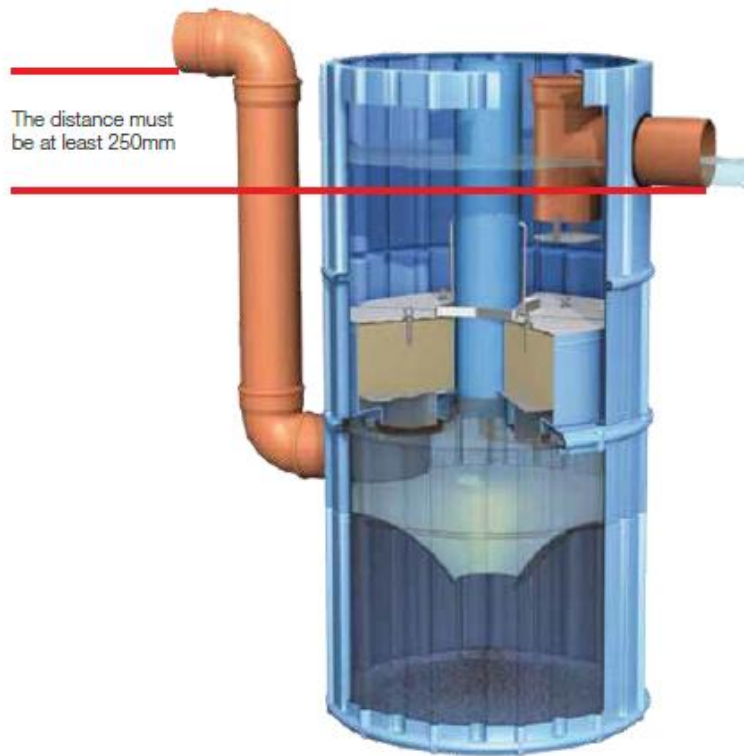
Parameter	Unit	Non Metal Roof	Copper Roof	Zinc Roof	Parking lot, residential street	Main road Distributor	1 Aims of LAWA	2 Drinking Water	3 Seepage	4 SPEL Hydrosystem
		from to	from to	from to	from to	from to	permissible limit	permissible limit	control value	aim
Physico-chemical parameters							90 Percentile			
electrical conductivity	[µS/cm]	25 270	25 270	25 270	50 2400	110 2400	–	2500	–	< 1500
pH value	[–]	4,7 6,8	4,7 6,8	4,7 6,8	6,4 7,9	6,4 7,9	–	6,5 – 9,5	–	7,0 – 9,5
Nutrients										
phosphorous (P gas)	[mg/l]	0,06 0,50	0,06 0,50	0,06 0,50	0,09 0,30	0,23 0,34	–	–	–	0,20
ammonium (NH ₄)	[mg/l]	0,1 6,2	0,1 6,2	0,1 6,2	0,0 0,9	0,5 2,3	–	0,5	–	0,3
nitrate (NO ₃)	[mg/l]	0,1 4,7	0,1 4,7	0,1 4,7	0,0 16,0	0,0 16,0	–	50,0	–	–
Heavy Metals										
cadmium (Cd)	[µg/l]	0,2 2,5	0,2 1,0	0,5 2,0	0,2 1,7	0,3 13,0	1,0	5,0	5,0	< 1,0
zinc (Zn)	[µg/l]	24 4.880	24 877	1.731 43.674	15 1.420	120 2.000	500	–	500	< 500
copper (Cu)	[µg/l]	6 3.416	2.200 8.500	11 950	21 140	97 104	20	2000	50	< 50
lead (Pb)	[µg/l]	2 493	2 493	4 302	98 170	11 525	50	10	25	< 25
nickel (Ni)	[µg/l]	2 7	2 7	2 7	4 70	4 70	50	20	50	< 20
chromium (Cr)	[µg/l]	2 6	2 6	2 6	6 50	6 50	50	50	50	< 50
Organic Substances										
polynuclear aromatic hydrocarbons (PAH)	[µg/l]	0,4 0,6	0,4 0,6	0,4 0,6	0,2 17,1	0,2 17,1	–	0,1 6 compounds	0,2	< 0,2
petroleum derived hydrocarbons (MHW)	[mg/l]	0,1 3,1	0,1 3,1	0,1 3,1	0,1 6,5	0,1 6,5	–	–	0,2	< 0,2

1 Aims of the German working group on water issues of the Federal States and the Federal Government (LAWA) for surface water, usage as potable water (1998).
 2 Permissible of the German Drinking Water Ordinance (2001). 3 Control value for seepage of the German Federal Soil Protection Act an Ordinance (1999) according to § 8 1,2. 4 The aims of the system refer to average annual loads.



Installation

CAUTION! Important information, please observe.



The following is to be checked before installation:

The filter must be installed with a so-called fall. This means that the incoming pipe (stormwater inlet) is led downwards just ahead of the shaft and can be connected to the lower connection as described.

The difference in invert between the incoming pipe and the outlet to discharge must be at least 250mm.





VICTORIA & TASMANIA OFFICE

PO Box 292
North Geelong BC VIC 3215
191 Station Street
Corio VIC 3214

Phone: + 61 3 5274 1336
Fax: +61 3 5274 9966



DESIGN OFFICES

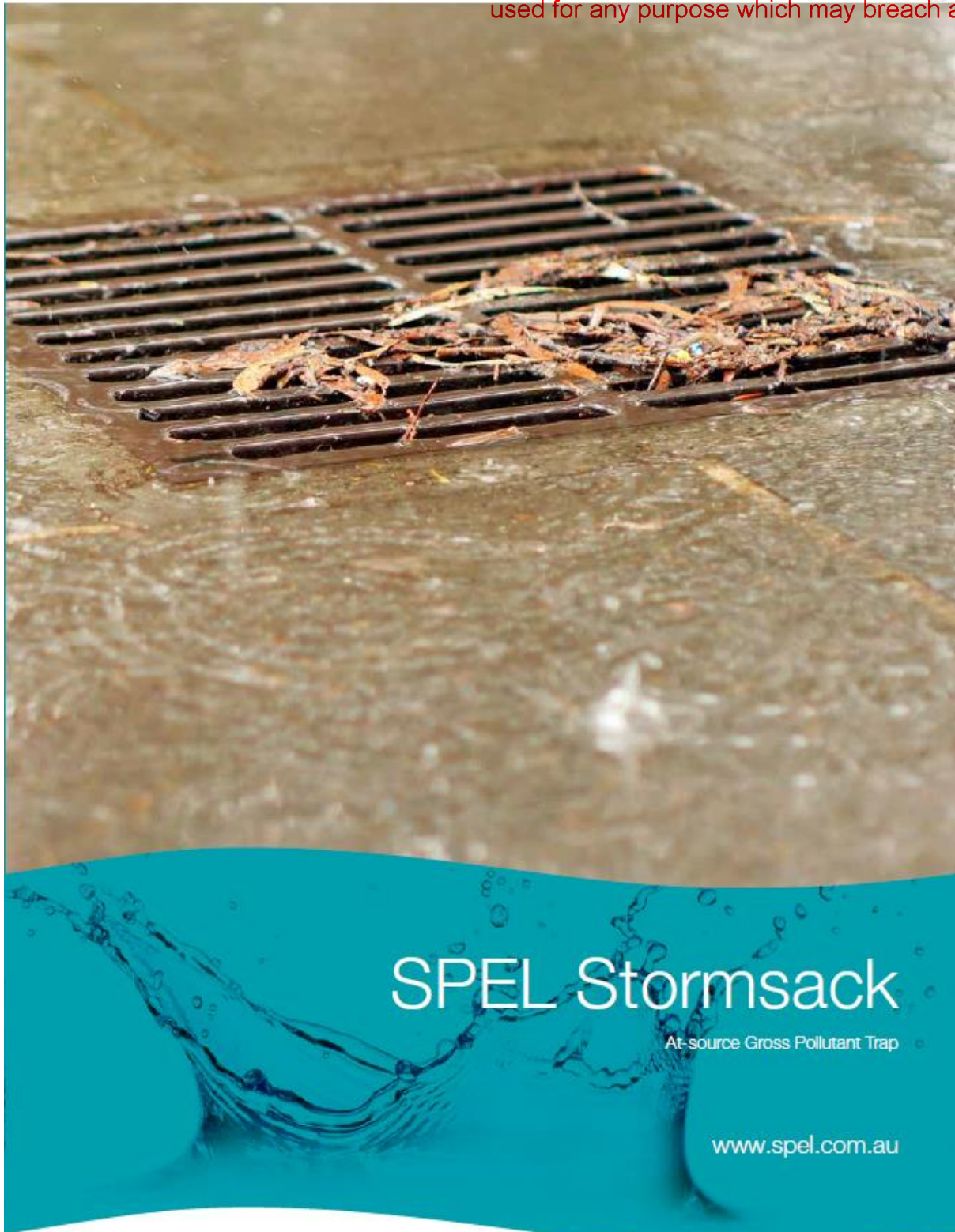
New South Wales	61 2 8838 1055
Canberra	61 2 6128 1000
Queensland	61 7 3277 5110
Victoria & Tasmania	61 3 5274 1336
South Australia	61 8 8275 8000
West Australia	61 8 9350 1000
Northern Territory	61 2 8838 1055
New Zealand	64 9 276 9045



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SPEL ENVIRONMENTAL
INTEGRATED WATER SOLUTIONS



SPEL Stormsack

At-source Gross Pollutant Trap

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SPEL ENVIRONMENTAL
INTEGRATED WATER SOLUTIONS

Stormwater Treatment

An all too common issue with today's highly impervious landscape is how to meet stormwater regulations with limited budgets and tight space constraints.

SPEL StormSack filtration solutions are highly engineered water quality devices that are deployed directly in the stormwater system to capture contaminants close the surface for ease of maintenance. Easily retrofitted into new or existing structures, SPEL StormSack filtration technology is a decentralized approach to stormwater treatment that essentially repurposes traditional site infrastructure and customizes it to meet specific site water quality goals. In this way, it satisfies important objectives of today's LID (Low Impact Development) criteria.

From an operations perspective, catch basins with SPEL StormSack filters are also easier and quicker to clean out because pollutants are trapped just under the grate.

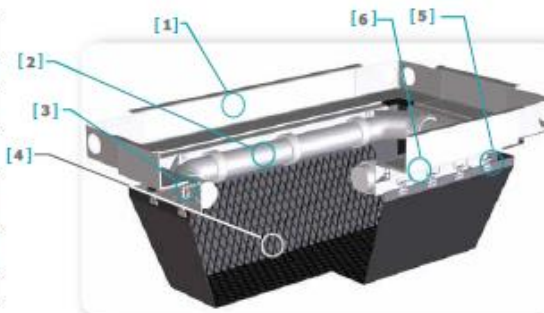
StormSack

The SPEL StormSack is specifically designed for the capture of gross pollutants: sediment, litter, and oil and grease. Ideally suited for municipal storm drain retrofits, the SPEL StormSack's unique design allows maintenance to be performed using conventional vacuum suction equipment.



Application	Regulatory Issue	Target Pollutants
Council Storm Drain Retrofits	At-source litter capture	Sediment, Litter, O&G
Commercial/Retail/Residential	Stormwater Compliance	Sediment, Litter, O&G
Litter Prone Urban Areas	Cost effective litter control	Litter ≥ 5 mm
Scrap Metal/Solid Waste/Oil Storage/Etc	Industrial Multi-Sector General Permit	Gross Pollutants, O&G
Part of Treatment Train	Council Stormwater Quality Improvement Targets	Sediment, Litter, O&G
Construction Sediment/Erosion	Sediment Control Plan	Sediment/Erosion Control

Features	
1.	Durable, aluminum frame construction
2.	Integral oil boom effectively captures oil and grease from spills
3.	Patented dovetailed flange – allows 12cm of length/width field adjustment
4.	Polypropylene netting protects sack from suction hose during maintenance
5.	Steel clip with locking tab holds replaceable filter sack in place
6.	Baffled bypass traps floatables



Standard SPEL StormSack to suit Pit Sizes

450x450mm
600x600mm
900x600mm
900x900mm

Custom sizes (i.e. 1200x900mm) can be manufactured on short lead times



Specifications & Details

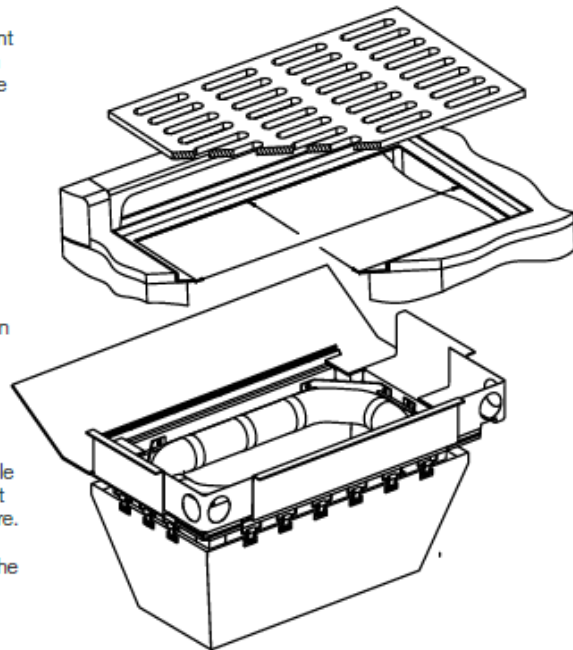
General Description

This technology is a post developed stormwater treatment system. The SPEL StormSack provides effective filtration of solid pollutants and debris typical of urban runoff, while utilising the existing or new storm drain infrastructure. The StormSack is designed to rest on the flanges of conventional catch basin frames and is engineered for most hydraulic and cold climate conditions.

Installation And Maintenance

Installation procedures shall include removing the storm grate, cleaning the ledge of debris and solids, measuring catch basin clear opening and adjusting flanges to rest on grate support ledge. Install SPEL StormSack with splash guard under curb opening so the adjustable flanges are resting on the grate support ledge. Install corner filler pieces. Reinstall storm grate directly on support flanges [rise shall be no more than 1/8 inch (3 mm)].

Maintenance: Typically the SPEL StormSack is serviceable from the street level, and therefore maintenance does not require confined space entry into the catch basin structure. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or a vactor truck. The oil boom is also designed to easily be replaced from the street level. Use only SPEL replaceable parts.



Products

Material and Design

- A. Adjustable Flange and Deflector: Aluminum Alloy 6063-T6
- B. Splash Guard: neoprene rubber
- C. Stormsack: woven polypropylene geotextile with US Mesh 20
- D. Corner Filler: Aluminum Alloy 5052-H32
- E. Lifting Tabs: Aluminum Alloy 5052-H32
- F. Replaceable Oil Boom: polypropylene 3 inch (76 mm) diameter
- G. Mesh Liner: HDPE, diamond configuration
- H. Support Hardware: CRES 300 Series

Typical Performance Characteristics

- A. Debris capacity: 8.5cu. ft. (0.24 m³)
- B. Filtered flow rate: 7.3 cfs (207 lps)
- C. Primary baffled bypass flow rate: 4.2cfs (119 lps)
- D. Secondary bypass flow rate: 0.4 cfs (10 lps)
- E. Total bypass flow rate: 4.6 cfs (130 lps)
- F. Oil boom sorption capacity: 376 oz (11 L)

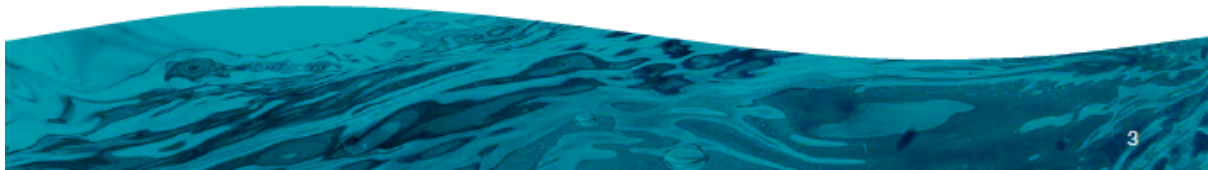
Recommended minimum clearance from bottom of SPEL StormSack to inside bottom of vault is 2 inches (50 mm)
Typical frame adjustability range of 5 inches (127 mm) in each direction.

Benefits

- Low cost gross pollutant capture
- Quick & easy installation
- Simple maintenance
- At source capture
- Adjusts to custom pit sizes

Field Performance

The SPEL Stormsack was introduced to the Australian market in 2012 and field testing is underway at several locations in South-east Queensland. Laboratory testing has shown capture of 99.99% of gross pollutants up to the bypass flow rate.* Further results will be provided as they become available.



APPENDIX D – DAYLIGHT ACCESS – GREEN STAR CALCULATION

The Green Building Council of Australia (GBCA) has created a daylight access calculation method within the Green Star benchmarking tool. This tool is widely recognised by Councils and Industry.

The Green Star Daylight Hand Calculation method is used to determine if there are risks associated with the current design, particularly with respect to meeting the desired daylight factors referenced in the Sustainable Management Plan in the Planning Process (SDAPP) Indoor Environment Quality guidelines.

According to the SDAPP guidelines, best practice is achieved where 2% daylight factor is achieved across 30% of the floor area of the nominated area.

The calculation method is based on one simple formula to calculate a zone of compliance within a nominated room. The compliant zone is the area of the room achieving 2% daylight factor and can be calculated as follows:

$$\text{Zone of Compliance} = 2 \times h \times w$$

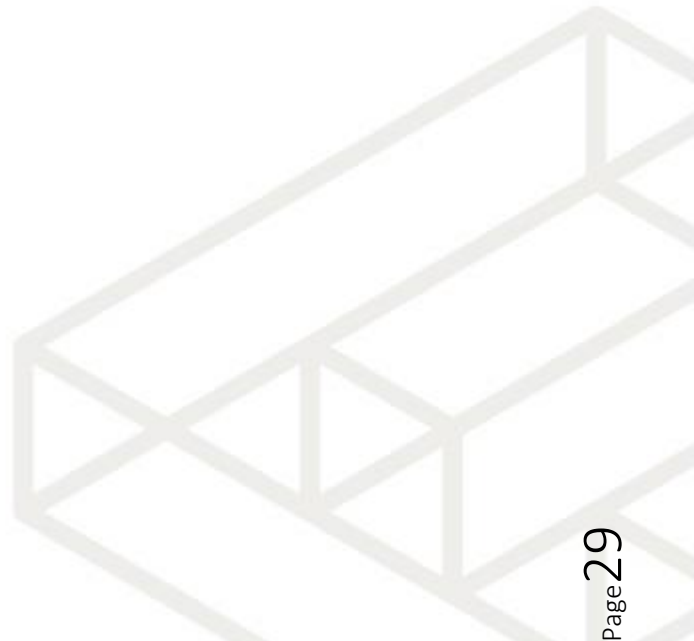
w is the width of the glazing serving the room

h is the height of the window head above the desktop/table level

Windows serving the nominated area are required to have a minimum 40% VLT to use the formula.

The percentage of compliant area within the nominated area can then be easily calculated with the following formula:

$$\text{Percentage of compliant area} = \frac{\text{Zone of Compliance}}{\text{Nominated Area}} \times 100$$



Site Description

The proposed new development consists of reception and multipurpose hall. The areas such as stairs, toilets and change rooms will not be occupied regularly, hence they are not included. The nominated areas for the Hand Calculation are only comprised of the reception and multipurpose hall space which will be regularly occupied.

The desktop/table level has been estimated to be 700mm.

See below for the mark-up of the compliant zone (red) within each nominated area (blue).

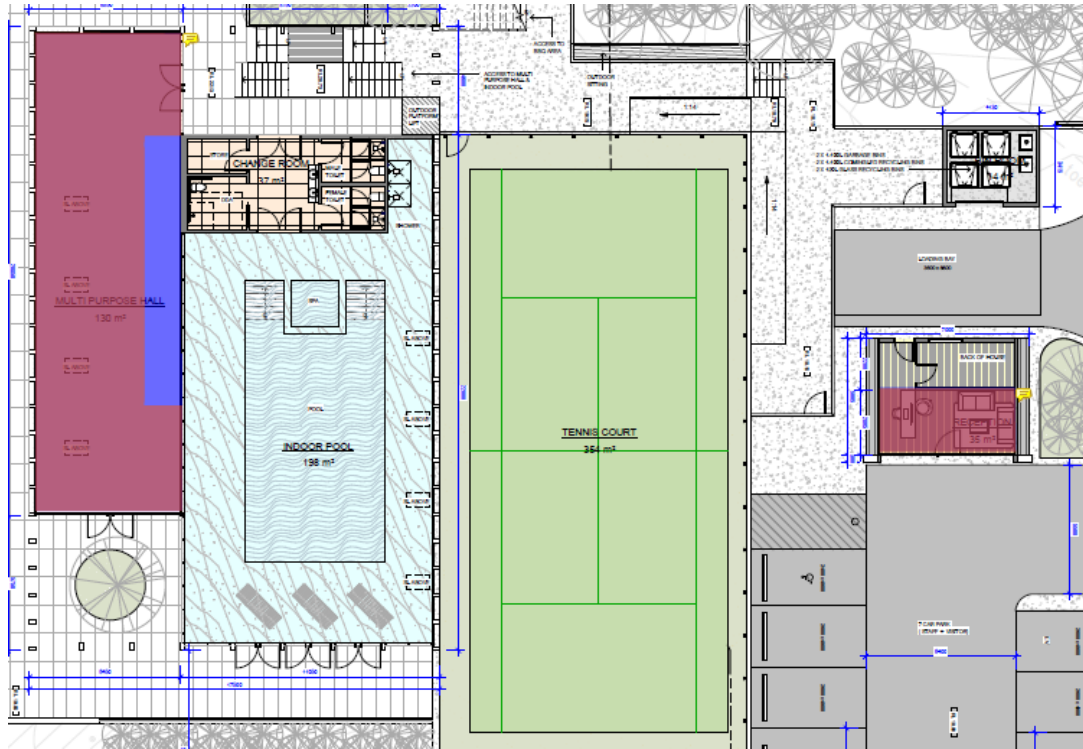


Figure 3: Compliance zone for reception and multipurpose hall

	Nominated Areas (m ²)	Compliant Areas (m ²)	Compliant Areas (%)
Reception	15.2	15.2	
Multipurpose	125.0	107.2	
TOTAL	140.2	122.4	87%

The green star hand calculation for the proposed development shows that the development will achieve and exceed SDAPP best practice requirement with the development achieving over 87% of floor area at 2% daylight factor.

APPENDIX E – VOC & FORMALDEHYDE EMISSION LIMITS

The following table are an extract of the Green Star Design and as built submission guidelines:

Table 13.1.1: Maximum TVOC Limits for Paints, Adhesives and Sealants

Product Category	Max TVOC content in grams per litre (g/L) of ready to use product.
General purpose adhesives and sealants	50
Interior wall and ceiling paint, all sheen levels	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100

The product complies with the Total VOC (TVOC) limits specified in the Table below.

Carpet Test Standards and TVOC Emissions Limits

Test protocol	Limit
ASTM D5116 - Total VOC limit	0.5mg/m ² per hour
ASTM D5116 - 4-PC (4-Phenylcyclohexene)	0.05mg/m ² per hour
ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m ² per hour
ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m ² per hour

Table 13.2: Formaldehyde Emission Limit Values for Engineered Wood Products

Test Protocol	Emission Limit/ Unit of Measurement
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	$\leq 1\text{mg/L}$
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	$\leq 1.5\text{ mg/L}$
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	$\leq 1\text{mg/L}$
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	$\leq 1\text{mg/L}$
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	$\leq 1\text{mg/L}$
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	$\leq 1\text{mg/L}$
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	$\leq 1\text{mg/L}$
JIS A1901 (not applicable to Plywood, applicable to high pressure laminates and compact laminates)	$\leq 0.1\text{ mg/m}^2\text{hr}^*$
ASTM D5116 (applicable to high pressure laminates and compact laminates)	$\leq 0.1\text{ mg/m}^2\text{hr}$
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	$\leq 0.1\text{ mg/m}^2\text{hr}$ (at 3 days)
ASTM D6007	$\leq 0.12\text{mg/m}^{3**}$
ASTM E1333	$\leq 0.12\text{mg/m}^{3***}$
EN 717-1 (also known as DIN EN 717-1)	$\leq 0.12\text{mg/m}^3$
EN 717-2 (also known as DIN EN 717-2)	$\leq 3.5\text{mg/m}^2\text{hr}$

*mg/m²hr may also be represented as mg/m²/hr.



PROPOSED RESORT AND ACCOMODATION DEVELOPMENT

33 WOOD STREET, METUNG

WASTE MANAGEMENT PLAN

PROPOSED RESORT AND ACCOMODATION DEVELOPMENT, 33 WOOD STREET, METUNG

Client: Windmill Hotspring Resort Pty Ltd

Report Reference: 23265W

File Path: Y:\2023\23265T – 33 Wood Street, Metung\08 Reports\Waste\23265WREP01D01

Thursday, October 12, 2023

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MELBOURNE Level 3, 51 Queen Street, Melbourne VIC 3000
+61 3 9020 4225

SYDNEY Suite 303/61 Marlborough Street, Surry Hills NSW 2010
+61 2 9068 7995

HOBART Level 4, 116 Bathurst Street, Hobart TAS 7000
+61 400 535 634

CANBERRA Level 3, 33-35 Ainslie PI Canberra ACT 2601
+61 2 9068 7995

ADELAIDE Level 21, 25 Grenfell St Adelaide SA 5000
+61 8 8484 2331

www.salt3.com.au

EXECUTIVE SUMMARY

SALT has been engaged by Windmill Hotspring Resort Development to prepare a Waste Management Plan (WMP) for a proposed resort and accommodation development located at 33 Wood Street, Metung.

SALT understands that the proposal involves the development of twenty cabin-style dwellings in addition to communal facilities, multi-purpose spaces, offices, and outdoor amenity areas.

Waste would be stored on-site in the bin storage area located within the vehicle parking area.

Waste would be collected by a private contractor with the following allocation:

- 2 x 1,100L garbage bins collected once per week;
- 2 x 1,100L commingled recycling bins collected once per week;
- 2 x 120L glass recycling bins collected once per week;

Waste vehicles would enter the site via the Wood Street entrance and prop at loading bay adjacent the bin storage area. Vehicle operators would ferry waste bins from the storage area to the collection vehicle and return upon emptying.

In the opinion of SALT, the enclosed Waste Management Plan would provide efficient waste management for the proposed development. This report must be read in detail prior to implementation of the waste management strategy.

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1 INTRODUCTION

SALT has been requested by Windmill Hotspring Resort to prepare a Waste Management Plan for a resort/accommodation development located at 33 Wood Street, Metung.

This Waste Management Plan (WMP) has been prepared based on industry best practice and in accordance to Sustainability Victoria Guidelines. Generation rates have been adopted based on waste generation rates enclosed in the Sustainability Victoria: *Better Practice Guide for Waste Management and Recycling in Multiunit Developments* 2019.

In the circumstance that the development plans are amended or new legal requirements are introduced, a revision of the enclosed WMP may be required by the Responsible Authority. The developer would be responsible in engaging with a waste consultant or engineer to prepare the updated report accordingly.

2 INCLUDED IN THIS REPORT

Enclosed is the Waste Management Plan for the proposed development at 33 Wood Street, Metung. Included are details regarding:

- Land use;
- Waste generation;
- Waste systems;
- Bin quantity, size and colour;
- Collection frequency;
- Bin storage area;
- Signage;
- Waste collection;
- Responsibilities;
- Ventilation, washing and vermin-prevention;
- Noise reduction;
- DDA compliance;
- Supplier contact information; and
- Scaled waste management drawings.

3 LAND USE

Planning application number: to be allocated

Land Zone: General Residential Zone

Land use type: Mixed-use (commercial)

Number of levels: N/A

Commercial Space:

- 35m² office space; and
- 122m² multipurpose space.
- 10 two-bedroom hotel units; and
- 6 four-bedroom hotel units.

4 WASTE MANAGEMENT PLAN

4.1 WASTE GENERATION

Waste generation rates are shown in Table 1. Calculations are based on 7 days per week operation for the site.

Generation rates have been adopted based on commercial waste generation rates enclosed in the Sustainability Victoria *Better Practice Guide for Waste Management and Recycling in Multiunit Developments* 2019. These rates are considered appropriate for a mixed-use development located within the East Gippsland Shire region.

Any common areas including outdoor amenity spaces have not been included in these calculations. As any waste generated in these areas is generated in service of the commercial areas and therefore incorporated into the below rates.

Table 1 Waste Generation Rates

Hotel Room Size	Garbage (L/week)	Comingled Recycling (L/week)	Glass Recycling (L/week)
Two Bedroom	35L	35L	5.25L
Four Bedroom	35L	35L	5.25L
Use	Garbage (L/100m ² /week)	Comingled Recycling (L/100m ² /week)	Glass Recycling (L/week)
Multipurpose space	350L	70L	10.5L
Reception Office	70L	70L	10.5L

A waste generation assessment is provided in Table 2.

Table 2 Waste Generation Assessment

Hotel Room Size	Quantity	Waste Per Week		
		Garbage	Recycling	Glass
Two Bedroom	10	700L	700L	105L
Four Bedroom	6	840L	840L	126L
Use	Area	Waste Per Week		
		Garbage	Recycling	Glass
Multipurpose space	122m ²	427L	85.4L	13L
Reception office	35m ²	24.5L	24.5L	4L
Total Waste Generated per Week		1991.5L	1650L	248L

4.2 WASTE SYSTEMS

Waste would be sorted on-site by staff and cleaners as appropriate into the following streams:

- Garbage (General Waste);
- Commingled Recycling;
- Glass Recycling;

4.2.1 BIN STATIONS

Based on Method *Westpac NZ Case Study*, the use of bin stations throughout their office spaces have reduced waste to landfill by 40%. The case study discusses the significance of accountability in ensuring diversion of waste from landfill. It is therefore recommended that bin stations are provided throughout commercial spaces.

Each bin station should be equipped with one bin for each waste stream. This would encourage the user to make a conscious decision before depositing their waste product into a specific bin and encourage appropriate segregation especially when bins are placed within an area open to public view.

An example bin station with vertical signage is shown in Figure 1. The vertical signage is recommended to be implemented at each bin station to educate the users on the appropriate separation methods. This would allow for maximum diversion of waste from landfill and recovery of the respective waste streams to be achieved.

Figure 1 Example Bin Station with vertical signage



4.2.2 GARBAGE (GENERAL WASTE)

Where appropriate, each area would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity as determined by the floor area and use of space. This capacity is based on the transfer of waste to the bin room occurring at a minimum of once per day.

Hotel rooms would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 5 litres per room. This capacity is based on the transfer of waste to the bin room occurring once per day.

Multipurpose areas would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 50 litres per 100m² of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Office spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 5 litres per 100m² of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff/cleaners would dispose of waste from these bins directly into the appropriate 1,100L bin provided within the bin storage, accessed via wood street entrance (refer to Appendix 1).

Garbage is to be disposed of bagged.

4.2.3 COMMINGLED RECYCLING

Hotel rooms would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 5 litres per room. This capacity is based on the transfer of waste to the bin room occurring once per day.

Multipurpose areas would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 10 litres per 100m² of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Office spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 5 litres per 100m² of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff/cleaners would dispose of waste from these bins directly into the appropriate 1,100L bin provided within the bin storage, accessed via wood street entrance (refer to Appendix 1).

Commingled recyclables would be disposed of loosely.

4.2.4 GLASS RECYCLING

A 120L glass bin has been provided within the waste room for glass recycling. Building management would arrange glass bin collections with collections to be conducted by a private contractor as required.

4.2.5 HARD WASTE

Hard waste will be managed independently by the relevant building manager. Hard waste will be temporarily stored onsite within the dedicated bin storage area prior collections occurring.

Building management would schedule hard waste collections to occur via a private contractor, as required.

4.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

The bin quantity, size and the frequency of collection are shown below in Table 33 and Table 44. A weekly collection schedule is recommended given the volume and nature of the waste generated.

It should be noted that the generated volume of recyclable glass exceeds the capacity volume by 3.33%. Due to the conservative nature of the waste generation estimates this minor exceedance of the bin capacity is considered negligible, and as such the above system is considered appropriate by SALT.

Table 3 Bin Size and Collection Frequency

Waste Stream	Collections per Week	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
Garbage	1	1100L	2	2200L	1991.5L
Commingled Recycling	1	1100L	2	2200L	1650L
Glass	1	120L	2	240L	248L

Table 4 Typical Waste Bin Dimensions

Capacity (L)	Width (mm)	Depth (mm)	Height (mm)	Area (m ²)
1,100	1240	1070	1330	1.33
120	480	545	930	0.26

Note: The above dimensions are based on SULO's flat lid bin specifications

4.4 BIN COLOUR AND SUPPLIER

All bins would be provided by private supplier. The below bin colours are specified by Australian Standard AS4123.7-2006, however due to the private nature of the collection, these are only recommendations and are not mandatory:

- Garbage (general waste) shall have red lids with dark green or black body;
- Recycle shall have yellow lids with dark green or black body;
- Glass shall have purple lids with dark green or black body.

Note, private contractors often supply bins for collection.

4.5 WASTE STORAGE AREA

Table 5 demonstrates the cumulative space requirements and provision of waste areas in the of the proposed development.

Please refer to scaled drawing shown in Appendix 1.

Table 5 Waste Area Space Requirements

Stream	Space Required (excluding circulation)	Space Provided
General Waste	4.5m ²	14m ²
Commingled Recycling	4.5m ²	
Glass	1.5m ²	
Hard Waste	1m ²	
TOTAL	11.5m²	14m²

Note; Waste management would be overseen by building management and or the appropriate onsite staff.

4.6 WASTE COLLECTION

Commercial waste would be collected by private contractor as follows:

- 2 x 1,100L garbage bins collected once per week;
- 2 x 1,100L commingled recycling bins collected once per week;
- 2 x 120L glass bins collected once per week; and

Hard waste would be collected by a private contractor as follows:

- 1m² area collected on an as required basis.

All waste bins would be stored on-site in the bin room provided.

Waste collections would occur between 6:30am (one collection per week to 8pm on Mondays to Saturdays and between 9am to 8pm on Sundays and public holidays, in accordance with EPA Victoria *Noise Control Guidelines* 2021. This is to ensure minimal noise impacts to the neighboring properties

General waste collections would occur via an 8.8m medium rigid rear-loading waste vehicle.

Hard waste collections would be performed by a utility vehicle or AustRoads B99 design vehicle equivalent.

Waste collection vehicles would enter the subject site via the Wood Street entrance.

Waste collection vehicles would prop safely at the loading bay adjacent to the bin storage area.

Vehicle operators would ferry waste bins to the collection vehicle and perform a rear loading bin transfer of the specific waste stream, before returning bins safely to the bin store upon emptying.

Waste collection vehicles would exit the loading bay in a forward direction, exiting the subject site onto Wood Street.

Building management would ensure that waste vehicle operators are able to access the bin room prior to scheduled collections.

5 RESPONSIBILITIES

Building management would be responsible for overseeing waste management within the development. Responsibilities would include:

- Providing appropriate staff with a waste management handbook which would include information on bin storage areas, transfer paths and waste management methods onsite;
- Ensure that all bins throughout the site and the bin room are equipped with appropriate signages to guide users on appropriate segregation methods for their waste and recyclables;
- Inspecting waste stores;
- Reviewing contamination within bins;
- Investigating incidents of inappropriate waste storage (or aggregation).

Building management would ensure anyone found responsible for inappropriate waste disposal would be appropriately educated and made aware of correct waste disposal techniques.

It is recommended that building management and appropriate staff conduct routine waste audit if waste is found to be inappropriately deposited by users or if the bin capacities need to be reviewed.

6 SIGNAGE

Waste storage areas and bins would be clearly marked and signed with the industry standard signage approved by Sustainability Victoria or the relevant local council equivalent, where possible. Typical signage for the specified waste streams is illustrated in Figure 2 below.

Figure 2 Sustainability Victoria Signage

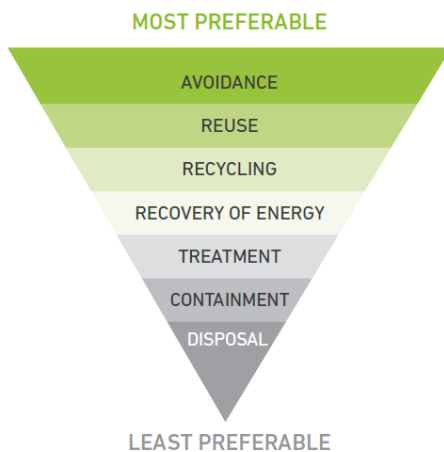


7 SUSTAINABILITY ACTION PLAN AND INITIATIVES

The importance of restructuring the institutional waste management methods in developments is becoming more apparent as we experience the adverse impacts of increasing waste volumes and declining recycling rates. Developments such as the proposed subject site can contribute towards the prevention and reduction of nationwide waste generation volumes as well as to promote a local circular economy system.

Building management should encourage users by demonstrating a commitment towards waste avoidance and minimisation initiatives. The waste hierarchy as detailed in the *Environmental Protection Act 2017* should be observed in order of preference (refer to Figure 3).

Figure 3 Waste Hierarchy



In addition to the waste management strategy detailed in the enclosed report, building management can establish landfill diversion and recycling targets and conduct periodic waste audits to monitor contamination levels in recycling and glass bins. The results of the audit could be shared with staff and visitors to encourage improvements in waste separation behavior. Audit may also be beneficial from a cost perspective as it would inform building management of opportunities to reduce bin numbers or collection frequencies.

All staff should be inducted on on-site waste management practices and on the development's sustainability action plan via the provision of a handbook or in-person training, as deemed necessary. Both staff and visitors should be encouraged to minimise single-use packaging and promote the re-use and uptake of reusable containers or bags on site.

8 WASTE AREA DESIGN REQUIREMENTS

8.1 VENTILATION

Ventilation would be provided in accordance with Australian Standard AS1668.

The waste room will be equipped with tight fitting doors and impervious flooring. Any openings within the waste room will be fitted with vermin-proof mesh.

8.2 LITTER MANAGEMENT, WASHING AND STORMWATER POLLUTION PREVENTION

An appropriately drained wash down area would be provided within the bin room in which each bin is to be washed regularly by building management. Bin washing areas or bin wash bays must discharge to a litter trap. Bin wash areas should not discharge into stormwater drainage.

Alternatively, a third-party bin washing service can be engaged to perform this service. Bin washing suppliers must retain all waste water to within their washing apparatus so as to not impact on the drainage provisions of the site.

Building management and cleaners would be responsible in ensuring the following to prevent or minimise the dispersion of litter throughout the site:

- Prevent overfilling of bins by ensuring bin lids are closed at all times;
- Require waste contractor to remove any spillage that may occur during waste collections; and
- Ensure anyone found responsible for inappropriate waste disposal or dumping would be appropriately educated and made aware of correct waste disposal techniques.

8.3 NOISE REDUCTION

All chute systems and waste areas would meet EPA, BCA and AS2107 acoustic requirements as appropriate within operational hours assigned to minimise acoustic impact on surrounding premises.

Waste collection timings in accordance with EPA Victoria *Noise Control Guidelines* 2021 have been stipulated in the waste collection section above.

Waste contractors should also abide by the following regulations to ensure minimal noise impacts to the neighboring properties:

- Compaction only to be carried while on the move;
- Bottles should not be broken up at the point of collection
- Routes that service entirely residential areas should be altered to reduce early morning disturbances; and
- Noisy verbal communication between operators should be avoided where possible.

8.4 DDA COMPLIANCE

All waste areas to be accessed by onsite staff and building management would comply with AS1428.1:2009.

9 RISK AND HAZARD ANALYSIS

Table 6 shows the potential risks, severity and suggested control methods that could be considered to avoid the risks from occurring during waste collections.

Note that this is a preliminary risk assessment and does not replace the need for the building management and collection contractors to complete their respective OHS assessment for waste collections.

The information provided below has been adopted from WorkSafe Victoria *Non-Hazardous Waste and Recyclable Materials* (2003).

The severity of each risk has been determined based on the risk rating table enclosed in Department of the Environment *Environmental Management Plan Guidelines* 2014.

Table 6 Potential Risks and Control Methods During Waste Collection

Area	Risk	Severity	Suggested controls
Waste collection	Incidents during waste collection vehicle ingress or egress movements	Low	<p>Vehicle operators would be trained in ensuring the following</p> <p>Tailgate is closed after clearing waste area</p> <p>Move vehicle slowly when tailgate or body is raised</p> <p>Clear waste from tailgate seal and from rear of machine before departure from the subject site</p> <p>Ensure tailgate is locked after unloading operation</p> <p>Vehicle operators should not exit the vehicle body unless engine is switched off, ignition key is removed, safety prop is in position and the vehicle body is well ventilated. Regular safety checks and inspection of vehicles should be conducted.</p>
	Incidents during manual handling of bins	High	Vehicle should meet relevant Australian Design Rules. Ensure that vehicles with low bowl height are used to avoid lifting of bins above shoulder height. Vehicle operator should be clear of the equipment before activation of packing or tipping controls.
	Slip and trip hazards in moving into and out of the vehicle	Medium	Maintain sufficient and frequent communication between driver and runner. The hose should not be used as handholds when mounting or dismounting.
	Slips and trips while transporting bins	Low	<p>As the car parking area is at the same grade with that of the waste storage area, there are no hazards presented from the presence of slopes or steps. The car parking and waste storage area would also be well lit at all times to ensure good visibility to staff/vehicle operators.</p> <p>However, to ensure that any other potential risks are mitigated, frequent communication should be maintained between the driver and runner and the runner should only transfer one bin at a time.</p>
Surrounding traffic	Conflict with other vehicle operators and staff/visitors within the car park during collection	Medium	<p>Ensure that collection is to occur only at off-peak hours.</p> <p>The collection area should also be well-lit to allow for better visibility of oncoming traffic and pedestrians.</p>
Waste bins	Type of wastes handled – risk associated in contact with unknown hazardous substances or sharp objects	Medium	<p>Building staff and management should be educated on safe disposal of hazardous substances and sharp objects.</p> <p>Waste vehicle operators should be trained and informed on safe handling of unknown substances. Operators could be provided with PPE to avoid infections and to assist in handling of waste bins.</p>
Waste Bins	Overflowing bins affecting the transport of bins to the waste collection vehicle or presenting as a trip hazard.	Low	The recommended number of bins enclosed in this WMP provides a larger capacity than the volume generated for all waste streams hence there would be a low likelihood of this occurring.

10 SUPPLIER CONTACT INFORMATION

Table 7 provides a list of equipment specified by this waste management plan.

Below is a complimentary listing of contractors and equipment suppliers. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers.

SALT does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 7 High Level Purchasing Schedule

Item	Quantity	Supplier	Notes
1,100L Bin	4	Private Supplier	2 x 1,100L garbage bins
240L Bin	2		2 x 1,100L commingled recycling bins
Bin Station	As required		1 x 240L glass bins
			Internal and external bin stations. Each bin station will contain one bin per waste stream.
Private waste collection contractors often supply their own bins for collection.			

10.1 EQUIPMENT SUPPLIERS

10.1.1 BIN STATIONS

- Method Recycling (bin stations) – 0477 630 220 / 0412 001 686
- Source Separation System (bin stations) – 1300 739 913

10.2 WASTE COLLECTORS

10.2.1 GARBAGE, RECYCLING AND ORGANICS

- Cleanaway – 13 13 39
- JJ Richards – 03 9794 5722 (Vic)
- SUEZ Environment – 13 13 35
- VISY Waste Management – 03 9369 7447
- Veolia Environmental Services – 132 955
- Wanless – 1300 926 537

10.2.2 HARD WASTE

- 1CALL Rubbish Removal – 1300 557 772
- Tambo Waste – 1300 131 807

10.2.3 E-WASTE

10.3 BIN WASHING SERVICES

- The Bin Butler – 1300 788 123
- Calcorp Services – 1888 225 267
- WBCM Environmental – 1300 800 621

11 PURPOSE AND LIMITATIONS

This Waste Management Plan has been prepared to form a part of the town planning application. The report is prepared to:

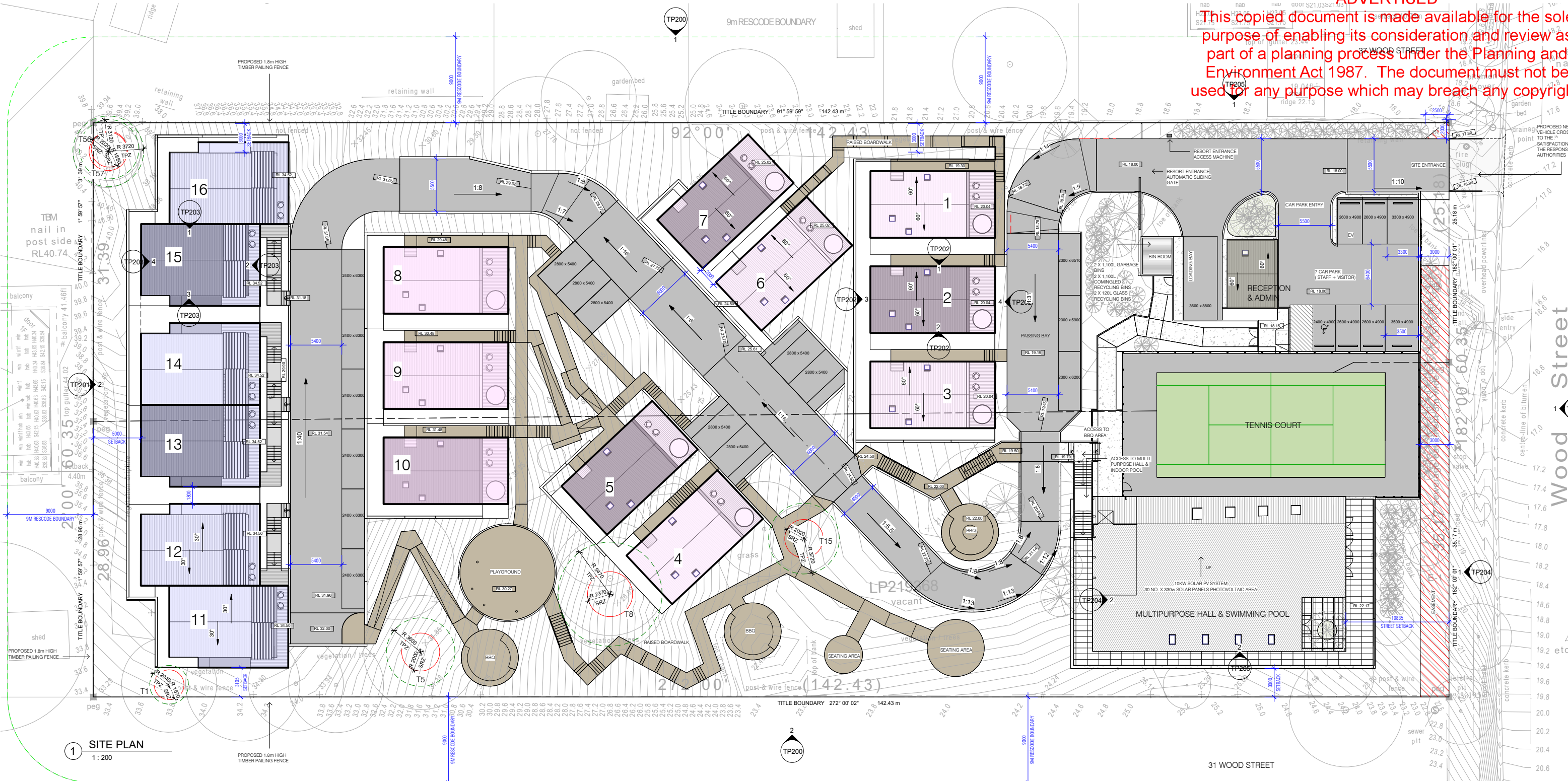
- Demonstrate that an effective waste management system is compatible with the design of the development. An effective waste management system comprises of a system that is hygienic, clean, tidy, minimises waste being landfilled and maximises recycling and resource recovery;
- Ensure stakeholders are well informed of the design, roles and responsibilities required to implement the system;
- Provide supporting scaled drawings to confirm that the final design and construction is compliant with the report;
- Define the relevant stakeholders involved in ensuring the implementation of the waste management system; and
- Ensure tenants are not disadvantaged in access to recycling and other sustainable waste management options.

The following should be noted regarding the enclosed information:

- The waste generation volumes provided are estimates based on the best available waste generation rates. The actual waste volumes generated on-site may differ slightly from that estimated as it would depend on the occupancy rate of the development and tenant type (i.e. families or renters);
- The report does not discuss management of construction and demolition waste for the proposed development hence a separate report discussing the management of these waste streams would be required; and
- The equipment specifications and any information provided regarding the recommended equipment are provided for reference purposes only and should not be relied upon for procurement. SALT recommends that the developer attains the latest specifications of the required equipment and service provisions from the respective contractor(s) prior to engaging them or purchasing the relevant equipment.
- The report should be updated if the development plans are amended or if new legal requirements are introduced.

APPENDIX 1 DESIGN DRAWINGS

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1 SITE PLAN
1:200

ESD NOTES

WATER & STORMWATER MANAGEMENT

- ROOF CATCHMENT AREA TO BE DIVERTED TO THE RAINWATER TANK - IF REQUIRED, THE USE OF CHARGED PIPE SYSTEM WILL BE EXPLICITLY ACKNOWLEDGED ON THE DRAWINGS AND CHARGED PIPES WILL NOT BE RUNNING UNDERNEATH THE BUILDING FOOTPRINT.
- SEE SITE PLAN FOR LOCATION AND SIZE OF EACH RAINWATER TANK PROPOSED STORMWATER CONNECTION TO THE TOILETS.
- THE ENTIRE DRIVEWAY TO BE DIVERTED TO THE PROPOSED ATLAS STORMSACK AND THE ENTIRE SITE TO DIVERT TO THE ATLAS FLOWFILTER.
- LOCATION OF THE PROPOSED ATLAS STORMSACKS AND ATLAS FLOWFILTER.
- NATIVE OR DROUGHT TOLERANT SPECIES FOR LANDSCAPED AREA. WATERING WILL NOT BE REQUIRED AFTER AN INITIAL PERIOD WHEN PLANTS ARE GETTING ESTABLISHED. IF IRRIGATION IS REQUIRED, IT WILL BE CONNECTED TO RAINWATER TANKS.
- WELLS RATING FOR WATER FITTINGS/FIXTURES (REFER TO REPORT) - FIXTURES (E.G. DISHWASHER) PROVIDED AS PART OF BASE BUILDING WORK HAVE TO BE CHOSEN WITHIN ONE WELLS STAR OF BEST AVAILABLE AT THE TIME OF PURCHASE.

ENERGY EFFICIENCY

- COMMITMENT TO EXCEEDING SECTION J ENERGY EFFICIENCY REQUIREMENT OF NCC 2019
- THE MAXIMUM ILLUMINATION POWER DENSITY (W/M²) OF THE DEVELOPMENT MEET THE REQUIREMENTS IN NCC 2019
- COMMITMENT TO 4W/M² LIGHTING DENSITY IN THE CABINS
- LIGHTING SENSORS FOR EXTERNAL LIGHTING (MOTION DETECTORS, TIMERS ETC.)
- COMMITMENT TO 6.5 STAR AVERAGE ENERGY RATING FOR THE DEVELOPMENT (ON PLANNING AND CONSTRUCTION DRAWINGS)
- 10KW SOLAR PV SYSTEM ON THE ROOF OF THE DEVELOPMENT

INDOOR ENVIRONMENT QUALITY

- GLAZING TO IMPROVE DAYLIGHT PERFORMANCE BY MAXIMISING VLT TARGETING 40% DOUBLE GLAZING ON ALL HABITABLE ROOMS FOR RESIDENTIAL SPACES (FLOOR PLANS AND ELEVATIONS)

URBAN ECOLOGY

- THE GARDEN AREA PLAN SHOW EXTENT OF VEGETATED AREAS AROUND THE SITE (INCLUDES LAWN)

SITE PLAN LEGEND					
WM	WATER METER	WT	3000 LITRE WATER TANK		PROPOSED CANOPY TREES (3 - 5m HIGH)
GM	GAS METER	A/C	AIR CONDITIONING CONDENSER UNIT		PROPOSED SHRUBS (1 - 3m HIGH)
EM	ELECTRIC METER. RECESSED INTO BRICKWALL	HWS	HOT WATER SERVICES		EXISTING TREE TO BE REMOVED
		CL	RETRACTABLE CLOTHES LINE		STEPPING STONED
MB	MAILBOX	NH	ADJOINING NON-HABITABLE WINDOW		DECORATIVE PEBBLES
	EXTERNAL SENSOR LIGHTING	HW	ADJOINING HABITABLE WINDOW		PERMEABLE DRIVEWAY
	BOLLARD LIGHT	F	1.2/2.0m HIGH NEW PALING FENCE		CABIN 2 BED 2 BATH
	BIKE SPACE	TPZ	TREE PROTECTION ZONE LINE		CABIN 4 BED 2 BATH
			REFER TO ARBORIST REPORT FOR INFORMATION.		

PEDESTRIAN VISIBILITY SPY MUST BE 50% CLEAR OF ANY VISUAL OBSTRUCTIONS AND ANY STRUCTURES OR VEGETATION WITH THE SPY MUST BE NOT MORE THAN 900mm IN HEIGHT

NOTES:

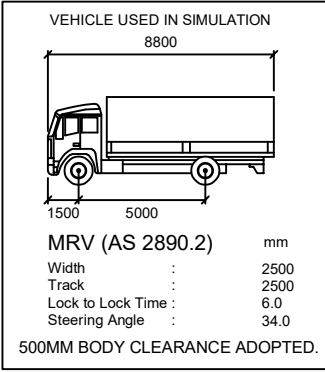
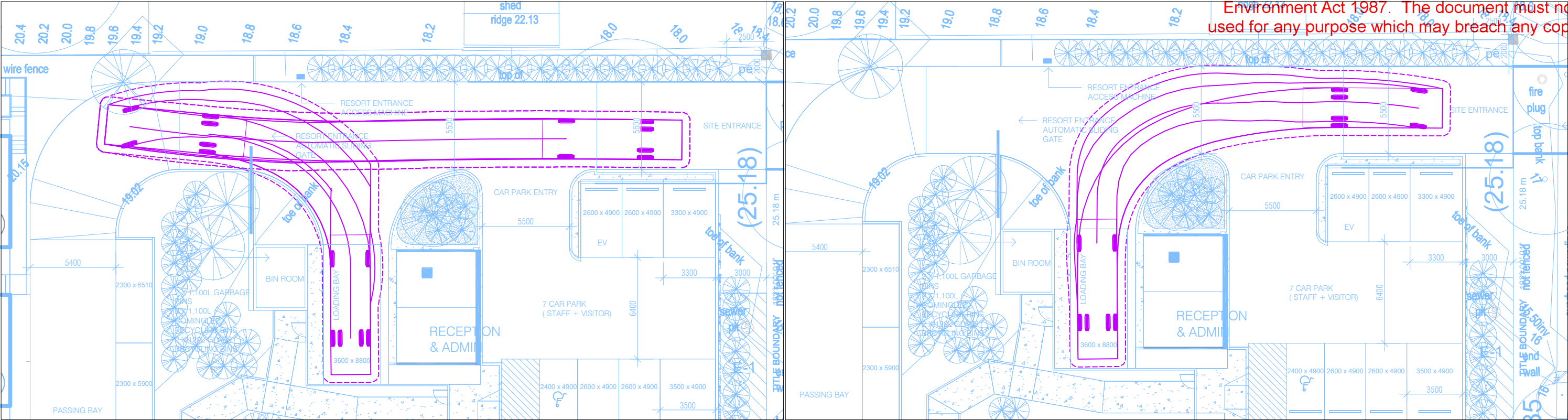
- REFER TO LANDSCAPE DRAWING AND DETAILS FOR PROPOSED LANDSCAPING.
- PROVIDE WATER EFFICIENT GARDEN TO ALL LANDSCAPED AREAS.
- PROVIDE EXTERNAL LIGHTING SENSORS.
- PROVIDE OUTDOOR TAP AND FLOOR WASTE IN PRIVATE OPEN SPACE/ BALCONY/ TERRACE
- 7 STAR AVERAGE ENERGY RATING TO THE DEVELOPMENT.
- 4W/M² LIGHT DENSITY IN THE DWELLINGS.
- WELLS RATING FOR WATER FITTINGS / FIXTURES (REFER TO BESS REPORT FOR DETAILS). FIXTURES SUCH AS DISHWASHER HAS TO BE CHOSEN WITHIN ONE WELLS STAR OF BEST AVAILABLE AT TIME OF PURCHASE.
- PROVIDE DOUBLE GLAZING TO ALL HABITABLE ROOMS
- LANDSCAPE DESIGN TO ENSURE WATERING WILL NOT BE REQUIRED AFTER AN INITIAL PERIOD WHEN PLANTS ARE GETTING ESTABLISHED AFTER THE USE OF NATIVE OR DROUGHT TOLERANT SPECIES FOR LANDSCAPED AREA.

APPENDIX 2 SWEPT PATH ANALYSIS

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LOADING BAY - INGRESS

LOADING - EGRESS

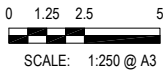


WINDMILL HOTSPRING RESORT
PROPOSED ACCOMMODATION / RESORT
33 WOOD STREET
METUNG
8.8M MRV SWEPT PATHS



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Email: salt@salt3.com.au
ABN: 18 439 813 274
Ph: 03 9020 4225
Melbourne: Level 3, 51 Queen St Melbourne VIC 3000
Sydney: 303, 61 Marlborough Street Surry Hills NSW 2010
Hobart: Level 4, 116 Bathurst St Hobart TAS 7000
Canberra: 45 West Row Canberra ACT 2601



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MELBOURNE Level 3, 51 Queen Street Melbourne VIC 3000
+61 3 9020 4225

SYDNEY Suite 303/61 Marlborough Street Surry Hills NSW 2010
+61 2 9068 7995

HOBART Level 4, 116 Bathurst Street Hobart TAS 7000
+61 400 535 634

CANBERRA Level 3, 33-35 Ainslie PI Canberra ACT 2601
+61 2 9068 7995

ADELAIDE Level 21, 25 Grenfell St Adelaide SA 5000
+61 8 8484 2331

www.salt3.com.au