

Department of Transport and Planning

> GPO Box 2392 Melbourne, VIC 3001 Australia www.dtp.vic.gov.au

Ref: VPP2402817

Community Housing (Vic) Ltd C/- Laura Dixon Urbis Ltd Level 10, 477 Collins Street MELBOURNE VIC 3000 Idixon@urbis.com.au

Dear Ms Dixon

APPLICATION FOR CONSENT UNDER VPP VPP2402817 2-14 TOBRUK STREET MORWELL VIC 3840

I refer to the above matter submitted to the Minister for Planning on 20/03/2024.

The planning application has been deemed consistent with Clause 52.20 of the Latrobe Planning Scheme and therefore exempt from a planning permit, subject to the conditions below.

A planning permit is not required for the following triggers:

- Clause 32.04-7 (GRZ1) To construct two or more dwellings on a lot.
- Clause 32.08-7 (GRZ1) to construct or extend a front fence within 3 metres of a street if the fence is associated with two or more dwellings on a lot and exceeds the maximum height specified in Clause 55.06-2.

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PRE-COMMENCEMENT CONDITIONS

Prior to the commencement of construction (excluding any early works), the following must be submitted:

1. A Tree Protection Management Plan (TPMP), setting out how the existing trees will be protected during construction, prepared by a suitably qualified arborist.

Any personal information about you or a third party in your correspondence will be protected under the provisions of the Privacy and Data Protection Act 2014. It will only be used or disclosed to appropriate Ministerial, Statutory Authority, or departmental staff in regard to the purpose for which it was provided, unless required or authorised by law. Enquiries about access to information about you held by the Department should be directed to foi.unit@delwp.vic.gov.au or FOI Unit, Department of Transport and Planning, GPO Box 2392, Melbourne, Victoria 3001.



Prior to the commencement of construction (excluding any early works), the applicant must obtain all relevant approvals under local laws.

This consent letter does not represent the approval that may be required by other statutory authorities, including approval from Latrobe City Council under relevant local laws.

APPROVED DOCUMENTS

Concurrent to the conditions above, the development must be undertaken in accordance with the following documents approved under Clause 52.20-3 of the Latrobe Planning Scheme:

- Architectural Drawings prepared by Every One Homes, dated 2 November 2023
- Landscape Plan, prepared by MACA Design Co dated 2 November 2023
- ESD Statement prepared by GIW Environmental Solutions dated 25 January 2024
- Waste Management Plan prepared by One Mile Grid dated 15 January 2024
- Stormwater Report prepared by Water Technology dated 4 December 2023
- Arboricultural Report prepared by Evergreen Tree Consulting dated 10 January 2024
- Ecological Assessment prepared by Beacon Ecological dated October 2023
- Construction Management Plan prepared by Every One Homes, dated 2 November 2023

A copy of the endorsed plans and documents referred to above is enclosed.

ONGOING COMPLIANCE

Please note, under Clause 52.20-3 of the Latrobe Planning Scheme the use and development of land must be carried out in accordance with these plans and documents to the satisfaction of the Minister for Planning.

If you have any questions, please contact me on 8508 1065 or email <u>anne-marie.edgley@delwp.vic.gov.au</u>.

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09/05/2024



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IMPORTANT NOTES:



 12/02/24
 EX. FENCE NOTES REMOVED FROM SITE PLAN / 3m VECHICLE CROSSING NOMINATED SITE PLAN

 08/02/24
 OVERALL BUILDING HEIGHT TO AND NOMINATED ON ALL DWELLINGS (SLEVATIONS) / 'ALL DWELLINGS COMPLY WITH LHA SLLVER' NOTE ADDED TO SITE PLAN

 15/01/24
 ALL TREES TO BE DEMOLISHED NOTED / LANDSCAPING CANOPY TREES IN FRONT SETBACKS AND PROPOOSED NATURE STRIPS INDICATIVE TO MATCH LANDSCAPE PLANS

 12/12/23
 PROPOSED REAR BOUNDARIES BETWEEN UNITS 3-6 & 7-10 HAVE BEEN MOVED 800mm WEST / PARLAND FOOTPATH ACCESS REVISED / CORNER SPLAY BOUNDARY ON LOT 24 REVISED

 05/12/23
 PROPOSED ROAD INTERSECTION RADIUS' REVISED AT ALAMEIN AND CHURCHILL ENTRY / ALL FOOTPATHS REVISED TO SUIT / TREE 2 NOW SHOWN AS TO BE REMOVED / LOT 20, 25, 26 & 27

 05/12/23
 PROPOSED PROPERTY BOUNDARIES MOVED 4.8m WEST / UNITS 3-6 & 11-14 ROTATED TO SUIT NEW ROAD ANGLE / ALL VEHICLE CROSSINGS NOW PERPENDICULAR TO ROADS

 02/11/23
 SITE LEGEND REVISED / CLOTHESLINES NOTED / PLOS. REVISED TO S.P.O.S.

 24/10/23
 PLANNING COMMENTS ADDESSED

 17/10/23
 PLANNING COMMENTS ADDESSED / ELEVATIONS ADDED / MATERIALS LEGEND ADDED

 03/08/23
 SHADOW DIAGRAMS ADDED

 03/08/23
 SHADOW DIAGREDS ROAD RETER SOLAR ORIENTATION / CLIENT COMMENTS ADDRESSED

 25/08/23
 FEASIBILITY CONCEPT RE-DESIGN / PLANNERS COMMENTS ADDRESSED

 26/08/24
 INTIGL FEASIBILITY AMENDED

12/02/24 EX. FENCE NOTES REMOVED FROM SITE PLAN / 3m VECHICLE CROSSING NOMINATED SITE PLAN

27 No. DWELLING DEVELOPMENT

DRAWING: DESIGN RESPONSE

DATE:

02/11/2023

2BW

DRAWN BY:

PROJECT NUMBER:

SCALE:

PROPERTY ADDRESS: 2 TOBRUK STREET, MORWELL

DESIGN RESPONSE NOTES 2 TOBRUK STREET, MOREWELL VIC

The design approach has been to develop the site with

consideration to key design principles as well as careful consideration to the local context and planning requirements. The approach towards the site looks to create a generous ratio of private open space and green spaces to built form while ensuring respectful interfaces to the existing and neighbouring residential.

Our site response can be demonstrated in the following key principles:

Contextual Development: The 27 proposed dwellings on the 13929m2 site, Presents a medium to low density response and provides a comparative residential frontage to Tobruk Street, Alamein Street and Churchill Street. Density of dwellings has not been pushed to ensure it does not overwhelm existing infrastructure. The building materials, facade, scale & aesthetics provide a contemporary feel that complements the neighbourhood character.

Neighbourliness: The proposal provides side and rear setbacks to existing

boundaries consistent with ResCode requirements with more generous setbacks proposed where possible. A minimum of 1.8m high fences are provided between subdivided lots and abutting site boundaries.

Sense of Place: Dwellings proposed are designed with contemporary

expectations and seek to provide an enhanced building interface to local streets with variations of product types, façade elevations and form. Carefully selected materials will ensure dwellings integrate and compliment the street interface.

Community:

Generous setbacks from the front of the dwellings ensure compliance with the 52.20 requirements while also providing opportunities for landscaping and space for resident interaction with neighbours.

Active Transport:

The proposed development considers its integration with local amenity providing a suitable proposal within close proximity to significant social, commercial, industrial infrastructure and public transportation while also ensuring each dwelling provides car parking aligned with planning requirements. Distances to such can be found in legend below.

Familiarity: The surrounding streetscapes present predominantly single storey dwellings with the proposed massing responding accordingly. Building heights and setbacks are sensitive to the existing neighbourhood character and contributes to a well-articulated facade & visually aesthetic street presence through single storey built form.

Liveable Homes: All dwellings incorporate energy effcient design practices achieving 7 star NatHERS energy rating through the use of double glazing, low e- glass, insulation upgrades and passive design principles such as extended eaves, orienting living snaces and windows to porth where practically possible spaces and windows to north where practically possible. Generous private open space and well defned SPOS provide abundant landscaping opportunity to include screen planting and larger canopy trees.

Safe Streets:

Where possible, front door entries are orientated towards the street boundary with sensor lighting incorporated within portico and parking bays. Privacy is gained by the utilisation of obscure glazing & screening (where applicable) with appropriately situated and sized windows.

Adaptability:

The housing products support occupants with a variety of needs with consideration to aging in place & improved livability through LHA adherence. All designs and siting achieve a minimum LHA silver.

Diversity: Dwelling diversity is ensured through the variation of design, materials and housing typologies.

AMENITIES LOCATIONS:

(DISTANCES ASSUMED FROM CENTRE OF SITE)				
\leftarrow	PHARMACY - 300M			
\leftarrow	POST OFFICE - 300M			
4	PRESCHOOL / EARLY LEARNING CENTRE - 350M			
\leftarrow	BUS STOP - 450M			
1	PRIMARY SCHOOL - 550M			
\rightarrow	RONALD RESERVE - 600M			
1	PRIMARY SCHOOL - 1.4KM			
\checkmark	WOOLWORTHS / SHOPPING CENTRE - 1.6KM			
>	MEDICAL CENTRE - 1.8KM			
K	MEDICAL CENTRE - 2.2KM			
ト	GROCERY - 2.2KM			
K	MOREWELL RAILWAY STATION - 2.3KM			
Z	KURNAI COLLEGE - 2.4KM			
K	MOREWELL TOWN CENTRE / SHOPPING - 2.5KM			
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PRIVATE HOSPITAL - 2.8KM

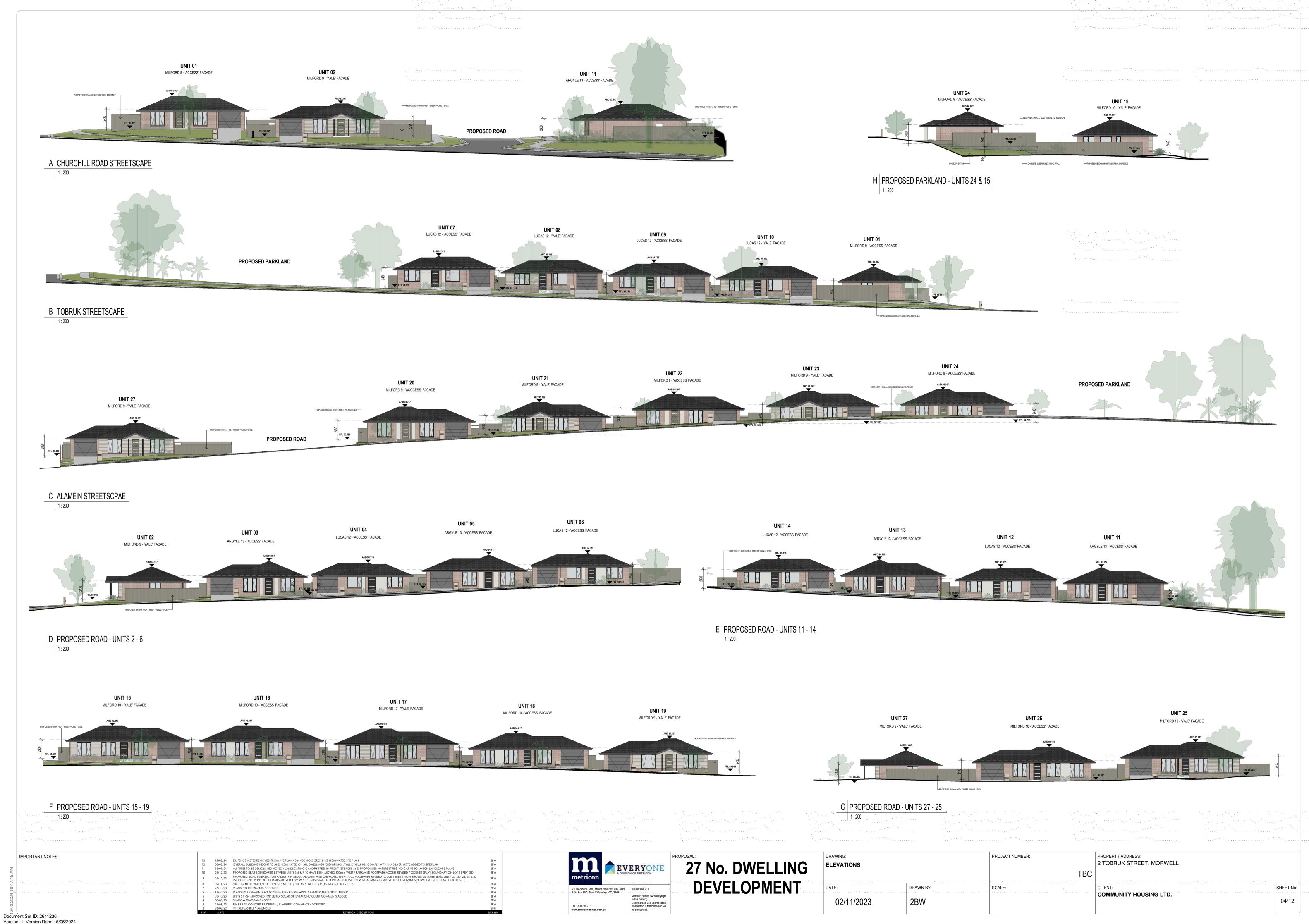
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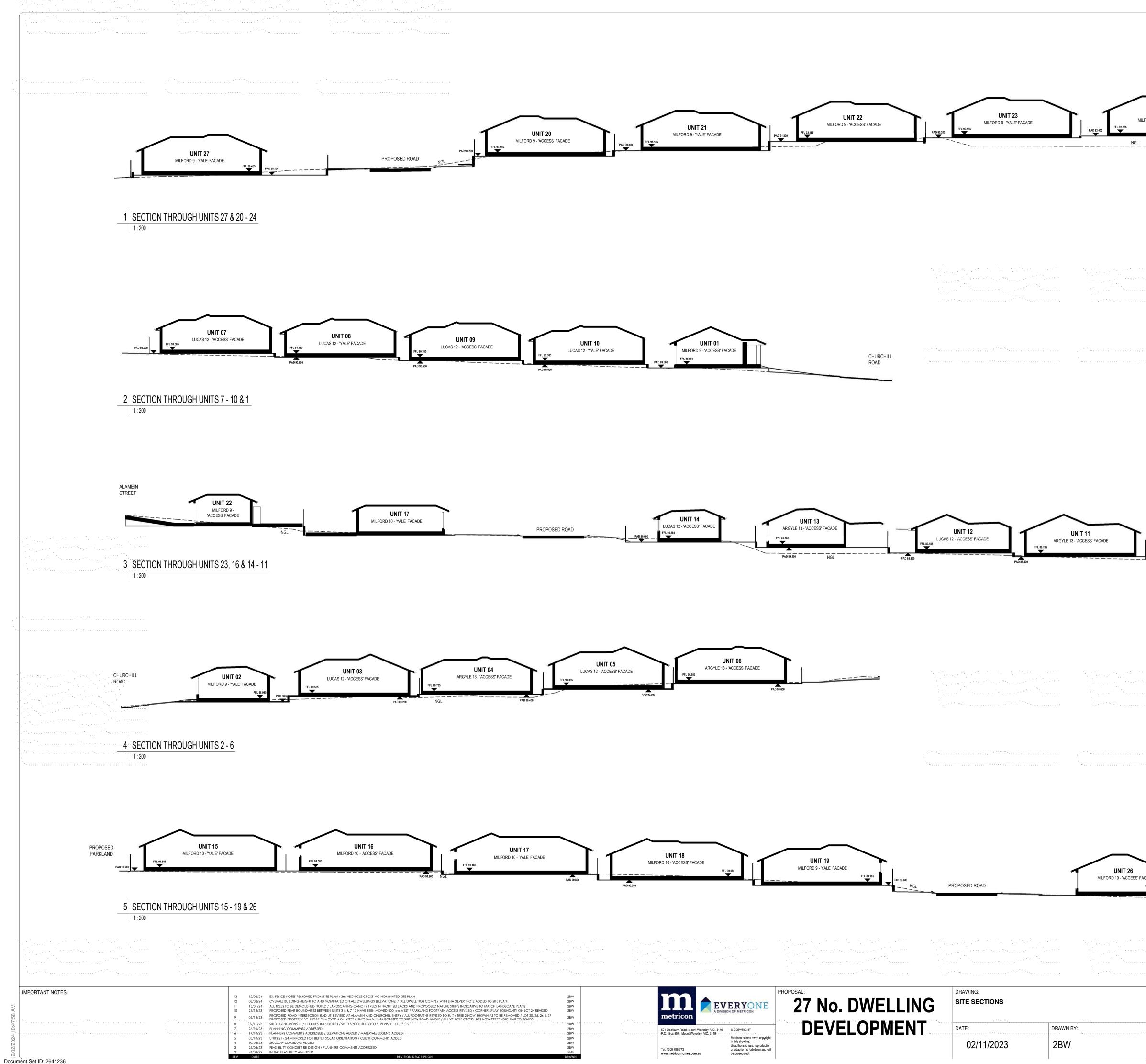


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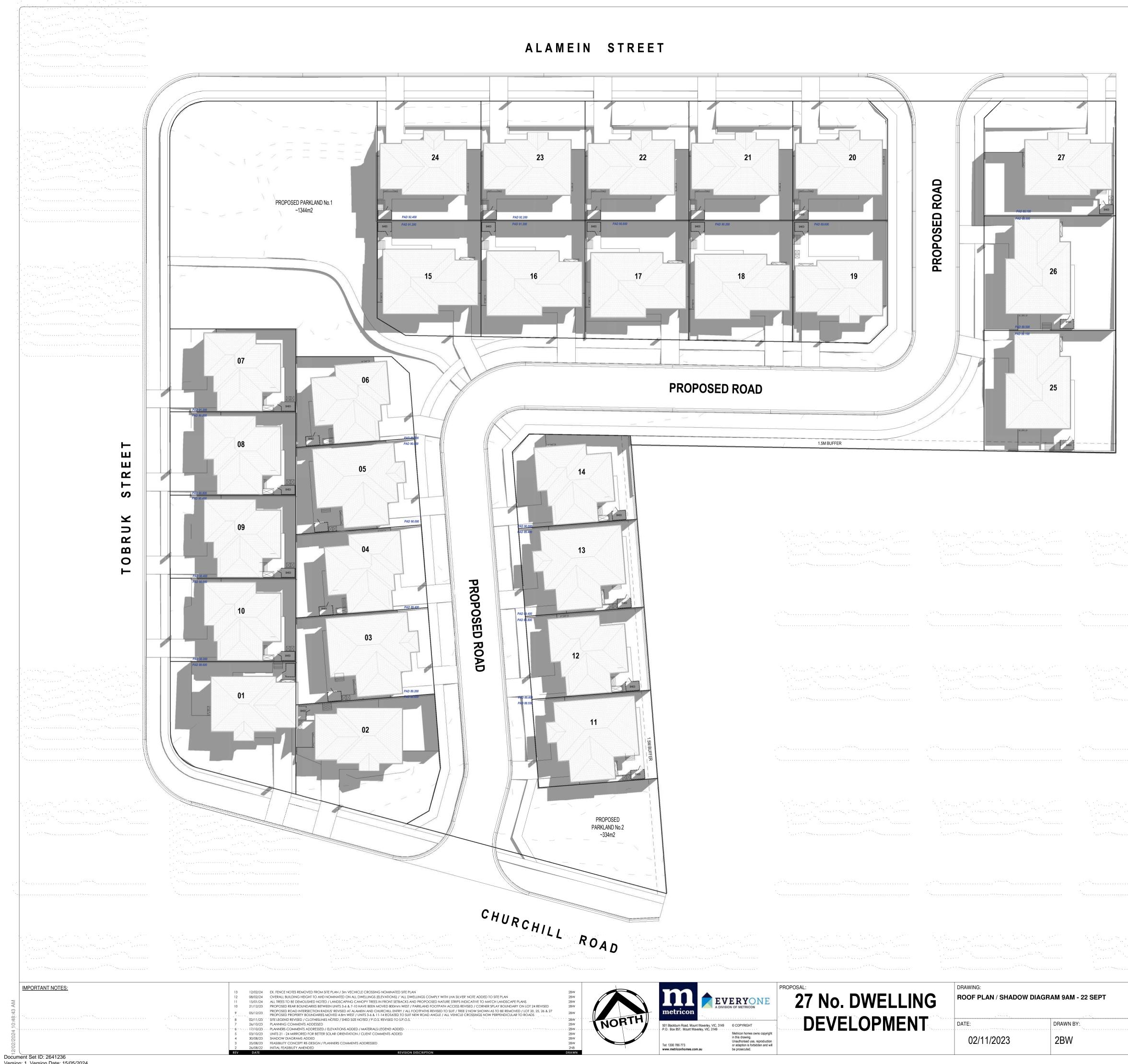
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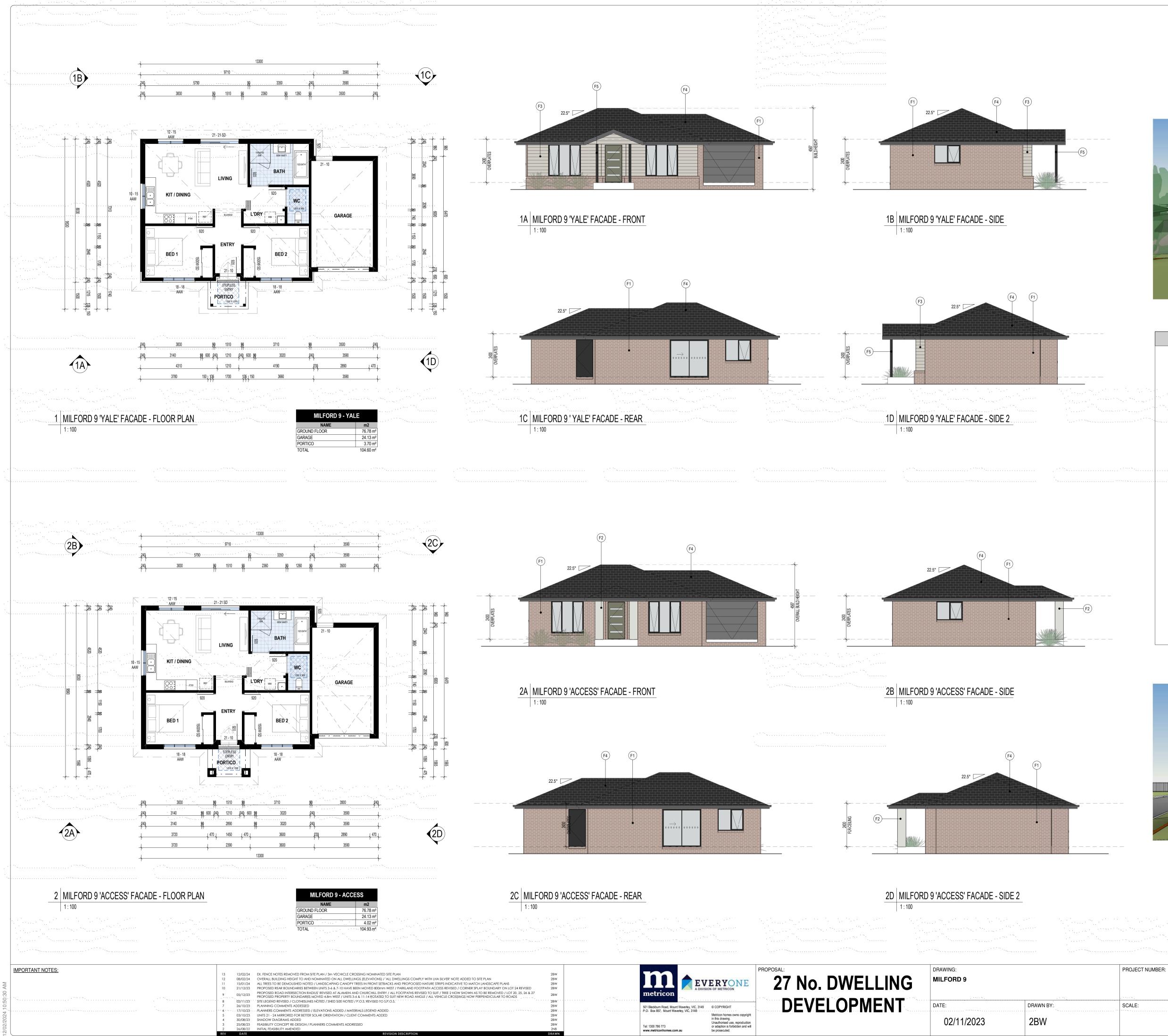
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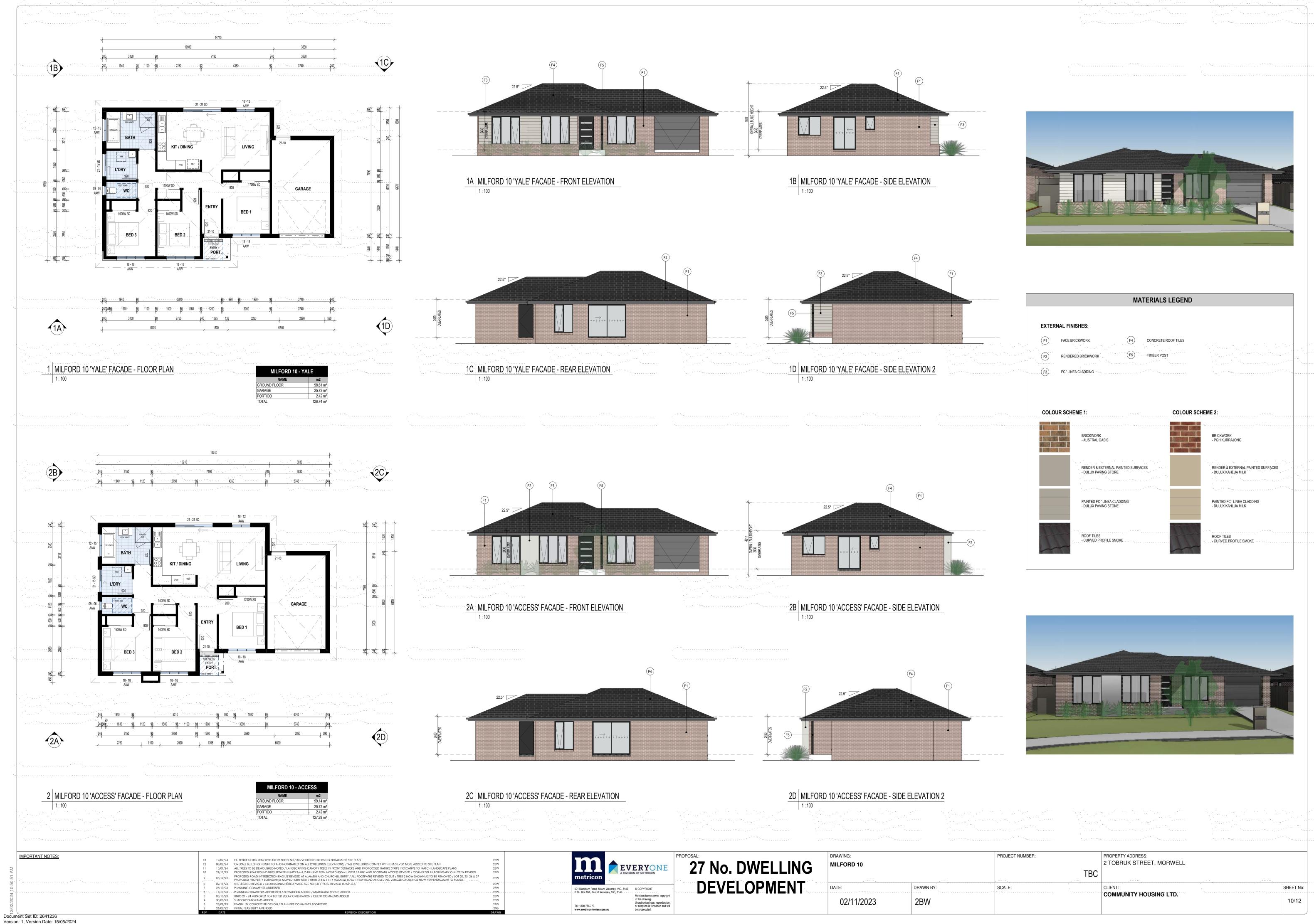


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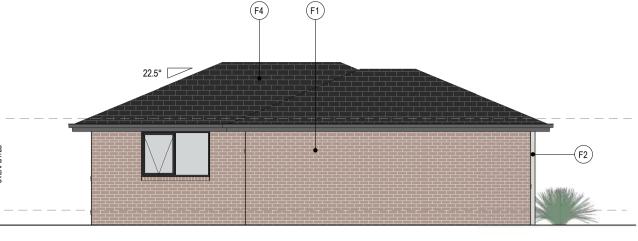
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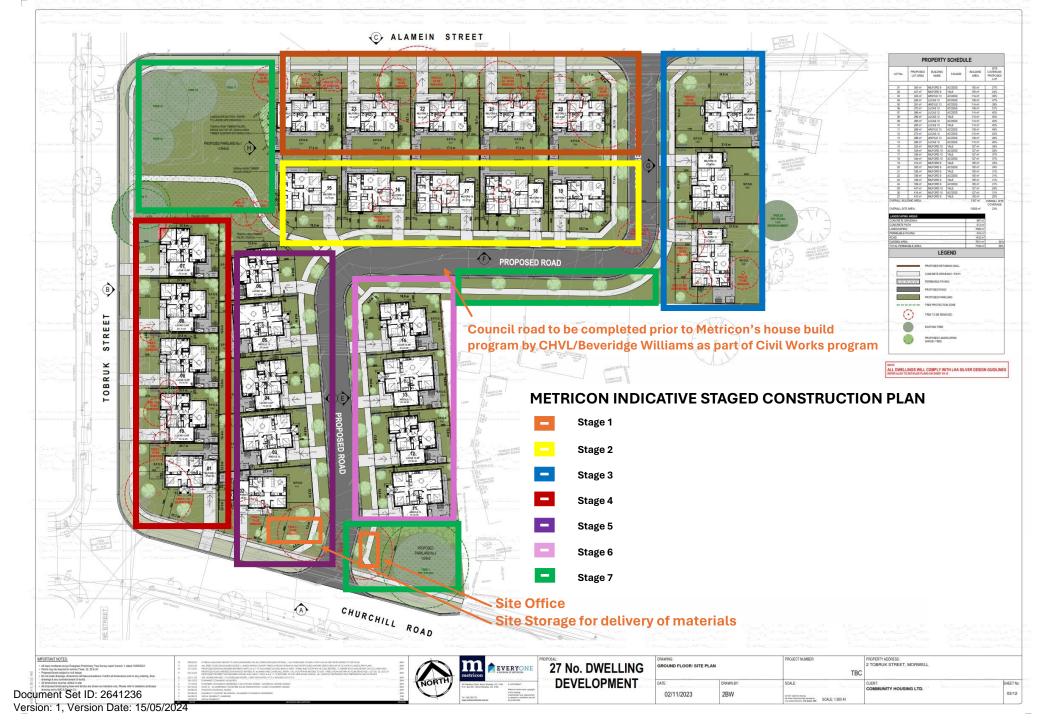
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	PLANNING and ENVIRONMENT ACT		
	LATROBE PLANNING SCHEME		
Construction Management Plan – Site Setout and Proposed Enviro	onmental Protection Measures		
Project Name: 2 Tobruk Street Morwell	VPP2402817		
Date and Revision: 12/02/2024	ENDORSED PLAN		
Management	Noise A A A Risk: Significant / Nled / Low		
Responsibilities:	Requirement: EPA Victoria and Council requirements must be adhered to in relation to the level of		
Construction Manager: Paul Mammarella	Requirement: EPA Victoria and Council requirements must be aghered to in relation to the level of noise and working hours, to ensure that residents and other applicable neighbours to the site are not		
	disturbed unreasonably. The generation of noise must be minimised MINISTER FOR PLANNING		
Emergency contact 1.	Detc: 0 MAV 2024		
Inspections and Maintenance:	Working Hours: Date: 9 MAI 2024 To be in accordance with Council Local Laws and Asset Protection Permit Conditions		
Weekly reviews of plan and action as required.			
Dust Risk: Significant / Med / Low Requirement: Dust generation must be minimised to ensure there is no health risk or loss of amenity	Waste Risk: Significant / Med / Low Requirements Litter and waste must be contained on site before dispesal in a responsible manner.		
and prevented on dry, windy days.	Requirement: Litter and waste must be contained on site, before disposal in a responsible manner. Waste generation must be minimised.		
Minimising Dust Generation:	Requirement: Litter and waste must be contained on site, before disposal in a responsible manner.		
Temp fencing and mesh if required, Minimal dust on a domestic site.	Waste generation must be minimised.		
Shade cloth installed to scaffolding to reduce dust particles and debris leaving the scaffolding. If required			
Dust Suppression:	Waste Storage and Disposal:		
Wet saw used for masonary cutting	In site cage and removed upon requirements, Washings are maintained on site to designated point for		
, , , , , , , , , , , , , , , , , , , ,	absorption onto ground. No run-off into street drains.		
Erosion and Sediment Risk: Significant / Med / Low Requirement: Erosion and sediment must be managed in accordance with current best practice	Chemicals Risk: Significant / Med / Low Requirement: Storage and spill management practices must be implemented to ensure that no		
environmental management practices, to prevent sediment-laden water from entering any drainage	environmental damage can result from the escape or spillage of chemicals or fuels.		
system or natural waterway. Mud must not be transported on to nearby roads.			
Drainage Management:	Storage:		
Sediment barrier at base of temp fencing. Temporary filtered silt pits installed to capture ground			
water during construction	Lockable shipping container for storage of building materials		
Sediment Traps:	Spill Management:		
Geotextile fabric sausage laid at stormwater drains for water to pass through without sediment into	N/A		
stormwater drains Vehicle and Road Management:	Flora and Fauna Risk: Significant / Med / Low		
Site Access: One access point and room for 2 cars only per unit	Requirement: All significant flora and fauna on and adjacent to the site must be protected.		
<u>Cleaning Vehicles:</u> Scrape off excess material if required prior to existing site	Yes / No. Details:		
Street Cleaning: Physically scrape and sweep method	Temporary fencing and details set out in Arborist report.		
	Archaeological/Heritage Risk: Significant / Med / Low		
Trees	Requirement: Places, sites and objects of archaeological or heritage significance must be protected.		
To mitigate impacts on wildlife which may be present on site, any trees cut down will not be physically	Yes / No. Details:		
removed from site for a period of 24 hours	No. None Identified		
•			

REFER TO 'CMP SITE PLAN' ATTACHED





ANNING and ENVIRONMENT ACT

Biodiversity Assessment: Basic Assessment Pathway for a proposed development



Report for Everyone, a division of Metricon October 2023



Document Set ID: 2641236 Version: 1, Version Date: 15/05/2024

ACKNOWLEDGEMENTS

Beacon Ecological would like to acknowledge the following for their contribution to the project:

• James Carnell (Everyone, a division of Metricon) for site and project information.



Beacon Ecological

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Report Version: FINAL V2 October 26, 2023 Field assessment: Luke Hynes Report: Luke Hynes Photography: Luke Hynes Cover Photo: 2 Tobruk Street, Morwell, Victoria.

Beacon Ecological acknowledges and pays respect to the past, present and future Traditional Custodians and Elders of this nation, particularly the Braiakaulung people on whose land the field work was completed, and the continuation of cultural, spiritual and educational practices of Aboriginal and Torres Strait Islander peoples.

DISCLAIMER

The author advises that the information presented in this report, including any management advice, has been prepared with all due diligence and care, and based on the best available knowledge and research.

However the author takes no responsibility for any loss, injury or financial damage resulting from the reliance and/or application of management advice provided in the report.



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SUMMARY

Beacon Ecological was engaged by Everyone, a division of Metricon to undertake a Biodiversity Assessment for a proposed development at 2 Tobruk Street, Morwell, Victoria. Community housing is proposed to be constructed at the lot which is currently vacant and was previously the site of Morwell Primary School.

The proposed development is subject to Clause 52.20 Victoria's Big Housing Build of the Latrobe Planning Scheme, which facilitates projects under the Victorian Big Housing Build stimulus. Note that this project is exempt from Clause 52.17 Native Vegetation of the planning scheme.

This report provides permit application requirements for the basic assessment pathway as per 52.20-8 Native Vegetation requirements.

METHODOLOGY

A field assessment was undertaken within the study area by qualified botanist, Luke Hynes (Vegetation Quality Assessment Accreditation Number: 077) on 10 October 2023. Flora taxa and habitat types within the study area were noted and areas of native vegetation were mapped and assessed using the Vegetation Quality Assessment where appropriate.

RESULTS

The field visit revealed that the property is dominated by predominantly introduced planted vegetation over a modified understorey with some scattered native groundcover species (Figure 2).

Previous and current records and habitat requirements for *Environmental Protection and Biodiversity Conservation Act 1999* listed species from state and federal databases were reviewed. Given the available habitat and amount of survey effort, it is considered unlikely that the proposed works will have a significant impact on any matters of national environmental significance.

BIODIVERSITY ASSESSMENT

The current application is of the basic assessment pathway as scattered native vegetation providing less than 25% vegetative cover is proposed to be removed. No remnant native patches of vegetation or scattered trees were noted within the study area.

FURTHER REQUIREMENTS AND RECOMMENDATIONS

Information about the native vegetation in accordance with the application requirements 1, 5 and 9 in Table 4 of the Guidelines for removal, destruction or lopping of native vegetation (DELWP 2017) must be provided to the satisfaction of the Secretary to the Department Energy, Environment and Climate Action (See Section 5 of this report). There are no offset requirements.

Recommendations to further avoid and minimise impacts to ecological values during and after the proposed works are detailed in Section 6.2.



1 INTRODUCTION

Beacon Ecological was engaged by Everyone, a division of Metricon to undertake a Biodiversity Assessment for a proposed development at 2 Tobruk Street, Morwell, Victoria. Community housing is proposed to be constructed at the lot which is currently vacant and was previously the site of Morwell Primary School.

The proposed development is subject to Clause 52.20 Victoria's Big Housing Build of the Latrobe Planning Scheme, which facilitates projects under the Victorian Big Housing Build stimulus. Note that this project is exempt from Clause 52.17 Native Vegetation of the planning scheme.

This report provides permit application requirements for the basic assessment pathway as per 52.20-8 Native Vegetation requirements.

1.1 SCOPE OF WORKS

The following tasks were completed during the vegetation assessment:

Background Literature Review: Relevant documentation pertaining to the study area was reviewed.

Vegetation Quality Assessment: A qualified and experienced botanist traversed the site to determine the extent of native vegetation and other ecological values.

Mapping: A site plan, using aerial photography detailing the location of the proposed works areas and vegetation proposed for removal and retention has been prepared for inclusion in the report. The mapping also includes, site location, boundaries, area of removal (in hectares), and ecological values using aerial photography and GPS (if required).

Report Production: A report was prepared to detail the:

- Results of the field assessment.
- Calculations of native vegetation losses and offsets if required.
- Recommendations to protect and conserve ecological values within the site during each construction phase.

1.2 STUDY AREA

The study areas is located at 2 Tobruk Street, Morwell (Figure 1) and is an irregularly shaped block of approximately 1.4 hectares. The study area is dominated by introduced vegetation, generally slashed grasses with planted trees and shrubs located around the property boundary with some species recruiting into open areas. The topography slopes gently to the south and is bounded by Alamein Street to the north, Tobruk Street to the west, Churchill Road to the south and private residential properties to the east. The study area is located in a residential area and was previously used as a primary school which has recently been demolished.

The property is located within General Residential Zone (GRZ) of the Latrobe Shire Council planning scheme and is covered by a Design and Development Overlay (DDO11), (DEECA 2023a). The property is within the Gippsland Plain Bioregion and West Gippsland Catchment Management Authority Boundaries and mapped as Location 1 on the DEECA location risk mapping (DEECA 2023b).



2 METHODOLOGY

2.1 DATABASE REVIEW

The following databases were reviewed to obtain background information on the study area:

- Nature Kit for pre-1750 (pre European settlement) and 2005 (extant) native vegetation modelling and significant flora and fauna species previously recorded within a five-kilometre radius of the study area (DEECA 2023a).
- Victorian Biodiversity Atlas for significant flora and fauna species previously recorded within a fivekilometre radius of the study area (DEECA 2023c).
- **Protected Matters Search Tool** for nationally significant ecological values that are predicted to occur within five kilometres of the study area (DCCEWA 2023).
- **Planning Schemes Online** for information regarding planning provision overlays and zones pertaining to native vegetation and ecological values within the study area (DEECA 2023b).

2.2 MAPPING AND OTHER LITERATURE

Relevant literature, such as Bioregional Ecological Vegetation Class (EVC) Benchmarks and national/state/local policies and legislation were also reviewed as part of the investigation (DEECA 2023a, DEECA 2023b). The following were also reviewed:

- 2 Tobruk Street, Morwell. Concept Proposal (Everyone, a division of Metricon 2023).
- 2 Tobruk Street, Morwell. Preliminary Tree Survey (Evergreen Tree Consulting 2023).

2.3 FIELD ASSESSMENT

A field assessment was undertaken within the study area by qualified botanist, Luke Hynes (Vegetation Quality Assessment Accreditation Number: 077) on 10 October 2023.

The area proposed to be impacts was traversed in order to:

- Note flora taxa naturally occurring. Plant taxonomy follows the Victorian Biodiversity Atlas (VBA) (DEECA 2023c).
- Note any habitat types and distribution.
- Map the extent of native vegetation and habitat present.
- Undertake a Vegetation Quality Assessment (VQA) within areas of native vegetation that meet the assessment criteria thresholds.

2.4 BIODIVERSITY ASSESSMENT

The Guidelines (DELWP 2017) are incorporated into the Victoria Planning Provisions and all planning schemes in Victoria. The purpose of the Guidelines is to set out and describe the application of Victoria's statewide policy in relation to assessing and compensating for the removal of native vegetation.

The three-step approach (avoid, minimise, offset native vegetation) is the key policy in relation to the removal of native vegetation to achieve no net loss to biodiversity. To determine extent of native vegetation, *remnant patch* or scattered tree are used as defined below:



Patch

A patch of d, native vegetation is:

- An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native, or
- Any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or
- Any mapped wetland included in the Current wetlands map, available in DELWP systems and tools.

Scattered tree

A scattered tree is:

• A native canopy tree that does not form part of a patch.

Applications to remove native vegetation are categorised in to one of three assessment pathways with corresponding application requirements and decision guidelines.

- **Basic:** limited impacts on biodiversity.
- Intermediate: could impact on large trees, endangered EVCs, and sensitive wetlands and coastal areas.
- **Detailed:** could impact on large trees, endangered EVCs, sensitive wetlands and coastal areas, and could significantly impact on habitat for rare or threatened species

The assessment pathway is determined by considering the extent and location risk modelling of the native vegetation to be removed as per Table 1 below.

Extent of native vegetation	Location 1	Location 2	Location 3
Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
0.5 hectares or more	Detailed	Detailed	Detailed

Table 1. Determining the assessment pathway.

The current application is considered to be of the basic assessment pathway as scattered native understorey species providing less than 25% vegetative cover are proposed to be removed.

2.5 LIMITATIONS

Field surveys provide an indication of what is present at the time of survey (i.e. a 'snapshot') and as such may not include species that may be dormant or absent due to seasonal or climatic conditions. As such, some species may be dormant or not displaying diagnostic characteristics at the time of survey.

A fauna survey (i.e. the identification of all fauna species present onsite) was not within the scope of works during the assessment.

However, the survey effort and review of existing relevant information is considered sufficient to provide adequate information to undertake a Biodiversity Assessment.



3 RESULTS

3.1 FLORA SPECIES

The field visit identified 50 species occurring within the study area. Of these five are considered native species and 45 introduced. See Appendix 1 for a list of species recorded within the study area.

No nationally or state significant flora species were noted within the study area during the assessment.

Two introduced species, Blackberry *Rubus fruticosus* spp. agg. and Montpellier Broom *Genista monspessulana*, noted within the study area are listed as regionally controlled noxious weed within the West Gippsland Catchment (DPI 2008).

3.2 VEGETATION QUALITY ASSESSMENT

Pre-1750 (prior to European settlement) EVC modelling and indicates that the property is likely to have been dominated by Plains Grassy Forest (EVC 151). 2005 (extant) mapping indicates that the study area is likely devoid of native vegetation (DELWP 2023a).

The field visit revealed that the property is dominated by introduced vegetation with scattered native species and some bare areas of ground devoid of native vegetation (Plate 1, cover photo).



Plate 1. Slashed introduced grass species within the study area with planted trees and shrubs in the rear of the photo.



Introduced vegetation dominates the study area and slashed grassy areas dominated by Kikuyu Cenchrus clandestinus with scattered Brown-top Bent Agrostis capillaris, Sweet Vernal-grass Anthoxanthum odoratum, Flatweed Hypochaeris radicata, Paspalum Paspalum dilatatum, Onion Grass Romulea rosea, Suckling Clover Trifolium dubium and Clover Trifolium repens were noted amongst garden beds supporting planted ornamental trees and shrubs. Some naturally occurring scattered native groundcover species providing less than 25 % were noted including Slender Wallaby-grass Rytidosperma racemosum var. racemosum, Finger Rush Juncus subsecundus, Common Bog-sedge Schoenus apogon and Sweet Pittosporum Pittosporum undulatum seedlings.

Planted trees include a mix of species native to Australia but generally not locally indigenous and introduced trees including Spotted Gum Corymbia ficifolia, Silky Oak Grevillea robusta, Golden Elm Ulmus, White Gum Eucalyptus scoparia, Narrow-leaved Black Peppermint Eucalyptus nicholii, Bottle Brush Callistemon spp., Desert Ash Fraxinus angustifolia, Mahogany Gum Eucalyptus botryoides, Prickly Leaved Paperbark Melaleuca styphelioides and Coast Banksia Banksia integrifolia.

The locally indigenous Blackwood Acacia melanoxylon was noted in the northwest of the study area but is considered likely to have been planted considering the previous uses of the site and age of other clearly planted species. Some native groundcover species were also noted that appear to have been previously used for landscaping including Spiny-headed Mat-rush Lomandra longifolia, Tasman Flax-lily Dianella tasmanica, Austral Indigo Indigofera australis, Sticky Hop-bush Dodonaea viscosa and Heath Tea-tree Leptospermum myrsinoides.



Plate 1. Likely planted Blackwood within the study area.



3.3 NATIONALLY SIGNIFICANT FLORA SPECIES

Appendix 2 presents flora species listed on the *Environment Protection and Biodiversity* Conservation Act 1999 (EPBC Act) that have previously been recorded and/or are predicted to occur within a five-kilometre radius of the study area by the VBA or the Protected Matters Search tool (DEECA 2023c, DCCEWA 2023).

Two flora species of national significance listed under the EPBC Act has previously been recorded within a five-kilometre radius of the study area (DEECA 2023c). An additional nine species listed under the EPBC Act are predicted to occur, or have habitat predicted to occur within a five-kilometre radius of the study area (DCCEWA 2023), (Appendix 2).

Given the available habitat and amount of survey effort, it is considered unlikely that the study area provides habitat for any flora species of national significance.

3.4 FAUNA HABITAT ASSESSMENT

A habitat assessment was undertaken which revealed the presence of planted trees and shrubs and slashed lawn.

Planted trees and shrubs may provide a variety of habitat niches that are likely to be used by a range of arboreal mammals, native birds and reptiles for nesting, foraging and shelter. Insectivorous birds can forage underneath bark, on leaves and flowers, and in leaf litter on the ground. Any coarse woody debris (e.g. branches, logs, stumps) and leaf litter often found beneath mature trees may provide shelter and foraging habitat for small marsupials, reptiles and frogs.

Slashed introduced grasslands generally provide low quality fauna habitat. Typically, introduced grasslands provide few resources for native fauna and are used by relatively few species due to the highly modified nature of this habitat. Ground-foraging birds and woodland birds may forage on seeding grasses and herbs within these areas.

3.5 NATIONALLY SIGNIFICANT FAUNA SPECIES

Appendix 3 presents fauna species listed on the EPBC Act that have previously been recorded and/or are predicted to occur within a five kilometre radius of the study area by the VBA (DEECA 2023c) or the DEE Protected Matters Search tool (DCCEWA 2023).

Eight fauna species of national significance, listed under the EPBC Act, have previously been recorded within the five-kilometre VBA search area (DEECA 2023c, Appendix 3). The Protected Matters Search Tool identified an additional 20 species, listed under the EPBC Act, that may occur or for which habitat may occur in the site (DCCEWA 2023, Appendix 3).

Given the habitat type present and previous records, it is considered unlikely that the study area provides significant habitat for any fauna species of national significance. Some species may flyover or forage within the study area on an occasional basis.



3.6 SIGNIFICANT ECOLOGICAL COMMUNITIES

A review of information and databases maintained by DEECA and DCCEWA identified the following ecological communities as occurring within the study area or within a five-kilometre radius of the study area.

Ramsar Wetlands (listed under the EPBC Act)

The Protected Matters Search Tool reported the study area is not near any Ramsar sites of international significance (DCCEWA 2023).

Ecological Communities (listed under the EPBC Act)

The Protected Matters Search Tool reported one nationally significant ecological community, Gippsland Red Gum (Eucalyptus tereticornis subsp. mediana) Grassy Woodland and Associated Native Grassland may occur within five-kilometres of the study area (DCCEWA 2023).

This community was not noted within the study area.

Ecological Communities (listed under the FFG Act)

No ecological communities listed under the FFG Act were noted within the study area.



4 RELEVANT LEGISLATION AND POLICIES

The following policies and legislation were taken into consideration during the assessment.

4.1 NATIONAL

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act) is the central piece of national environmental legislation in Australia. The Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the Act as matters of national environmental significance (SEWPAC 2013).

Under the EPBC Act an action will require approval from the Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance. The EPBC Act Significant Impact Guidelines (SEWPAC 2013) provide information on whether an action (e.g. a project, a development, an undertaking, an activity or a series of activities) requires a referral.

Implications –

The proposed works are unlikely to pose a significant impact on any matters of national significance. A referral under the EPBC Act is not required.

4.2 STATE

The Flora and Fauna Guarantee Act 1988 (FFG Act)

The FFG Act is the key state legislation for the conservation of threatened species and communities and for the management of potentially threatening processes. The FFG Act provides for the listing of taxa (genera, species, subspecies, varieties) and communities of flora and fauna that are threatened (Threatened List); potentially threatening processes (Processes List); and flora that have legal protection (Protected Flora List).

A permit is required from DELWP if an action on public land proposes to collect, kill, injure or disturb protected flora.

Implications -

As the proposed works are not on public land a permit under the FFG Act is not required from DELWP.

Planning and Environment Act 1987 (PE Act)

The Planning and Environment Act 1987 (PE Act) establishes a framework for planning the use, development and protection of land in Victoria. The PE Act provides for the Minister to prepare a set of standard provisions for municipal planning schemes called the Victoria Planning Provisions (VPP).



The proposed development is subject to Clause 52.20 VICTORIA'S BIG HOUSING BUILD which aims to facilitate the use and development of land for housing projects funded by Victoria's Big Housing Build program and ensure that development does not unreasonably impact on the amenity of adjoining dwellings.

Under Clause 52.20-8 Native vegetation requirements the following applies:

Before the removal, destruction or lopping of native vegetation outside the levy area:

- Information about the native vegetation in accordance with the application requirements 1, 5 and 9 in Table 4 of the Guidelines for removal, destruction or lopping of native vegetation (DELWP 2017) must be provided to the satisfaction of the Secretary to the Department Environment, Land, Water and Planning (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987).
- The biodiversity impacts from the native vegetation must be offset in accordance with the Guidelines for removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, December 2017).
- Evidence that the required offset has been secured must be provided to the satisfaction of the Secretary to the Department of Environment, Land, Water and Planning

Implications –

Information about the native vegetation in accordance with the application requirements 1, 5 and 9 in Table 4 of the Guidelines for removal, destruction or lopping of native vegetation (DELWP 2017) is provided in Section 5 of this report.

This information must be provided to the satisfaction of the Secretary to the Department of Energy, Environment and Climate Action.

4.3 LOCAL AND REGIONAL

Planning Scheme

Each municipality in Victoria is covered by a planning scheme, which sets out policies and provisions for the use, development and protection of land (zones and overlays). They are legal documents, sourced and constructed according to the VPP, prepared by the local council or Minister and approved by the Minister. Particular zones and overlays (such as Environmental Significance Overlays and Green Wedge Zones) in the planning scheme may stipulate additional conditions and requirements for applications proposing to remove native vegetation.

A **zone** is a planning provision that reflects the primary character of land (such as residential, industrial or rural) and indicates the type of use and development, which may be appropriate in that zone (DSE 2010d).

An **overlay** is also a planning provision, but one which is in addition to the zone. Overlays ensure that important aspects of the land are recognised (such as areas of significant vegetation). Overlays indicate the type of development and/or protection, which may be appropriate in that area (DSE 2010d).

Implications –



No overlays pertaining to ecological values cover the study area.

5 BIODIVERSITY ASSESSMENT

 Table 2. Application requirements and responses for proposed vegetation clearance under the basic

 assessment pathway

assessment pathway.			
Application Requirement	Response		
Information about the native vegetation to be removed, including:			
The assessment pathway and reason for the assessment pathway. This includes the location category of the native vegetation to be removed.	Basic Assessment Pathway Scattered native groundcover species providing less than 25% vegetative cover are proposed to be impacted.		
 A description of the native vegetation to be removed that includes: Whether it is a patch or a scattered tree (or both). The extent (in hectares). The number and circumference (in centimetres measured at 1.3 metres above ground level) of any large trees within a patch. The number and circumference (in centimetres measured at 1.3 metres above ground level) of any scattered trees, and whether each tree is small or large. The strategic biodiversity value score The condition score. If it includes endangered Ecological Vegetation Classes. If it includes sensitive wetland or coastal areas. 	 Scattered native groundcover species amongst introduced grasses and planted trees and shrubs are proposed to be impacted. No remnant native trees or patches of vegetation are proposed to be impacted. The native vegetation to be removed does no include any sensitive wetland or coastal areas. 		
Maps showing the native vegetation and property in context and containing: • Scale, north point and property boundaries • Location of any patches of native vegetation and the number of large trees within the patch proposed to be removed • Location of scattered trees proposed to be removed, including their size The offset requirement, determined in accordance with section 5 of the Guidelines,	A map is not required as no remnant native patches or scattered trees were noted within the study area. There are no offset requirements.		
15			

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#	Application Requirement	Response
	that will apply if the native vegetation is approved to be removed	
5	An avoid and minimise statement. The statement describes any efforts to avoid the removal of, and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value. The statement should include a description of the following: • Strategic level planning – any regional or landscape scale strategic planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape • Site level planning – how the proposed use or development has been sited or designed to avoid and minimise impacts on native vegetation. • That no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.	Strategic level planning: The study area has not been considered as part of any strategic level planning. Site level planning: The proposed development avoids and minimises impact to native vegetation by selecting a site generally devoid of native vegetation. While not considered remnant native vegetation, the Blackwood trees are proposed to be retained within a park area. Additional ecological protection measures are detailed in Section 6.2.
9	An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified, and can be secured in accordance with the Guidelines. A suitable statement includes evidence that the required offset: • Is available to purchase from a third party, or • Will be established as a new offset and has the agreement of the proposed offset provider, or • Can be met by a first party offset	Offsets are not required.

6 REQUIREMENTS AND RECOMMENDATIONS

6.1 REQUIREMENTS

Information about the native vegetation in accordance with the application requirements 1, 5 and 9 in Table 4 of the Guidelines for removal, destruction or lopping of native vegetation (DELWP December 2017) must be provided to the satisfaction of the Secretary to the Department Energy, Environment and Climate Action (See Section 5 of this report). There are no offset requirements.

6.2 **RECOMMENDATIONS**

The following actions are highly recommended to further avoid and minimise impacts to ecological values during and after the proposed works.

Native Vegetation

- Ensure any contractors on-site are aware of, and educated about areas of vegetation to be retained and enforce penalties for those who enter into or disturb these areas.
- Exclusion areas and 'no go' zones should be established and protected where appropriate (i.e. use high visibility para-webbing to delineate areas of ecological value). Stockpiles, machinery and personnel rest areas should be placed in designated areas away from retained vegetation.
- Ensure any proposed works remain within the permitted construction footprint (i.e. do not disturb or remove areas of vegetation outside this footprint).
- Any revegetation or landscaping will use locally indigenous species.

Sedimentation and Pollution

- Inform contractors that drainage lines are areas of ecological value or pathways to areas of ecological values (e.g. rivers, oceans and wetlands).
- Ensure best practice sedimentation and pollution control measures, to the satisfaction of the Environment Protection Authority (EPA 1991), are undertaken at all times to prevent off-site impacts.
- Ensure waste stockpiles, skips and personnel rest areas are located away from drainage areas to prevent accidental movement of rubbish and construction materials.

Weed and Biosecurity

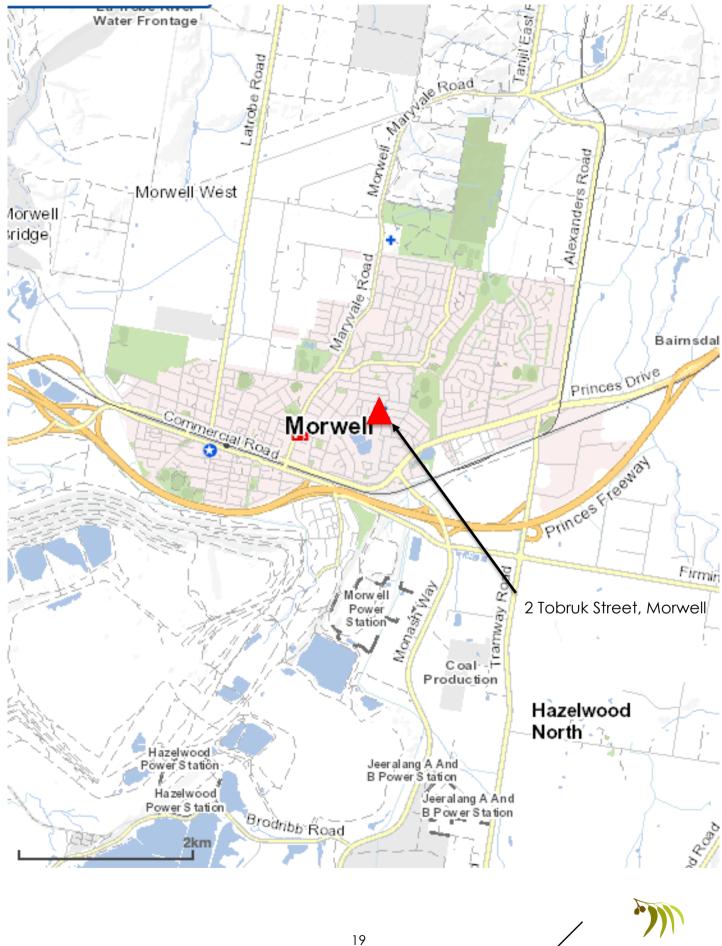
- Any imported soil or gravel must be weed free to prevent importation of weed seed into the study area.
- Control the placement of any soil stockpiles and green waste outside areas of vegetation.

2 Tobruk Street, Morwell, Victoria –Biodiversity Assessment.

FIGURES







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REFERENCES

- DELWP 2017. Guidelines for the removal, destruction or lopping of native vegetation. Published by the Department of Environment, Land, Water and Planning
- DEECA 2023a. Nature Kit. Department of Energy, Environment, and Climate Change website. www.delwp.vic.gov.au.
- DEECA 2023b. Ecological Vegetation Class Benchmarks. Department of Environment, Land, Water and Planning website. www.delwp.vic.gov.au.
- DEECA 2023c. Victorian Biodiversity Atlas.
- DEECA 2023d. Department of Energy, Environment, and Climate Change website <u>www.land.vic.gov.au</u>
- DCCEWA 2023. Protected Matters Online Search Tool. Department of Climate Change, Energy, The Environment and Water website. www.dcceew.gov.au
- DSE 2004. Vegetation Quality Assessment Manual: Guidelines for applying the habitat hectares scoring method. Department of Sustainability and Environment, East Melbourne, Victoria.
- EPA 1990 Construction Techniques for Sediment Pollution Control. Published by Environmental Protection Agency Victoria.
- Everyone, a division of Metricon 2023. 2 Tobruk Street, Morwell. Concept Proposal.
- Evergreen Tree Consulting 2023. 2 Tobruk Street, Morwell. Preliminary Tree Survey.

SEWPAC 2013 The EPBC Act Significant Impact Guidelines. Published by the Department of Sustainability, Environment, Water, Populations and Communities



APPENDICES



APPENDIX 1. FLORA SPECIES RECORDED WITHIN THE STUDY AREA DURING THE CURRENT ASSESSMENT

Notes: CaLP – denotes Catchment and Land Protection Act regionally controlled listed weed within the West Gippsland Catchment.

- Native to Australia but located outside natural distribution.

Scientific Name	Common Name
NATIVE SPECIES	
Epilobium hirtigerum	Hairy Willow-herb
Juncus subsecundus	Finger Rush
Pittosporum undulatum	Sweet Pittosporum
Rytidosperma racemosum var. racemosum	Slender Wallaby-grass
Schoenus apogon	Common Bog-sedge
INTRODUCED SPECIES	
Acacia baileyana	Cootamundra Wattle
Agrostis capillaris	Brown-top Bent
Aira cupaniana	Quicksilver Grass
Anthoxanthum odoratum	Sweet Vernal-grass
Arctotheca calendula	Cape Weed
Bellis perennis	English Daisy
Briza minor	Lesser Quaking-grass
Bromus catharticus	Prairie Grass
Casuarina cunninghamiana subsp. cunninghamiana	River Oak
Cenchrus clandestinus	Κίκυγυ
Centaurium erythraea	Common Centaury
Coprosma repens	Mirror Bush
Cortaderia selloana subsp. selloana	Pampas Grass
Cotoneaster pannosus	Velvet Cotoneaster
Cynodon dactylon	Couch
Cyperus eragrostis	Drain Flat-sedge
Dactylis glomerata	Cocksfoot
Ehrharta erecta	Panic Veldt-grass
Ehrharta longiflora	Annual Veldt-grass
Festuca arundinacea	Tall Fescue
Fraxinus angustifolia	Desert Ash
Galium aparine	Cleavers
CaLP Genista monspessulana	Montpellier Broom
Hedera helix s.l.	English Ivy

Scientific Name	Common Name
Hypochaeris radicata	Flatweed
Ipomoea spp.	Morning Glory
Juncus capitatus	Capitate Rush
Leontodon saxatilis subsp. saxatilis	Hairy Hawkbit
Lolium spp.	Rye Grass
Lotus creticus	Lotus
Medicago polymorpha	Burr Medic
Paspalum dilatatum	Paspalum
Phalaris aquatica	Toowoomba Canary-grass
Plantago coronopus	Buck's-horn Plantain
Plantago lanceolata	Ribwort
Prunella vulgaris	Self-heal
Rhaphiolepis indica	Indian Hawthorn
Romulea rosea	Onion Grass
Rosa rubiginosa	Sweet Briar
CaLP Rubus fruticosus spp. agg.	Blackberry
Sonchus oleraceus	Common Sow-thistle
Symphyotrichum subulatum	Aster-weed
Taraxacum officinale spp. agg.	Garden Dandelion
Trifolium dubium	Suckling Clover
Trifolium repens var. repens	White Clover
Vulpia spp.	Fescue

APPENDIX 2. EPBC ACT LISTED FLORA PREVIOUSLY RECORDED OR PREDICTED TO OCCUR WITHIN A FIVE KILOMETRE RADIUS OF THE STUDY AREA

LISTING:

Environment Protection and Biodiversity Conservation Act (EPBC Act):

Х	Extinct
CR	Critically Endangered
EN	Endangered
VU	Vulnerable
Habitat	Habitat predicted to occur within 5 kilometre radius

Likelihood of occurring: Recorded, Potential Habitat, Unlikely, No Habitat.

Source: Victorian Biodiversity Atlas (DEECA 2023c) and (H) = Potential habitat predicted by the Protected Matters Search Tool (DCCEWA 2023)

Scientific Name	Common Name	Total Records	EPBC Act	Likelihood of Occurrence
Eucalyptus strzeleckii	Strzelecki Gum	1141	VU	No habitat
Dianella amoena	Matted Flax-lily	1	EN	No habitat
Thelymitra epipactoides	Metallic Sun-orchid	-	EN	No habitat
Caladenia tessellata	Thick-lipped Spider- orchid	-	VU	No habitat
Pterostylis chlorogramma	Green-striped Greenhood	-	VU	No habitat
Thesium australe	Austral Toadflax	-	VU	No habitat
Xerochrysum palustre	Swamp Everlasting	-	VU	No habitat
Amphibromus fluitans	River Swamp Wallaby-grass	-	VU	No habitat
Glycine latrobeana	Clover Glycine	-	VU	No habitat
Senecio psilocarpus	Swamp Fireweed	-	VU	No habitat
Prasophyllum spicatum	Dense Leek-orchid	-	VU	No habitat

APPENDIX 3. EPBC ACT LISTED FAUNA SPECIES PREVIOUSLY RECORDED OR WITH POTENTIAL HABITAT WITHIN A FIVE KILOMETRE RADIUS OF THE STUDY AREA (EPBC ACT MIGRATORY AND MARINE SPECIES ARE EXCLUDED)

LISTING:

Environment Protection and Biodiversity Conservation Act (EPBC Act):

Х	Extinct
CR	Critically Endangered
EN	Endangered
VU	Vulnerable
Habitat	Habitat predicted to occur within 5
паріат	kilometre radius

Likelihood of occurring: Recorded, Potential Habitat, Unlikely, No Habitat.

Source: Victorian Biodiversity Atlas (DEECA 2023c) and (H) = Potential habitat predicted by the Protected Matters Search Tool (DCCEWA 2023)

Scientific Name	Common Name	Total Records	EPBC Act	Likelihood of Occurrence
Callocephalon fimbriatum	Gang-gang Cockatoo	17	EN	Possible flyover
Hirundapus caudacutus	White-throated Needletail	13	VU	Possible flyover
Neophema chrysostoma	Blue-winged Parrot	6	VU	Possible flyover
Galaxiella pusilla	Dwarf Galaxias	4	VU	No habitat
Litoria raniformis	Growling Grass Frog	4	VU	No habitat
Botaurus poiciloptilus	Australasian Bittern	1	EN	No habitat
Melanodryas cucullata	Hooded Robin	1	EN	No habitat
Petauroides volans	Southern Greater Glider	1	EN	No habitat
Anthochaera phrygia	Regent Honeyeater	-	CR	No habitat
Calidris ferruginea	Curlew Sandpiper	-	CR	No habitat
Lathamus discolor	Swift Parrot	-	CR	No habitat
Lissolepis coventryi	Swamp Skink	-	EN	No habitat
Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll	-	EN	No habitat
Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern)	-	EN	No habitat
Petauroides volans	Greater Glider (southern and central)	-	EN	No habitat



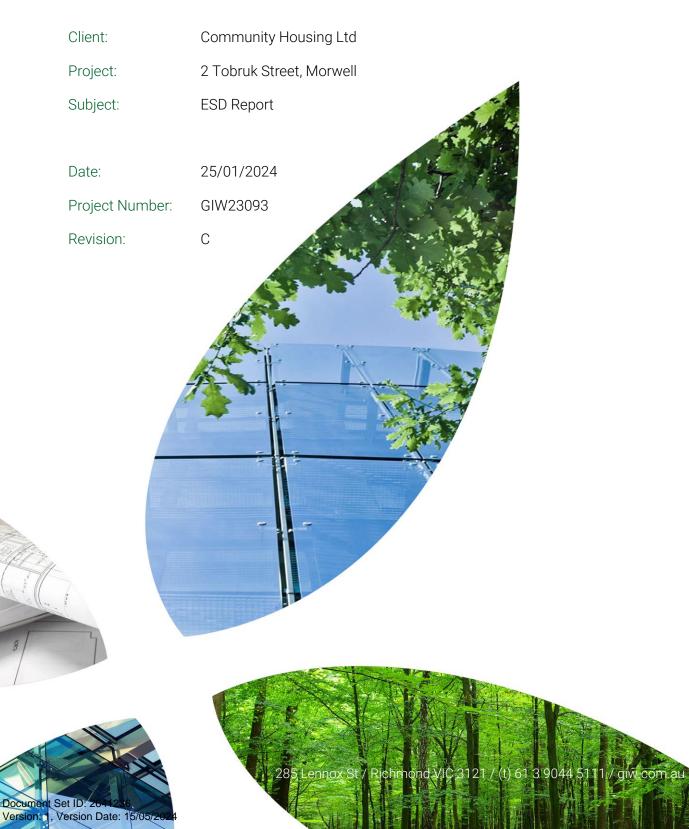
Scientific Name	Common Name	Total Records	EPBC Act	Likelihood of Occurrence
Melanodryas cucullata cucullata	South-eastern Hooded Robin,	-	EN	No habitat
Rostratula australis	Australian Painted Snipe	-	EN	No habitat
Delma impar	Striped Legless Lizard	-	VU	No habitat
Petaurus australis australis	Yellow-bellied Glider (south- eastern)	-	VU	No habitat
Potorous tridactylus trisulcatus	Long-nosed Potoroo (southern mainland)	-	VU	No habitat
Pteropus poliocephalus	Grey-headed Flying-fox	-	VU	No habitat
Prototroctes maraena	Australian Grayling	-	VU	No habitat
Calyptorhynchus lathami lathami	South-eastern Glossy Black- Cockatoo	-	VU	No habitat
Climacteris picumnus victoriae	Brown Treecreeper (south- eastern)	-	VU	No habitat
Falco hypoleucos	Grey Falcon	-	VU	Possible flyover
Grantiella picta	Painted Honeyeater	-	VU	Possible flyover
Pycnoptilus floccosus	Pilotbird	-	VU	No habitat
Stagonopleura guttata	Diamond Firetail	-	VU	Possible flyover



LATROBE PLANNING SCHEME
CONSENT UNDER CLAUSE 52.20
VPP2402817
ENDORSED PLAN
Sheet 1 of 25
Signed: AUUY for
MINISTER FOR PLANNING
Date: 9 MAY 2024

PLANNING and ENVIRONMENT ACT

ESD REPORT





Introduction

The following ESD Report has been prepared for the proposed multi-residential development at 2 Tobruk Street, Morwell. This assessment responds to Homes Victoria – ESD requirements and Victoria Planning Provisions VC216 – 15.01-2S of the La Trobe Council Planning Scheme.

The development has been assessed using the Built Environment Sustainability Scorecard (BESS) tool. The BESS tool addresses nine key environmental categories as follows:

- Management
- Stormwater
- Waste
 Urban Fool

Water Energy IEQTransport

Urban EcologyInnovation

Sources of Information

The ESD Report is based on the following documentation:

Architectural Drawings by:	Metricon
Job/Project No:	2 Tobruk Street, Morwell
Drawing No:	Sheets 01 - 12 (Rev 09)

Revision History

Revision Number	Date Issued	Author	Approved	Comments
A	02/11/2023	KE	IB	Final
В	18/12/2023	KE	GW	Final
С	25/01/2024	MS	GW	Final

Project Consultant

Mareena Saleem Senior ESD Engineer

Project Team Lead Wertheimer Gary Direc



ESD Assessment

The project achieves a BESS score of 55% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%. This figure represents a percentage improvement over a benchmark project, where 50% and higher equates to 'best practice' and is an effective pass of the BESS tool. A score of 70% and higher equates to BESS 'excellence' and exists as a higher benchmark in the tool.

The following ESD initiatives will be implemented in the proposed development at 2 Tobruk Street, Morwell. All initiatives are to be suitably incorporated in the project documentation i.e. architectural, landscape, hydraulics, and civil engineering.

BESS Category	ESD Initiatives
Management	 A Building User's Guide will be provided to the residents explaining the correct use of installed fittings and fixtures, equipment and building systems.
	Electricity, and cold-water metering is to be provided to each townhouse.
Water	 Water efficient fixtures are applied throughout: WELS 4 Star Toilets WELS 5 Star Taps WELS 4 Star Showerheads WELS 5 Star Dishwashers Options for a ≥3 Star Washing Machine will be included in the building user guide. Water collected from the individual roofs will be directed into 27 x 5,000-litre rainwater tanks (totalling 135,000-litres). Each rainwater tank is to be connected to the toilets, laundries and landscape irrigation within its respective dwelling. Refer Appendix A – WSUD Response. Landscape irrigation is to be connected to the rainwater tank.
	• The proposed development will achieve a minimum 7 Stars NatHERS ratings for each residence.
	The proposed development will be all electric with no gas connection.
	 External lighting will be controlled by motion detectors.
Energy	 Lighting power density shall be as follows: Dwelling: No greater than average 4W/m² Veranda/balcony/terrace: No greater than average 3W/m² Back of house and indoor car parks: No greater than average 5W/m²
	• Hot water is to be provided via individual heat pump hot water systems.
	 Inverter split system units are to be installed and sized to maintain conditions of the main living areas. Systems are to be within 1 star of the



BESS Category	ESD Initiatives		
	best available under the post April 2012 Minimum Energy Performance Standards (MEPS).		
	 The proposed development is to be provided with outdoor clothes lines to all private open spaces. 		
Stormwater	 A 103% STORM score is achieved. Refer Appendix A – WSUD Response for mark-up of collection and impervious areas, STORM Report and maintenance manual. Final system design TBC by Civil Engineering at detailed design. 		
	• Double glazing or better will be applied to all windows.		
	Shading strategy:		
	 The dwellings have a minimum roof eave overhang of 450mm depth across all orientations. 		
IEQ	 The dwellings windows are appropriately sized to help balance solar heat gains, heat loss and cross ventilation and daylight amenity. 		
	 All living and bedroom areas are naturally cross ventilated with windows / doors on opposite or adjacent facades or effectively single sided ventilated. 		
	 >50% of dwellings living areas are oriented towards the north. 		
Transport	• The proposed development is in close proximity of Morwell Railway Station, and Route 1, 2, 20, 21 and 22 bus.		
	• The design seeks to limit the use of high embodied energy metal finishes.		
Materials	 At least 40% of coarse aggregate in the concrete is crushed slag aggregate or other alternative materials (measured by mass across all concrete mixes in the project). 		
	 The building's steel (by mass) is to be sourced from a Responsible Steel Maker. 		
	 Where timber is to be used, such timbers are to be FSC or PEFC certified. 		
	 Permanent formwork, pipes, flooring, blinds, and cables in the project will seek to comply with the following: 		
	 Meet the GBCA's Best Practice Guidelines for PVC. or; 		
	• The supplier holds a valid ISO140001 certification.		
	 The project will incorporate products that meet the transparency and sustainability requirements where deemed appropriate. 		



BESS Category	ESD Initiatives
	 At least 80% of the waste generated during construction and demolition has been diverted from landfill.
Waste	 Adequate spatial provisioning within each POS for four-bin recycling system including: glass-only recycling, mixed recycling, green waste and general waste.
	 Kitchen joinery is to provide appropriate spatial allowance for four-bin waste sorting.
Urban Ecology	• 51% of the development site will be covered by vegetation.

Ref: GIW23093



2 Tobruk Street, Morwell ESD Report

Appendices

Appendix A – WSUD Response

Site layout Plan

The following architectural mark-up illustrates the rainwater collection and impervious areas of the proposed development site. We note that the proposed road and adjacent pedestrian paths will be Council asset and are therefore excluded from this assessment.



Figure 1 - Mark-up of water catchment and impervious areas



STORM Rating

A STORM rating of \geq 100% can be achieved by implementing the following initiatives:

• Water collected from the individual roofs will be directed into 27 x 5,000-litre rainwater tanks (totalling 135,000-litres). Each rainwater tank is to be connected to the toilets, laundries and landscape irrigation within its respective dwelling.

Note: Public roadways and footpaths have been excluded from the STORM assessment.

Melbourne Water has developed the Stormwater Treatment Objective- Relative Measure (STORM) Calculator as a method of simplifying the analysis of stormwater treatment methods. The STORM Calculator displays the amount of treatment that is required to meet best practice targets, using WSUD treatment measures.

The best practice standards have been set out in the Urban Stormwater Best Practice Environmental Management Guidelines (Victoria Stormwater Committee, 1999) for reduction in total suspended solids (TSS), total phosphorus (TP) and total nitrogen (TN) loads.

The STORM Result is provided below:

Melbourne STORM Rating Report

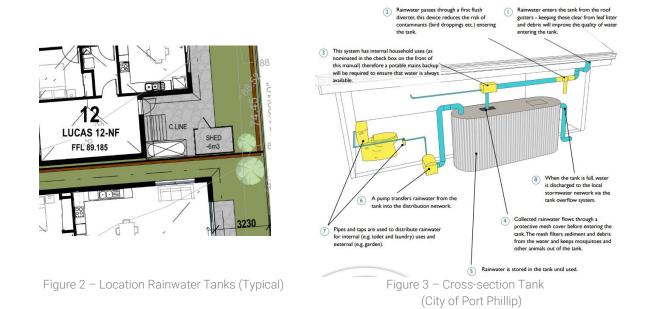
TransactionID:	0					
Municipality:	LA TROBE					
Rainfall Station:	MORWELL					
Address:	2 Tobruk Street					
	Morwell					
	VIC	3840				
Assessor:	GIW					
Development Type:	Residential - Subo	division				
Allotment Site (m2):	13,929.00					
STORM Rating %:	103					
Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof Areas 1	1,881.00	Rainwater Tank	67,500.00	60	136.60	92.10
Impervious Area	579.00	None	0.00	0	0.00	0.00
Roof Areas 2	1,881.00	Rainwater Tank	67,500.00	50	129.00	94.90
Impervious Area POS	514.00	None	0.00	0	0.00	0.00



2 Tobruk Street, Morwell ESD Report

WSUD Strategy

The development will include the provision of 27 x 5,000-litre rainwater tanks (totalling 135,000-litres) and associated pump in the individual POS of each dwelling. Each rainwater tank is to be connected to the toilets, laundries and landscape irrigation within its respective dwelling.





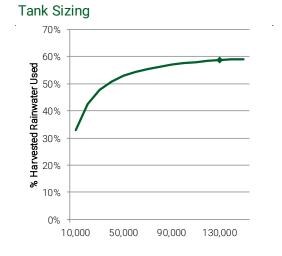
Rainwater Reuse

Catchment Area	3762	sqm	
Number of Bedrooms	64		
Bin Washout	No		
Irrigation Area	2516	sqm	
Tank Capacity	135,000	Litre	

Outputs

% Served by Rainwater	39.3%
% Harvested Rainwater Used	03.010
	55.170
Total Potable Water Saved	1,308,189 Litre

Rainwater Balance (Monthly Averages)					
	Rainwater	WC			
Month	Harvested	Demand	Laundry	Irrigation	
	(L)	(L)	(L)	Demand (L)	
Jan	96731	39680	32400	390409	
Feb	114767	35840	29733	352570	
Mar	105726	39680	32400	180423	
Apr	120484	38400	32400	173109	
May	107214	39680	32400	179204	
Jun	109253	38400	32400	80938	
Jul	81439	39680	32400	83202	
Aug	108742	39680	32400	83202	
Sep	110714	38400	32400	236588	
Oct	127587	39680	32400	243206	
Nov	166674	38400	32400	236588	
Dec	126330	39680	32400	390409	
Total	1375660	467200	386133	2629848	
Equivalen	t				
STORM		64.00	52.89		
tool					



Supply-Demand



Inputs



Site Management Statement

Prevention of litter, sediments and pollution entering the stormwater system in the construction phase is to be addressed through introduction of the following initiatives:

- Buffer strips to pervert stormwater runoff.
- Gravel sausage filters at stormwater inlets to prevent silt, mud or any other site contaminant from entering the stormwater system.
- Silt fences under grates at surface entry inlets to prevent sediment from entering the stormwater system.
- Temporary rumble grids to vibrate mud and dirt off vehicles prior to leaving the site.
- The site is to be kept clean from any loose rubbish or rubble.
- Introduction of offsite construction for building elements where deemed appropriate.

The builder is to include these initiatives in the construction management plan and address these during site induction of relevant contractors.

Maintenance Program

The following maintenance requirements are to be programmed to ensure the rainwater tank operates effectively:

ltem	Description	Maintenance Interval
Gutters and downpipes	Eave and box gutters are to be inspected and cleaned to prevent large debris from being washed into rainwater tank.	3 monthly
First flush system (as applicable)	Inspect and clean excess sediment from diverter chamber to prevent blockages.	3 monthly
Tank contents	Siphon the tank to inspect contents. If sludge is present, a plumber will be required to drain tank contents and clean the tank.	2 to 3 years
Tank structure	Inspect tank externally for leaks	Yearly
Pump system	Inspect pump wiring, plumbing and check for smooth operation.	6 monthly
Plumbing	Plumbing and fixtures connected to the rainwater tank is to be inspected for leaks.	Yearly



2 Tobruk Street, Morwell ESD Report

Appendix B – BESS Assessment

Ref: GIW23093

BESS Report

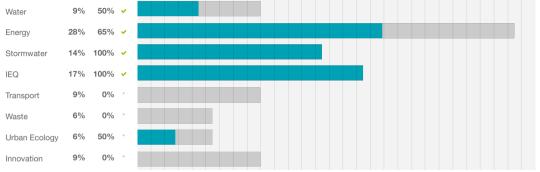
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at 2 Tobruk St Morwell Victoria 3840. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Yarra Ranges Shire Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score 0% 10% 20%	Best practice Excellence 30% 40% 50% 60% 70% 80% 90% 100%	55%
Project details Address Project no BESS Version	2 Tobruk St Morwell Victoria 3840 7CBF07E2-R4 BESS-7	
Site type Account Application no. Site area Building floor area Date Software version	Multi dwelling (dual occupancy, townhouse, villa unit etc) info@giw.com.au 13,929.00 m ² 3,275.00 m ² 25 January 2024 1.8.1-B.407	
Performance by of Category Weight Management Management 5% Water 9%	b 16%	



The Built Environment Sustainability Scorecard is an initiative of the Council Alliance for a Sustainable Built Environment (CASBE).

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Dwellings & Non Res Spaces

Owellings				
Name	Quantity	Area	% of total area	
Townhouse				
Lucas 12	8	139 m ²	33%	
Milford 9	9	105 m ²	28%	
Milford 10	6	127 m ²	23%	
Argyle 13	4	114 m ²	13%	
Total	27	3,275 m ²	100%	

Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Water 3.1	Annotation: Water efficient garden details		-
Energy 3.3	Annotation: External lighting controlled by motion sensors		-
Energy 3.4	Location of clothes line (if proposed)		-
Stormwater 1.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
IEQ 2.2	Annotation: Dwellings designed for 'natural cross flow ventilation' (If not al dwellings, include a list of compliant dwellings)	l	-
IEQ 3.1	Annotation: Glazing specification (U-value, SHGC)		-
IEQ 3.2	Adjustable shading systems		-
IEQ 3.3	North-facing living areas		-
Urban Ecology 2.1	Location and size of vegetated areas		-

Supporting evidence

Credit	Requirement	Response	Status
Energy 3.5	Average lighting power density and lighting type(s) to be used		-
Stormwater 1.1	STORM report or MUSIC model		-
IEQ 2.2	A list of dwellings with natural cross flow ventilation		-
IEQ 3.1	Reference to floor plans or energy modelling showing the glazing specification (U-value and Solar Heat Gain Coefficient, SHGC)	-	
IEQ 3.2	Reference to floor plans and elevations showing shading devices		-
IEQ 3.3	Reference to the floor plans showing living areas orientated to the north		-

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Credit summary

Management Overall contribution 4.5%

	16%	
1.1 Pre-Application Meeting	0%	
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	0%	
4.1 Building Users Guide	100%	

Water Overall contribution 9.0%

		Minimum required 50%		50%	✓ Pass	
	1.1 Potable Water Use Reduction				40%	
3.1 Water Efficient Landscaping					100%	

Energy Overall contribution 27.5%

	Minimum required 50% 65%	✓ Pass
1.2 Thermal Performance Rating - Residential	50%	
2.1 Greenhouse Gas Emissions	100%	
2.2 Peak Demand	0%	
2.3 Electricity Consumption	100%	
2.4 Gas Consumption	N/A	Scoped Out
	No	o gas connection in use
2.5 Wood Consumption	N/A	Scoped Out
	No wood	heating system present
2.6 Electrification	100%	
3.2 Hot Water	100%	
3.3 External Lighting	100%	
3.4 Clothes Drying	100%	
3.5 Internal Lighting - Houses and Townhouses	100%	
4.4 Renewable Energy Systems - Other	0%	O Disabled
	No other (non-solar PV) rene	ewable energy is in use.
4.5 Solar PV - Houses and Townhouses	0%	Ø Disabled
	No solar PV rene	ewable energy is in use.

Stormwater Overall contribution 13.5%

	Minimum required 100%	100%	✓ Pass
1.1 Stormwater Treatment		100%	

The Built Environment Sustainability Scorecard is an initiative of the Council Alliance for a Sustainable Built Environment (CASBE).

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BESS, 2 Tobruk St, Morwell VIC 3840, Australia 2 Tobruk St, Morwell 3840

IEQ Overall contribution 16.5%

	Minimum requi	red 50%	100%	 Pass 	
2.2 Cross Flow Ventilation			100%		
3.1 Thermal comfort - Double Glazing			100%		
3.2 Thermal Comfort - External Shading			100%		
3.3 Thermal Comfort - Orientation			100%		

Transport Overall contribution 9.0%

	0%
1.1 Bicycle Parking - Residential	0%
1.2 Bicycle Parking - Residential Visitor	0%
2.1 Electric Vehicle Infrastructure	0%

Waste Overall contribution 5.5%

	0%	
1.1 - Construction Waste - Building Re-Use	0%	_
2.1 - Operational Waste - Food & Garden Waste	0%	

Urban Ecology Overall contribution 5.5%

	50%
2.1 Vegetation	100%
2.2 Green Roofs	0%
2.3 Green Walls and Facades	0%
2.4 Private Open Space - Balcony / Courtyard Ecology	0%
3.1 Food Production - Residential	0%

Innovation Overall contribution 9.0%

		0%
1.1 Innovation		0%

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Credit breakdown

Management Overall contribution 1%

1.1 Pre-Application Meeting	0%
Score Contribution	This credit contributes 50.0% towards the category score.
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic
	design to construction? AND Has the ESD professional been involved in a pre-
	application meeting with Council?
Question	Criteria Achieved ?
Project	No
2.2 Thermal Performance Modellin Residential	ng - Multi-Dwelling 0%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?
Question	Criteria Achieved ?
Townhouse	No
4.1 Building Users Guide	100%
Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	Will a building users guide be produced and issued to occupants?
Question	Criteria Achieved ?
Project	Yes

Water Overall contribution 4% Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
Project Water Profile Question	
Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Are you installing a rainwater tank?:	Yes
Water fixtures, fittings and connections	
Showerhead: All	4 Star WELS (>= 6.0 but <= 7.5)
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	>= 5 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Occupant to Install
Which non-potable water source is the dwelling/space connected to?: All	-1
Non-potable water source connected to Toilets: All	No
Non-potable water source connected to Laundry (washing machine): All	No
Non-potable water source connected to Hot Water System: A	ll No
Rainwater Tank	
What is the total roof area connected to the rainwater tank?: Tanks (5kL per dwelling)	3,762 m ²
Tank Size: Tanks (5kL per dwelling)	135,000 Litres
Irrigation area connected to tank: Tanks (5kL per dwelling)	2,516 m ²
Is connected irrigation area a water efficient garden?: Tanks (5kL per dwelling)	Yes
Other external water demand connected to tank?: Tanks (5kL per dwelling)	-

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1.1 Potable Water Use Reduction	40%
Score Contribution	This credit contributes 83.3% towards the category score.
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances,
	rainwater use and recycled water use? To achieve points in this credit there must be
	>25% potable water reduction.
Output	Reference
Project	5454 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	4587 kL
Output	Proposed (including rainwater and recycled water use)
Project	3529 kL
Output	% Reduction in Potable Water Consumption
Project	35 %
Output	% of connected demand met by rainwater
Project	95 %
Output	How often does the tank overflow?
Project	Often
Output	Opportunity for additional rainwater connection
Project	2082 kL
3.1 Water Efficient Landscaping	100%
Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

Energy Overall contribution 18% Minimum required 50%

Dveilings Energy Approach What approach do you want to use for Energy?: Use the built in calculation tools Project Energy Profile Question No Are you installing any solar photovoltaio (PV) system(s)?: No Are you installing any other renewable energy system(s)?: No Energy Supply: All-electric Dwelling Energy Profiles Energy Supply: Below the floor is: All Above the ceiling is: All NatHERS Annual Energy Loads - Heat: All NatHERS Annual Energy Loads - Heat: All NatHERS Annual Energy Loads - Cool: All Reverse cycle space Heating System: Heating System Efficiency: All Reverse cycle space Cooling System: Cooling System: All <			
Project Energy Profile Question Are you installing any solar photovoltale (PV) system(s)?: No Are you installing any other renewable energy system(s)?: No Energy Supply: All-electric Dwelling Energy Profiles Below the floor Is: All Below the floor Is: All Ground or Carpark Above the celling is: All Outside Exposed sides: All 4 NatHERS Annual Energy Loads - Heat: All 100 MJ/sqm NatHERS farmating: All 7.0 Type of Heating System: All Reverse cycle space Heating System: Efficiency: All 3 Star Type of Hoot Water System: All Refrigerative space Cooling System: All Refrigerative space Cooling System Efficiency: All 3 Stars Type of Hoot Water System: All Decurption to Install Clothes Dryer: All Occupant to Install 12.1 Thermal Performance Rating - Residential 50% Score Contribution This credit contributes 10.0% towards the category score. Criteria What is the average NatHERS rating? Output Average NATHERS Rating (Weighted) Townhouse 7.0 Stars 2.1	Dwellings Energy Approach		
Are you installing any solar photovoltaic (PV) system(s)?: No Are you installing any other renewable energy system(s)?: No Energy Supply: All-electric Dwelling Energy Profiles Below the floor is: All Below the floor is: All Ground or Carpark Above the celling is: All Outside Exposed sides: All 4 NatHERS Annual Energy Loads - Gool: All 30.0 MJ/sqm NatHERS farmating: All 7.0 Type of Heating System: All Reverse cycle space Heating System Efficiency: All 3 Star Type of Hoot Water System: All Reverse cycle space Cooling System Efficiency: All 3 Stars Type of Hoot Water System: All Electric Heat Pump Band 1 Clothes Line: All Occupant to Install 12.1 Thermal Performance Rating - Residential 50% Score Contribution This credit contributes 30.0% towards the category score. Criteria What is the average NatHERS rating? Output Average NATHERS Rating (Weighted) Townhouse 7.0 Stars 2.1 Greenhouse Gas Emissions 100% Score Contribution This credit contributes 10.0% towards	What approach do you want to use t	or Energy?:	Use the built in calculation tools
Are you installing any other renewable energy system(s)?: No Energy Supply: All-electric Dwelling Energy Profiles Below the floor is: Below the floor is: All Above the ceiling is: All Outside Exposed sides: Above the ceiling is: All NatHERS Annual Energy Loads - Heat: All 100 MJ/sqm NatHERS Annual Energy Loads - Cool: NatHERS Annual Energy Loads - Cool: All 30.0 MJ/sqm NatHERS annual Energy Loads - Cool: NatHERS annual Energy Loads - Cool: All 90 of Heating System: All Reverse cycle space Heating System: Heating System: All Reverse cycle space Cooling System: Heating System: All Blow Het Water System: All Reverse cycle space Cooling System Efficiency: All Below to clothesine Clothes Line: All Private outdoor clothesine Clothes Line: Clothes Line: All Performance Rating - Residential 50% Score Contribution This cr	Project Energy Profile Question		
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Below the floor is: All Ground or Carpark Above the ceiling is: All Outside Exposed sides: All 4 NatHERS Annual Energy Loads - Heat: All 100 MJ/sqm NatHERS Annual Energy Loads - Cool: All 30.0 MJ/sqm NatHERS Annual Energy Loads - Cool: All 30.0 MJ/sqm NatHERS star rating: All 7.0 Type of Heating System: All Reverse cycle space Heating System Efficiency: All 3 Star Type of Hot Water System: All Refrigerative space Cooling System: All Private outdoor clothesline Clothes Line: All Private outdoor clothesline Clothes Dryer: All Occupant to Install 1.2 Thermal Performance Rating - Residential 50% Score Contribution This credit contributes 30.0% towards the category score. Criteria What is the average NatHERS rating? Output Average NATHERS Rating (Weighted) Townhouse 7.0 Stars 2.1 Greenhouse Gas Emissions 100% Score Contribution This credit contributes 10.0% towards the category score. Criteria What is the % reduction in annual greenhouse gas emissions against the benchmark? Ou	Energy Supply:		All-electric
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Cooling System Efficiency: All3 StarsType of Hot Water System: AllElectric Heat Pump Band 1Clothes Line: AllPrivate outdoor clotheslineClothes Dryer: AllOccupant to Install1.2 Thermal Performance Rating - Residential50%Score ContributionThis credit contributes 30.0% towards the category score.CriteriaWhat is the average NatHERS rating?OutputAverage NATHERS Rating (Weighted)Townhouse7.0 Stars2.1 Greenhouse Gas Emissions100%Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Heating System Efficiency: All		3 Star
Type of Hot Water System: All Electric Heat Pump Band 1 Clothes Line: All Private outdoor clothesline Clothes Dryer: All Occupant to Install 1.2 Thermal Performance Rating - Residential 50% Score Contribution This credit contributes 30.0% towards the category score. Criteria What is the average NatHERS rating? Output Average NATHERS Rating (Weighted) Townhouse 7.0 Stars 2.1 Greenhouse Gas Emissions 100% Score Contribution This credit contributes 10.0% towards the category score. Criteria What is the % reduction in annual greenhouse gas emissions against the benchmark? Output Reference Building with Reference Services (BCA only) Townhouse 245,024 kg CO2 Output Proposed Building with Proposed Services (Actual Building) Townhouse 78,418 kg CO2 Output % Reduction in GHG Emissions	Type of Cooling System: All		Refrigerative space
Clothes Line: All Private outdoor clothesline Clothes Dryer: All Occupant to Install 1.2 Thermal Performance Rating - Residential 50% Score Contribution This credit contributes 30.0% towards the category score. Criteria What is the average NatHERS rating? Output Average NATHERS Rating (Weighted) Townhouse 7.0 Stars 2.1 Greenhouse Gas Emissions 100% Score Contribution This credit contributes 10.0% towards the category score. Criteria What is the % reduction in annual greenhouse gas emissions against the benchmark? Output Reference Building with Reference Services (BCA only) Townhouse 245,024 kg CO2 Output Proposed Building with Proposed Services (Actual Building) Townhouse 78,418 kg CO2 Output % Reduction in GHG Emissions	Cooling System Efficiency: All		3 Stars
Clothes Dryer: AllOccupant to Install1.2 Thermal Performance Rating - Residential50%Score ContributionThis credit contributes 30.0% towards the category score.CriteriaWhat is the average NatHERS rating?OutputAverage NATHERS Rating (Weighted)Townhouse7.0 Stars2.1 Greenhouse Gas Emissions100%Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Type of Hot Water System: All		Electric Heat Pump Band 1
1.2 Thermal Performance Rating - Residential50%Score ContributionThis credit contributes 30.0% towards the category score.CriteriaWhat is the average NatHERS rating?OutputAverage NATHERS Rating (Weighted)Townhouse7.0 Stars2.1 Greenhouse Gas Emissions100%Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Clothes Line: All		Private outdoor clothesline
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OutputAverage NATHERS Rating (Weighted)Townhouse7.0 Stars2.1 Greenhouse Gas Emissions100%Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Score Contribution	This credit contribu	ites 30.0% towards the category score.
Townhouse7.0 Stars2.1 Greenhouse Gas Emissions100%Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Criteria	What is the averag	e NatHERS rating?
2.1 Greenhouse Gas Emissions100%Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Output	Average NATHERS	Rating (Weighted)
Score ContributionThis credit contributes 10.0% towards the category score.CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Townhouse	7.0 Stars	
CriteriaWhat is the % reduction in annual greenhouse gas emissions against the benchmark?OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	2.1 Greenhouse Gas Emissions		100%
OutputReference Building with Reference Services (BCA only)Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Score Contribution	This credit contribu	ites 10.0% towards the category score.
Townhouse245,024 kg CO2OutputProposed Building with Proposed Services (Actual Building)Townhouse78,418 kg CO2Output% Reduction in GHG Emissions	Criteria	What is the % redu	iction in annual greenhouse gas emissions against the benchmark?
Output Proposed Building with Proposed Services (Actual Building) Townhouse 78,418 kg CO2 Output % Reduction in GHG Emissions	Output	Reference Building	with Reference Services (BCA only)
Townhouse 78,418 kg CO2 Output % Reduction in GHG Emissions	Townhouse	245,024 kg CO2	
Output % Reduction in GHG Emissions	Output	Proposed Building	with Proposed Services (Actual Building)
	Townhouse	78,418 kg CO2	
Townhouse 67 %	Output	% Reduction in GF	IG Emissions
	Townhouse	67 %	

2.2 Peak Demand	0%
Score Contribution	This credit contributes 5.0% towards the category score.
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the
	benchmark?
Output	Peak Thermal Cooling Load - Baseline
Townhouse	355 kW
Output	Peak Thermal Cooling Load - Proposed
Townhouse	364 kW
Output	Peak Thermal Cooling Load - % Reduction
Townhouse	-3 %
2.3 Electricity Consumption	100%
Score Contribution	This credit contributes 10.0% towards the category score.
Criteria	What is the % reduction in annual electricity consumption against the benchmark?
Output	Reference
Townhouse	240,219 kWh
Output	Proposed
Townhouse	76,880 kWh
Output	Improvement
Townhouse	67 %
2.4 Gas Consumption	N/A 🔶 Scoped Ou
This credit was scoped out	No gas connection in use
2.5 Wood Consumption	N/A 🔶 Scoped Ou
This credit was scoped out	No wood heating system present
2.6 Electrification	100%
Score Contribution	This credit contributes 10.0% towards the category score.
Criteria	Is the development all-electric?
Question	Criteria Achieved?
Project	Yes
3.2 Hot Water	100%
Score Contribution	This credit contributes 5.0% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot
	water system against the benchmark?
Output	Reference
Townhouse	332,036 MJ
Output	Proposed
Townhouse	89,711 MJ
Output	Improvement
Townhouse	72 %

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BESS, 2 Tobruk St, Morwell VIC 3840, Australia 2 Tobruk St, Morwell 3840

3.3 External Lighting		100%		
Score Contribution	This credit contributes 5.0% towards the categorial	ory score.		
Criteria	Is the external lighting controlled by a motion de	etector?		
Question	Criteria Achieved ?			
Townhouse	Yes			
3.4 Clothes Drying		100%		
Score Contribution	This credit contributes 5.0% towards the categoria	ory score.		
Criteria	What is the % reduction in annual energy consu	Imption (gas and elec	tricity) fr	om a
	combination of clothes lines and efficient driers	against the benchma	rk?	
Output	Reference			
Townhouse	16,455 kWh			
Output	Proposed			
Townhouse	3,291 kWh			
Output	Improvement			
Townhouse	80 %			
3.5 Internal Lighting - Houses	and Townhouses	100%		
Score Contribution	This credit contributes 5.0% towards the categories	ory score.		
Criteria	Does the development achieve a maximum illun	nination power densit	y of 4W/	sqm or
	less?			
Question	Criteria Achieved?			
Townhouse	Yes			
4.4 Renewable Energy System	s - Other	0%	0	Disable
This credit is disabled	No other (non-solar PV) renewable energy is in u	lse.		
4.5 Solar PV - Houses and Tow	nhouses	0%	0	Disable
This credit is disabled	No solar PV renewable energy is in use.			

Stormwater Overall contribution 14% Minimum required 100%

Which stormwater modelling are yo	u using?: Melbourne Water STORM tool
1.1 Stormwater Treatment	100%
Score Contribution	This credit contributes 100.0% towards the category score.
Criteria	Has best practice stormwater management been demonstrated?
Question	STORM score achieved
Project	103
Output	Min STORM Score
Project	100

IEQ Overall contribution 16% Minimum required 50%

	2.2 Cross Flow Ventilation	100%
	Score Contribution	This credit contributes 20.0% towards the category score.
	Criteria	Are all habitable rooms designed to achieve natural cross flow ventilation?
	Question	Criteria Achieved ?
	Townhouse	Yes
	3.1 Thermal comfort - Double Glazing	100%
	Score Contribution	This credit contributes 40.0% towards the category score.
	Criteria	Is double glazing (or better) used to all habitable areas?
	Question	Criteria Achieved ?
	Townhouse	Yes
	3.2 Thermal Comfort - External Shadin	g 100%
	3.2 Thermal Comfort - External Shadin Score Contribution	This credit contributes 20.0% towards the category score.
	Score Contribution	This credit contributes 20.0% towards the category score.
	Score Contribution Criteria	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing?
	Score Contribution Criteria Question	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved ?
	Score Contribution Criteria Question Townhouse	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved ? Yes
	Score Contribution Criteria Question Townhouse 3.3 Thermal Comfort - Orientation	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved ? Yes 100%
	Score Contribution Criteria Question Townhouse 3.3 Thermal Comfort - Orientation Score Contribution	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved ? Yes 100% This credit contributes 20.0% towards the category score.
· · · · · · · · · · · · · · · · · · ·	Score Contribution Criteria Question Townhouse 3.3 Thermal Comfort - Orientation Score Contribution Criteria	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved ? Yes 100% This credit contributes 20.0% towards the category score. Are at least 50% of living areas orientated to the north?

Transport Overall contribution 0%

1.1 Bicycle Parking - Residential		0%
		070
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	How many secure and undercover bicycle spaces are ther	e per dwelling for residents?
Question	Bicycle Spaces Provided ?	
Townhouse	0	
1.2 Bicycle Parking - Residential Visit	or	0%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	How many secure bicycle spaces are there per 5 dwellings	s for visitors?
Question	Visitor Bicycle Spaces Provided ?	
Townhouse	0	
2.1 Electric Vehicle Infrastructure		0%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Are facilities provided for the charging of electric vehicles?	
Question	Criteria Achieved ?	
Project	No	

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Waste Overall contribution 0%

1.1 - Construction Waste - B	uilding Re-Use	0%
Score Contribution	This credit contributes 50.0% towards the category so	core.
Criteria	If the development is on a site that has been previous	ly developed, has at least 30% of
the existing building been re-used?		
Question	Criteria Achieved ?	
Project	No	
2.1 - Operational Waste - Fo	od & Garden Waste	0%
Score Contribution	This credit contributes 50.0% towards the category so	core.
Criteria	Are facilities provided for on-site management of food	and garden waste?
Question	Criteria Achieved ?	
Project	No	

Urban Ecology Overall contribution 3%

2.1 Vegetation	100%
Score Contribution	This credit contributes 50.0% towards the category score.
Criteria	How much of the site is covered with vegetation, expressed as a percentage of t
	total site area?
Question	Percentage Achieved ?
Project	51 %
2.2 Green Roofs	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Does the development incorporate a green roof?
Question	Criteria Achieved ?
Project	No
2.3 Green Walls and Facades	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Does the development incorporate a green wall or green façade?
Question	Criteria Achieved ?
Project	No
2.4 Private Open Space - Balco	ony / Courtyard Ecology 0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Is there a tap and floor waste on every balcony / in every courtyard?
Question	Criteria Achieved ?
Townhouse	No
3.1 Food Production - Residen	tial 0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Townhouse	0.0 m ²
Output	Min Food Production Area
Townhouse	19 m ²

Innovation Overall contribution 0%

1.1 Innovation	0%
Score Contribution	This credit contributes 100.0% towards the category score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

Disclaimer

The Built Environment Sustainability Scorecard (BESS) has been provided for the purpose of information and communication. While we make every effort to ensure that material is accurate and up to date (except where denoted as 'archival'), this material does in no way constitute the provision of professional or specific advice. You should seek appropriate, independent, professional advice before acting on any of the areas covered by BESS.

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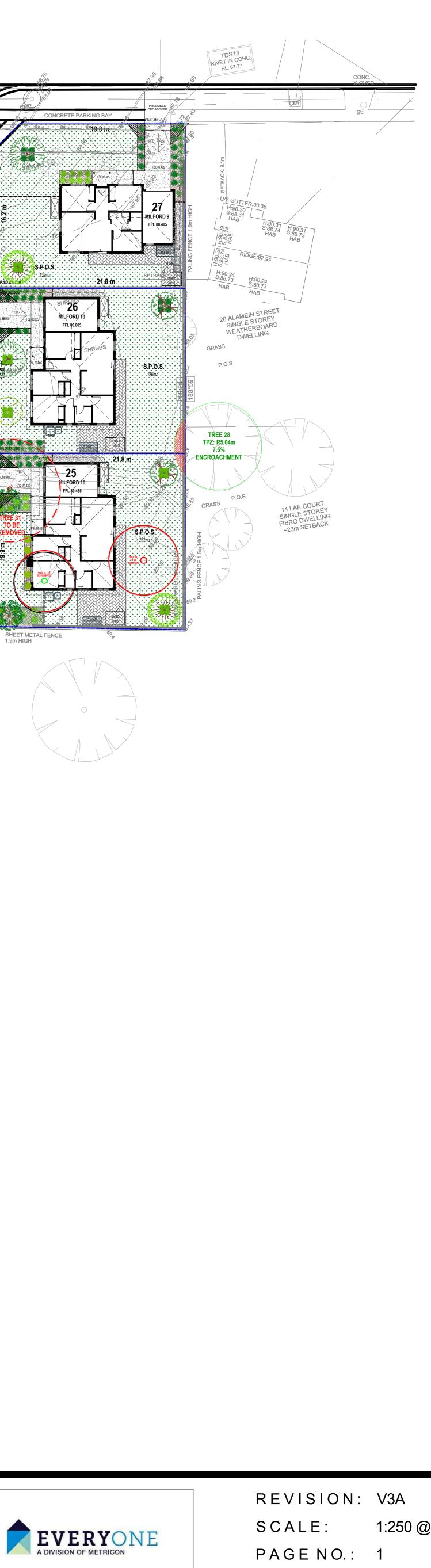
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CONSENT UNDE	VIRONMENT ACT NING SCHEME		
CONSENT UNDE VPP24 ENDORS Sheet	ED PLAN		
Signed: MINISTER FO Date: 9 M			
		D COMPACTED GRANITE SCREENINGS	
		<u>DROUGHT TOLERANT TURF GRASS</u> BUFFALO OR SIMILAR	
		PERMEABLE CONCRETE PATH	
		CHARCOAL COLOURED CONCRETE	
		MULCHED GARDEN BED	
		MULCH: 'DYED-BLACK' FINE PINE BARK (MIN. 80MM DEEP) TOPSOIL: 'SANDY LOAM (MIN. 250MM DEEP)	
		PALING FENCE 1.8M UNLESS STATED OTHER WISE	
		<u>GARDEN EDGING</u> 75 x 25mm TREATED PINE EDGING	
		RUBBISH BINS	
		CLOTHES LINE	
	_	RETAINING WALL	
		900MM HIGH MAX . LETTER BOX	
		TREES REMOVED AS PER ARBORIST REPORT	
		WATER TANK FOR IRRIGATION	
	NOTES - ALL LEVELS ARE TO A.H.D		
	 ALL BOUNDARY FENCES A ALL LANDSCAPING SHOW 	NCING TO BE 1.8M HIGH TIMBER PALINGS UNLESS OTHERWISE NOTE ARE EXISTING AND ARE TO REMAIN (EXCEPT WHERE WALL PROPOSE N IS CONCEPTUAL AND INDICATIVE ONLY. RAGE IS PROVIDED WITHIN GARDEN SHED UNLESS OTHERWISE NOT	ED ON BOUNDARY).
		RWISE, ALL STEP TREADS ARE TO BE 320 - 350MM DEEP. STEP RISE	RS TO BE MAXIMUM 180MM HIGH.
	SUBGRADE PREPARATION: SITE PREPARATION TO BE CARRIED OUT U MAY DAMAGE SOIL STRUCTURE IS NOT ACC GARDEN BED AND LAWN SUB-GRADE IS CL TO BE DISTRIBUTED AND CULTIVATED INTO	N S T R U C T I O N S P E C I F I C A T I O N S NDER SUITABLE CONDITIONS AN IN ACCORDANCE WITH STANDARD HORTICULTURAL PF CEPTABLE. JUTIVATED TO A DEPTH OF 150MM AN SHAPED TO ACHIEVE DRAINAGE FALL PRIOR TO A D THE SUB-GRADE AS PER THE MANUFACTURER'S INSTRUCTIONS. JB-GRADE PREPARATION, TOP-SOILING AN PLANTING.	
	CONDITIONS. THE TOPSOIL IS TO BE LIGI IMMEDIATELY AFTER) ITS PH WILL BE 6.0 THE EDGING LEVEL TO ALLOW FOR MULCH TIMBER EDGING:	Y AN APPROVED SUPPLIER TO A DEPTH OF APPROXIMATELY 100MM (AS REQUIRED) HT TO MEDIUM FRIABLE LOAM (CAPABLE OF BEING COMPRESSED INTO A BALL BY H - 7.0 AN FREE FROM PERENNIAL WEEDS AN BUILDING RUBBLE. THE FINISHED TOP LEV I. IMPORTED TOPSOIL FOR LAWN AREAS TO BE SUPPLIED TO A DEPTH OF APPROXIMATE	HAND WHEN MOIST YET CAN BE BROKEN APART EL AFTER SETTLEMENT SHOULD BE 75MM BELOW LY 100MM (OR AS REQUIRED).
	SECURED WITH 300MM LONG STAKES AT 10 PLANTS AN PLANTING: TREES AN PLANTS SUPPLIED ARE TO BE H SUPPLIED AN INSTALLED . WHEN EACH PLANTING AREA IS PREPARED ARE MATTED IN POT. PLACE PLANT IN CE	ARATE ALL LAWN, PLANTING AREAS AN LILYDALE TOPPING/PEBBLE AREAS. THE <u>TREA</u> 2000MM SPACINGS. EALTHY AN FREE FROM INSECTS, DISEASES AN WEEDS. THE POT SIZE INDICATED IN TH D, IF SOIL IS DRY, FILL WITH WATER AND ALLOW TO DRAIN AWAY COMPLETELY. PLANTS ENTRE OF HOLE AN ENSURE THAT THE TOP OF THE ROOTBALL IS FLUSH WITH THE	E PLANT SCHEDULE ARE THE MINIMUM SIZE TO BE
	VERTICAL. TREES ARE TO BE STAKED WITH TWO HAF WITH STRONG BUT FLEXIABLE TREE TIES DEVELOPMENT. THE TREE TIES MUST NOT A SLOW RELEASE FERTILISER (E.G. OSMO	RDWOOD STAKES DRIVEN FIRMLY INTO THE GROUND BUT NOT THROUGH THE ROOTBA THAT ARE TIGHT ENOUGH TO SUPPORT THE TREES IN WINDY CONDITIONS BUT LOOSE INJURE TREE BARK OR RESTRICT TREE GROWTH FOR AT LEAST THE FIRST THREE YEAF ICOTE OR SIMILAR) IS TO BE APPLIED TO ALL GARDEN BEDS AS SPECIFIED BY THE MAN . A LAYER OF AGED ORGANIC MULCH TO A MINIMUM DEPTH OF 75MM IS TO BE APPL	LL . TREES ARE TO BE SECURED TO THE STAKES E ENOUGH TO SIMULATE GOOD TREE GROWTH AN 83 OF TREE GROWTH. NUFACTURER AN BE KEPT AWAY FROM THE PLANT
	DRAINAGE: SURFACE AN SUB-SURFACE DRAINAGE IS 1	TO BE SPECIFIED BY A CERTIFIED CONSULTING ENGINEER.	
		MΛC	Λ

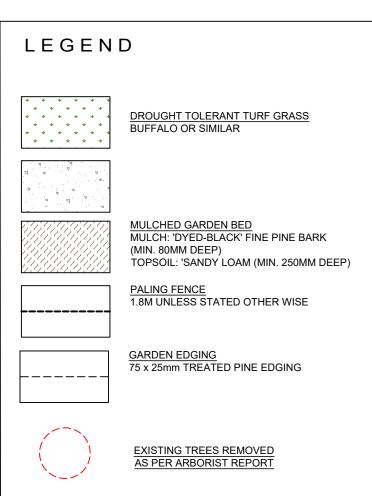
LANDSCAPE PLAN OVERALL LANDSCAPE 2 TOBRUK STREET - MORWELL - VIC





15/01/2024

DATE:



NOTES - ALL LEVELS ARE TO A.H.D.

PROPOSED INTERNAL FENCING TO BE 1.8M HIGH TIMBER PALINGS UNLESS OTHERWISE NOTED.

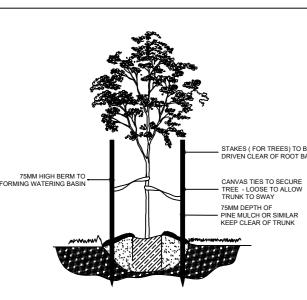
- ALL BOUNDARY FENCES ARE EXISTING AND ARE TO REMAIN (EXCEPT WHERE WALL PROPOSED ON BOUNDARY).
- ALL LANDSCAPING SHOWN IS CONCEPTUAL AND INDICATIVE ONLY. - 6 CUBIC METERS OF STORAGE IS PROVIDED WITHIN GARDEN SHED UNLESS OTHERWISE NOTED.
- UNLESS SPECIFIED OTHERWISE, ALL STEP TREADS ARE TO BE 320 350MM DEEP. STEP RISERS TO BE MAXIMUM 180MM HIGH.

PLANTING SCHEDULE

	SPECIES	COMMON NAME	POT SIZE	H X W (MATURITY)	QTY.
\bigotimes	LAGERSTROEMIA INDICA X FAURIEI 'NATCHEZ'	CREPE MYRTLE	45L (2.0M TALL WHEN PLANTED)	8 X 6M	16
	ACACIA IMPLEXA	LIGHT WOOD	45L (2.0M TALL WHEN PLANTED)	10 X 4M	16
	CALLISTEMON 'KINGS PARK SPECIAL'	BOTTLE BRUSH	45L (2.0M TALL WHEN PLANTED)	2-4 X 2-4M	15
	DIETES GRANDIFLORA	WILD IRIS	14CM	1.0-1 X 1.0M	14

75MM DEPTH MULCH OR 50MM MULCH IN CELL PLANTING BEDS FEATHERED OUT TOWARDS TIMBER GARDEN EDGE

TIMBER GARDEN EDGE		75X 25 ROUGH SAWN TREATED PINE EDGE
		2 No. 40MM GALVANISED NAILS
		75 X 25 ROUGH SAWN TREATED PINE EDGE SECURED TO TIMBER EDGING @ 1200 CTRS
GARDEN BED & TIMBER EDGIN	G DETAIL	
NOT TO SCALE		



LAGERSTROEMIA

INDICA X FAURIEI -'NATCHEZ' X 1

TYPICAL TREE/SHRUB PLANTING DETAIL NOT TO SCALE

LANDSCAPE CONSTRUCTION SPECIFICATIONS

SUBGRADE PREPARATION:

PLANTING

DETAILS

SITE PREPARATION TO BE CARRIED OUT UNDER SUITABLE CONDITIONS AN IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE. THE USE OF MACHINERY AN TOOLS THAT MAY DAMAGE SOIL STRUCTURE IS NOT ACCEPTABLE.

GARDEN BED AND LAWN SUB-GRADE IS CULTIVATED TO A DEPTH OF 150MM AN SHAPED TO ACHIEVE DRAINAGE FALL PRIOR TO ADDING TOPSOIL . GYPSUM IS REQUIRED, THIS IS TO BE DISTRIBUTED AND CULTIVATED INTO THE SUB-GRADE AS PER THE MANUFACTURER'S INSTRUCTIONS.

WEEDS ARE TO BE REMOVED PRIOR TO SUB-GRADE PREPARATION, TOP-SOILING AN PLANTING.

SOIL PREPARATION:

IMPORTED TOPSOIL IS TO BE SUPPLIED BY AN APPROVED SUPPLIER TO A DEPTH OF APPROXIMATELY 100MM (AS REQUIRED) FOR GARDEN BEDS. DO NOT SPREAD IN MUDDY CONDITIONS. THE TOPSOIL IS TO BE LIGHT TO MEDIUM FRIABLE LOAM (CAPABLE OF BEING COMPRESSED INTO A BALL BY HAND WHEN MOIST YET CAN BE BROKEN APART IMMEDIATELY AFTER) ITS PH WILL BE 6.0 - 7.0 AN FREE FROM PERENNIAL WEEDS AN BUILDING RUBBLE. THE FINISHED TOP LEVEL AFTER SETTLEMENT SHOULD BE 75MM BELOW THE EDGING LEVEL TO ALLOW FOR MULCH. IMPORTED TOPSOIL FOR LAWN AREAS TO BE SUPPLIED TO A DEPTH OF APPROXIMATELY 100MM (OF AS REQUIRED).

TIMBER EDGING:

TIMBER EDGING TO BE INSTALLED TO SEPARATE ALL LAWN, PLANTING AREAS AN LILYDALE TOPPING/PEBBLE AREAS. THE TREATED PINE TIMBER IS TO BE 75MM X 25MM IN SIZE, SECURED WITH 300MM LONG STAKES AT 1000MM SPACINGS.

PLANTS AN PLANTING:

TREES AN PLANTS SUPPLIED ARE TO BE HEALTHY AN FREE FROM INSECTS, DISEASES AN WEEDS. THE POT SIZE INDICATED IN THE PLANT SCHEDULE ARE THE MINIMUM SIZE TO BE SUPPLIED AN INSTALLED WHEN EACH PLANTING AREA IS PREPARED, IF SOIL IS DRY, FILL WITH

WATER AND ALLOW TO DRAIN AWAY COMPLETELY. PLANTS ROOTS ARE TO BE TEASED OUTWARDS IF ROOTS ARE MATTED IN POT. PLACE PLANT IN CENTRE OF HOLE AN ENSURE THAT THE TOP OF THE ROOTBALL IS FLUSH WITH THE SURROUNDING SOIL SURFACE AN THE TRUCK IS VERTICAL.

TREES ARE TO BE STAKED WITH TWO HARDWOOD STAKES DRIVEN FIRMLY INTO THE GROUND BUT NOT THROUGH THE ROOTBALL . TREES ARE TO BE SECURED TO THE STAKES WITH STRONG BUT FLEXIABLE TREE TIES THAT ARE TIGHT ENOUGH TO SUPPORT THE TREES IN WINDY CONDITIONS BUT LOOSE ENOUGH TO SIMULATE GOOD TREE GROWTH AN DEVELOPMENT THE TREE TIES MUST NOT INJURE TREE BARK OR RESTRICT TREE GROWTH FOR AT LEAST THE FIRST THREE YEARS OF TREE GROWTH.

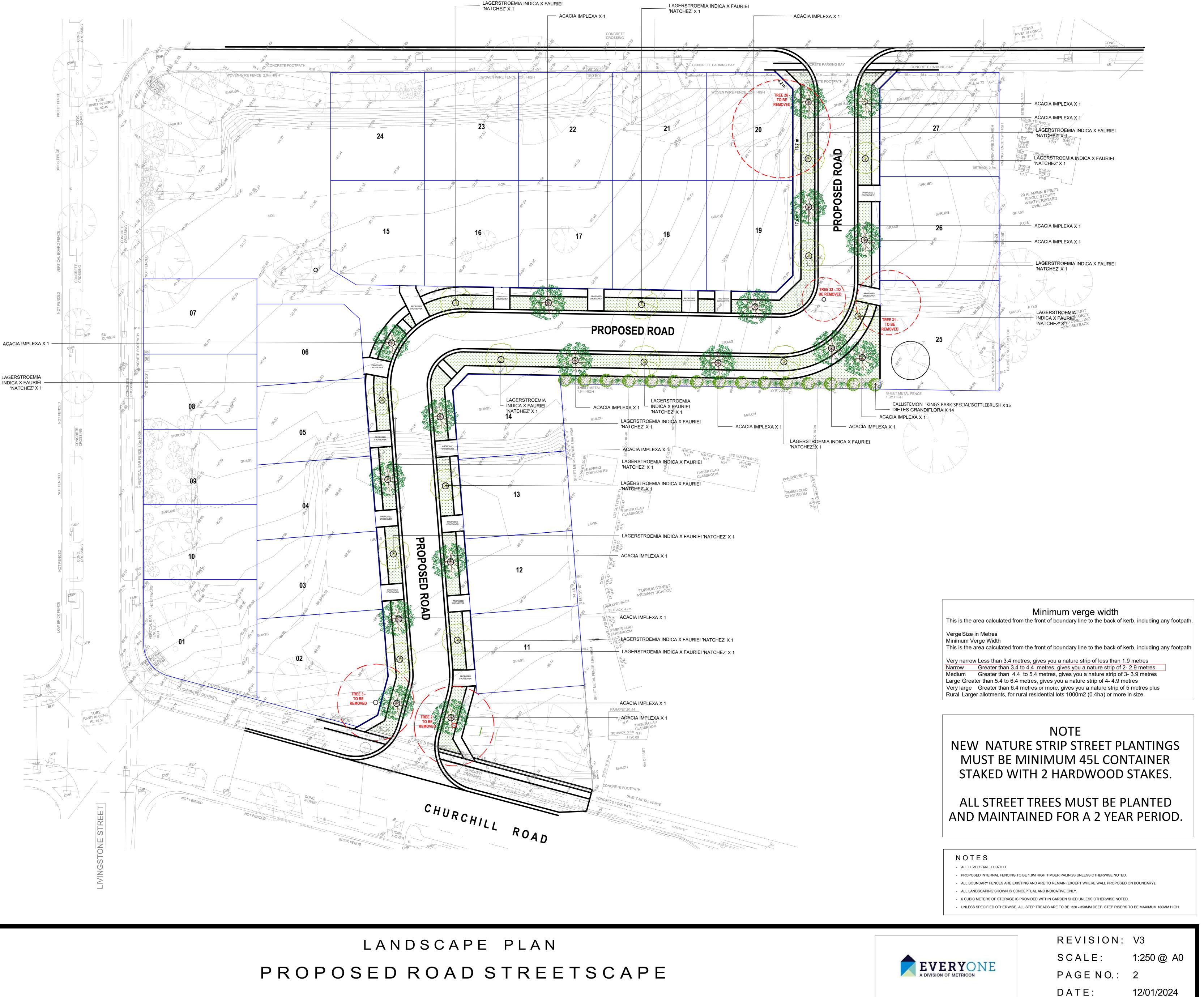
A SLOW RELEASE FERTILISER (E.G. OSMOCOTE OR SIMILAR) IS TO BE APPLIED TO ALL GARDEN BEDS AS SPECIFIED BY THE MANUFACTURER AN BE KEPT AWAY FROM THE PLANT TRUNKS AN THEN WATERE IMMEDIATELY A LAYER OF AGED ORGANIC MULCH TO A MINIMUM DEPTH OF 75MM IS TO BE APPLIED TO ALL PLANTING AREAS AFTER PLANTING IS COMPLETED

DRAINAGE:

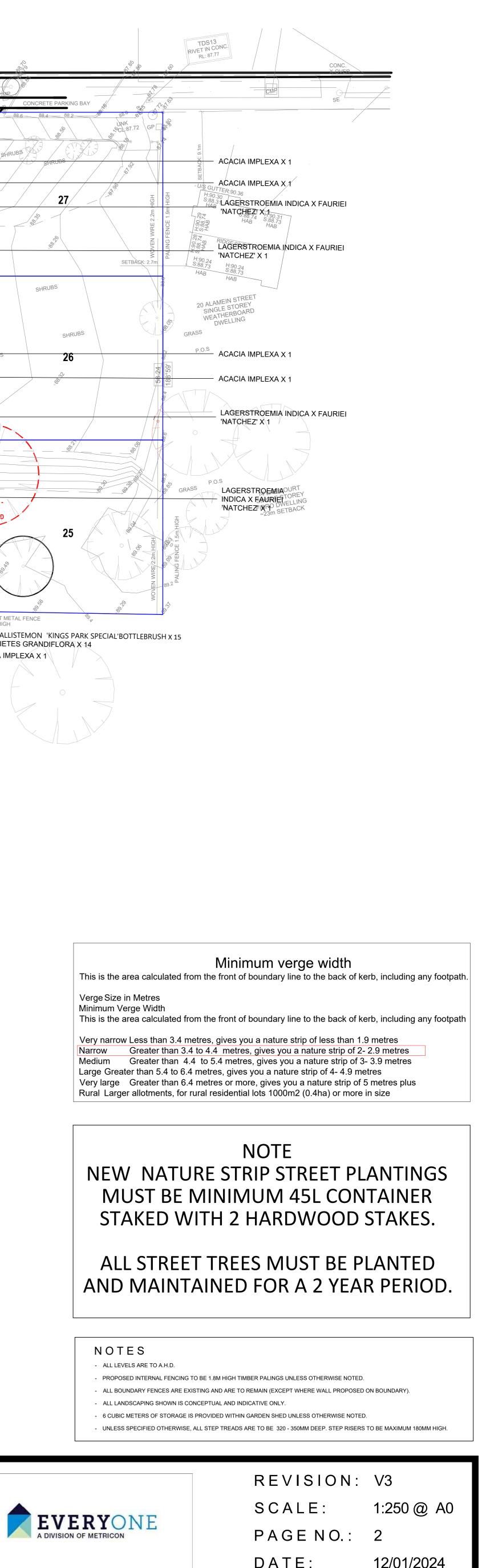
SURFACE AN SUB-SURFACE DRAINAGE IS TO BE SPECIFIED BY A CERTIFIED CONSULTING ENGINEER.



LANDSCAPE PLAN 2 TOBRUK STREET - MORWELL - VIC





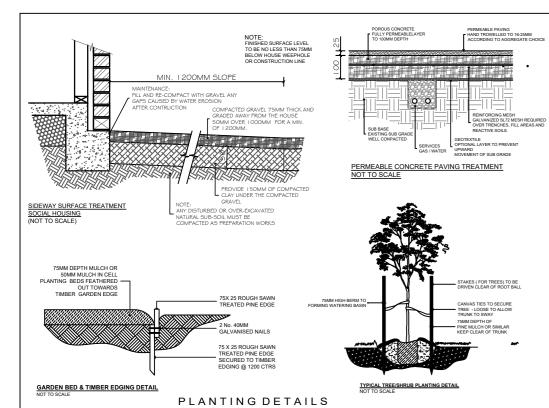




X	MAGNOLIA GRANDIFLORA LITTLE GEM	DWARF MAGNOLIA	25CM (1.5M TALL WHEN PLANTED)	5 X 2.5M	2
ALL ALL	PYRUS CALLERYANA CHANTICLEER	BRADFORD PEAR	25CM (1.5M TALL WHEN PLANTED)	11 X 6M	3
*	ACACIA MELANOXYLON	BLACKWOOD WATTLE	40CM (2.0M TALL WHEN PLANTED)	12-15 X 5M	3



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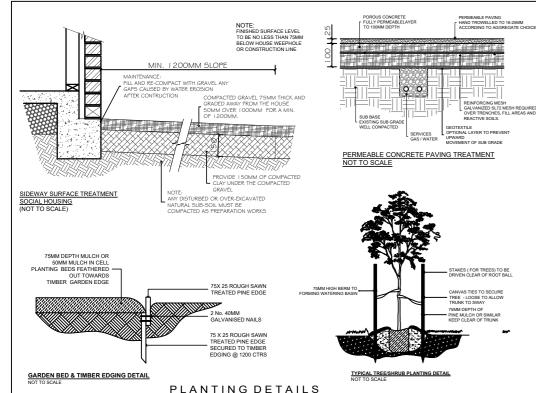




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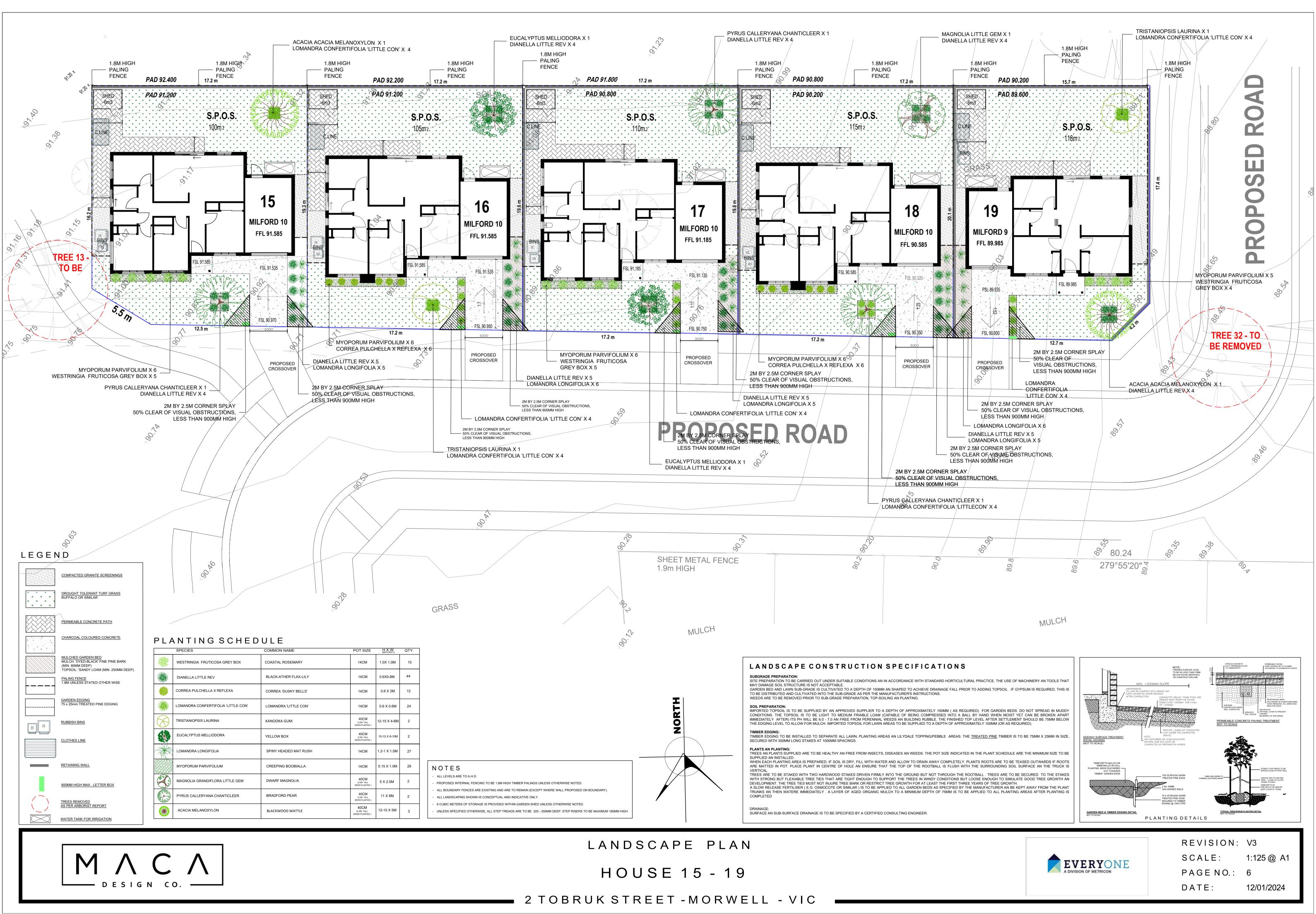


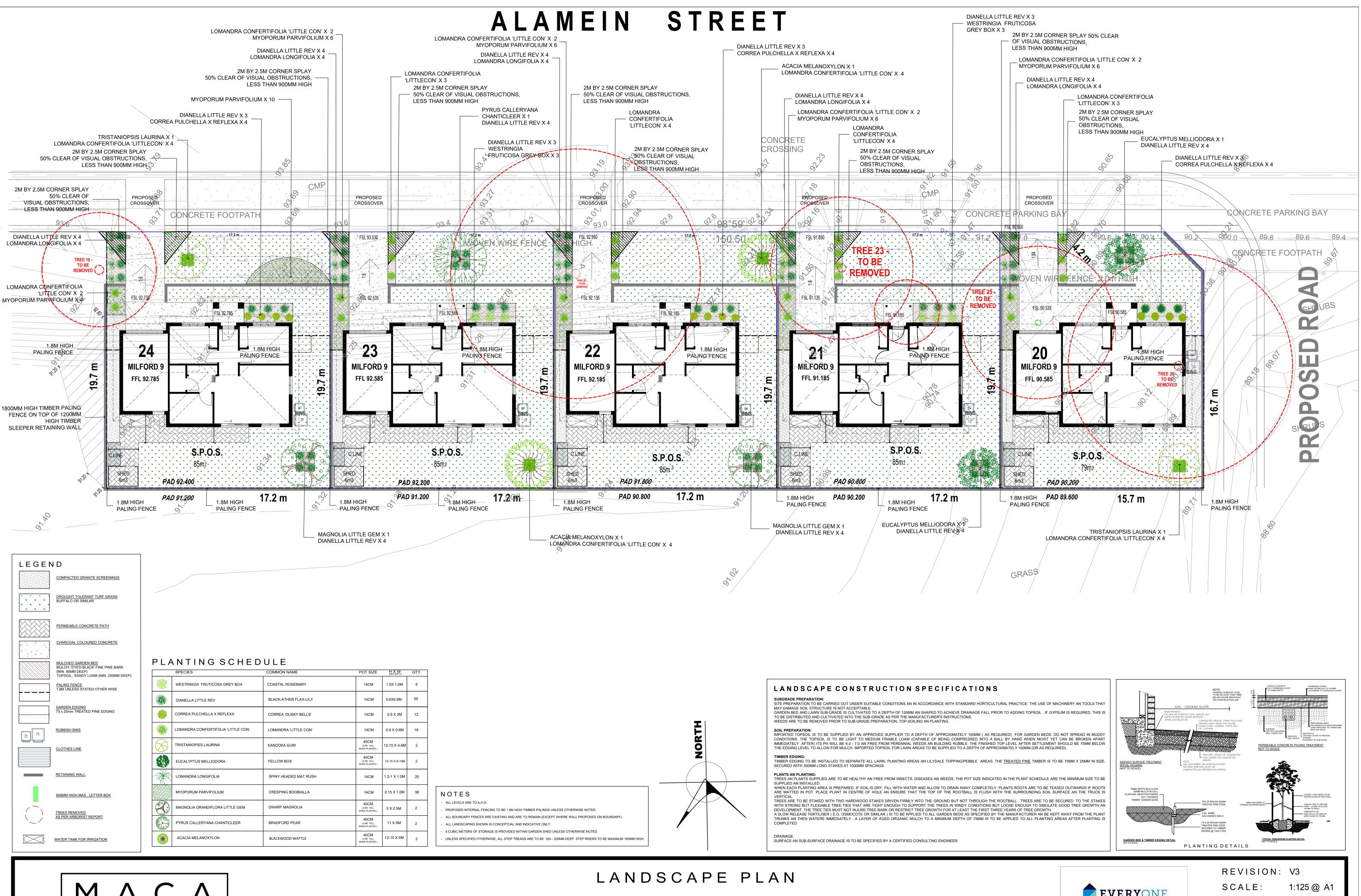
\mathbf{i}	MAGNOLIA GRANDIFLORA LITTLE GEM	DWARF MAGNOLIA	40CM (2.0M TALL WHEN PLANTED)	5 X 2.5M	4	
	PYRUS CALLERYANA CHANTICLEER	BRADFORD PEAR	40CM (2.0M TALL WHEN PLANTED)	11 X 6M	3	
	ACACIA MELANOXYLON	BLACKWOOD WATTLE	40CM (2.0M TALL WHEN PLANTED)	12-15 X 5M	2	



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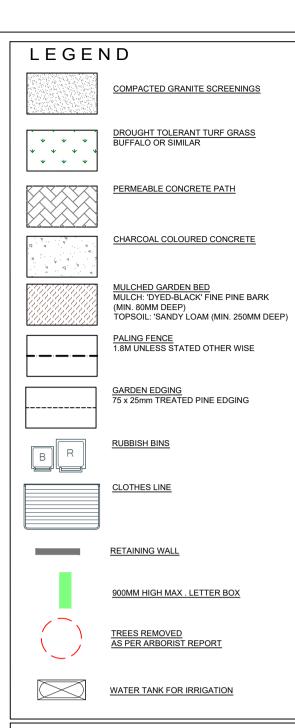
HOUSE 20 - 24

2 TOBRUK STREET - MORWELL - VIC

EVERYONE

PAGENO.: 7 12/01/2024

DATE:



NOTES

- ALL LEVELS ARE TO A.H.D.

PROPOSED INTERNAL FENCING TO BE 1.8M HIGH TIMBER PALINGS UNLESS OTHERWISE NOTED.

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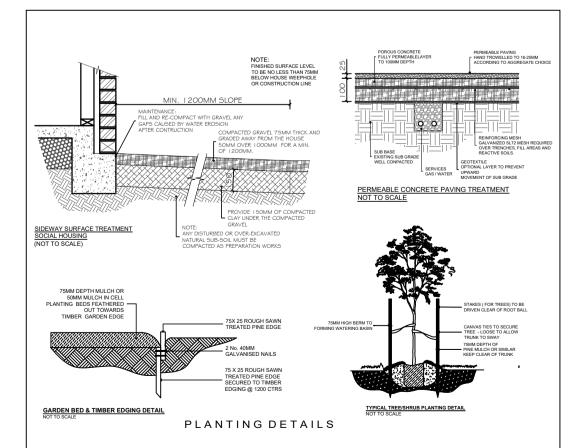
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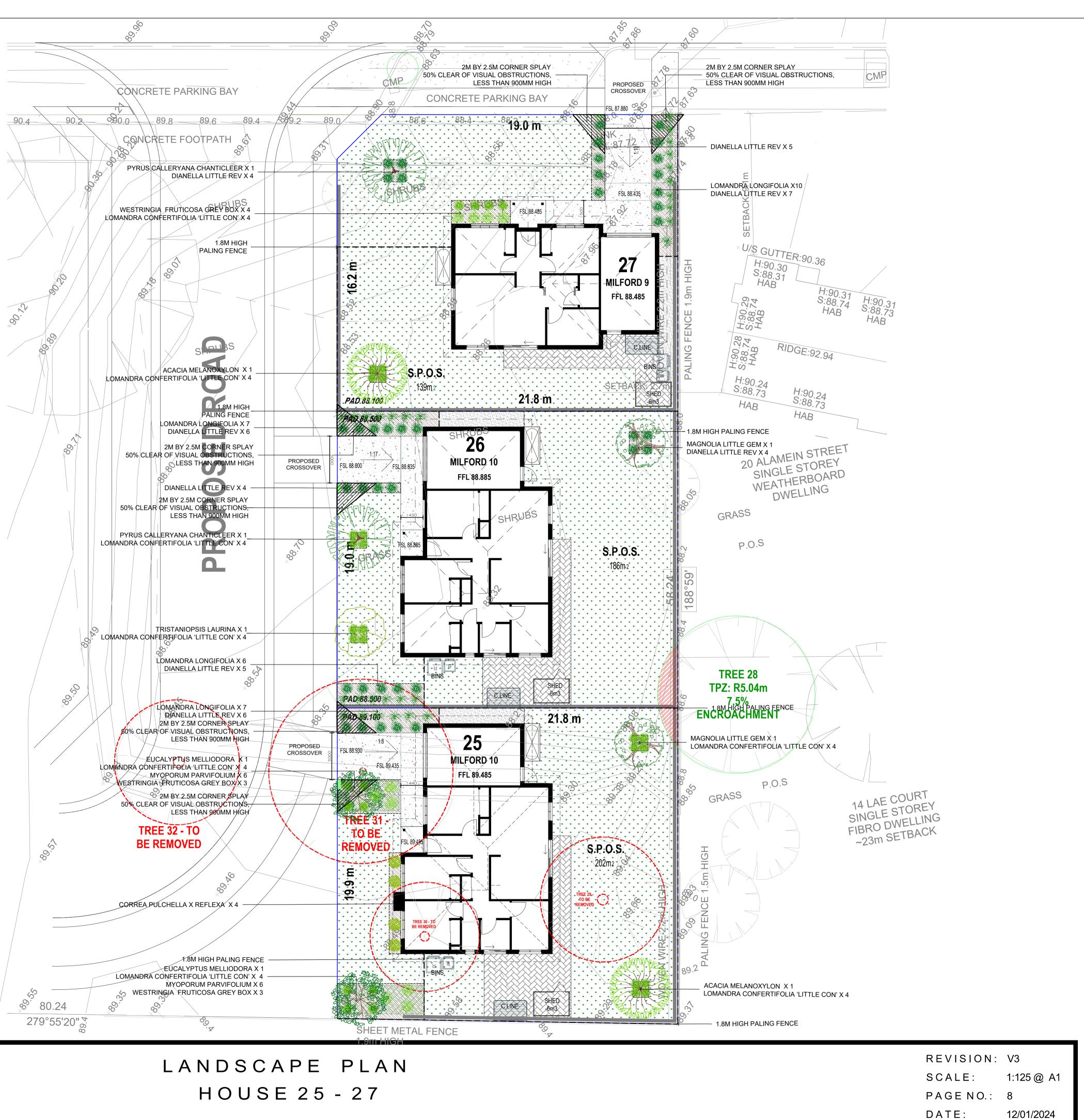
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	DIANELLA LITTLE REV	BLACK-ATHER FLAX-LILY	14CM	0.6X0.6M	41
	CORREA PULCHELLA X REFLEXA	CORREA 'DUSKY BELLS'	14CM	0.6 X 2M	4
*	LOMANDRA CONFERTIFOLIA 'LITTLE CON'	LOMANDRA 'LITTLE CON'	14CM	0.6 X 0.6M	32
\bigotimes	TRISTANIOPSIS LAURINA	KANOOKA GUM	40CM (2.0M TALL WHEN PLANTED)	12-15 X 4-6M	1
*	EUCALYPTUS MELLIODORA	YELLOW BOX	40CM (2.0M TALL WHEN PLANTED)	10-15 X 8-10M	2
	LOMANDRA LONGIFOLIA	SPINY HEADED MAT RUSH	14CM	1.2-1 X 1.0M	30
	MYOPORUM PARVIFOLIUM	CREEPING BOOBIALLA	14CM	0.15 X 1.0M	12
Ś	MAGNOLIA GRANDIFLORA LITTLE GEM	DWARF MAGNOLIA	40CM (2.0M TALL WHEN PLANTED)	5 X 2.5M	2
ALL DE	PYRUS CALLERYANA CHANTICLEER	BRADFORD PEAR	40CM (2.0M TALL WHEN PLANTED)	11 X 6M	2
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LANDSCAPE CONSTRUCTION SPECIFICATIONS

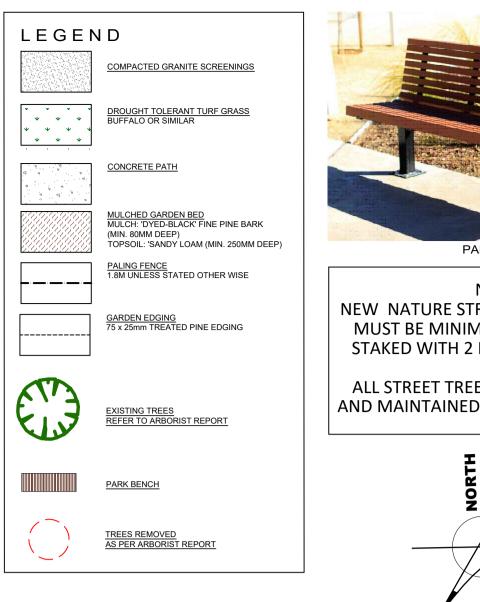
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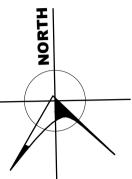
2 TOBRUK STREET - MORWELL - VIC



PARK SEATING

NOTE NEW NATURE STRIP STREET PLANTINGS MUST BE MINIMUM 45L CONTAINER STAKED WITH 2 HARDWOOD STAKES.

ALL STREET TREES MUST BE PLANTED AND MAINTAINED FOR A 2 YEAR PERIOD.



PLANTING SCHEDULE

	SPECIES	COMMON NAME	POT SIZE	(MATURITY)	QTY.
醾	WESTRINGIA FRUTICOSA GREY BOX	COASTAL ROSEMARY	14CM	1.0X 1.0M	11
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*	CORREA PULCHELLA X REFLEXA	CORREA 'DUSKY BELLS'	14CM	0.6 X 2M	14
*	DIETES GRANDIFLORA	WILD IRIS	14CM	0.6 X 0.6M	8
\bigotimes	TRISTANIOPSIS LAURINA	KANOOKA GUM	40L (2.0M TALL WHEN PLANTED)	12-15 X 4-6M	5
	EUCALYPTUS MELLIODORA	YELLOW BOX	40L (2.0M TALL WHEN PLANTED)	10-15 X 8-10M	7
	C LOMANDRA LONGIFOLIA	SPINY HEADED MAT RUSH	14CM	1.2-1 X 1.0M	17
	MYOPORUM PARVIFOLIUM	CREEPING BOOBIALLA	14CM	0.15 X 1.0M	40
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H	ROSMARINUS OFFICINALIS PROSTRATA	CREEPING ROSEMARY	14CM	0.3 X 1.0M	52
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DRAINAGE: SURFACE AN SUB-SURFACE DRAINAGE IS TO BE SPECIFIED BY A CERTIFIED CONSULTING ENGINEER.

RMEABLE CONCRETE PAVING TREATMENT 50MM DEPTH MOLCH 50MM MULCH IN C LANTING BEDS FEATHER OUT TOWAR TIMBER GARDEN ED STAKES (FOR TREES) TO BE DRIVEN CLEAR OF ROOT BALL GARDEN BED & TIMBER EDGING DETAIL TYPICAL TREE/SHRUB PLANTING DETAIL PLANTING DETAILS





NOTES

ALL LEVELS ARE TO A.H.D.

2 TOBRUK STREET - MORWELL - VIC -

LEGEND				
* * * *	DROUGHT TOLERANT TURF GRASS BUFFALO OR SIMILAR			
	CONCRETE PATH			
	MULCHED GARDEN BED MULCH: 'DYED-BLACK' FINE PINE BARK (MIN. 80MM DEEP) TOPSOIL: 'SANDY LOAM (MIN. 250MM DEEP)			
	PALING FENCE 1.8M UNLESS STATED OTHER WISE			
	GARDEN EDGING 75 x 25mm TREATED PINE EDGING			
	EXISTING TREES REFER TO ARBORIST REPORT			
	TREES REMOVED AS PER ARBORIST REPORT			
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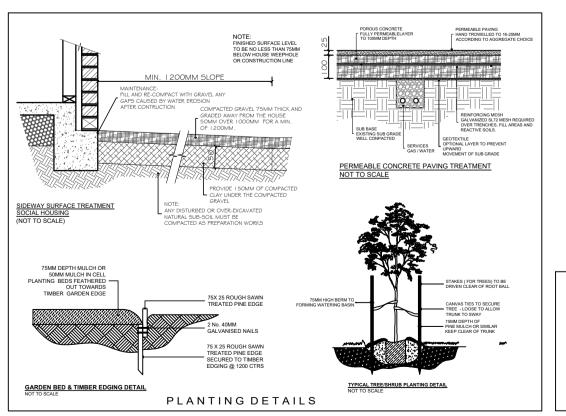
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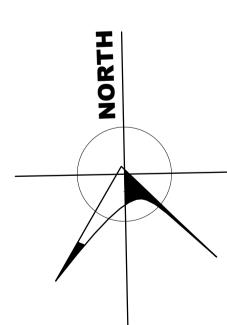
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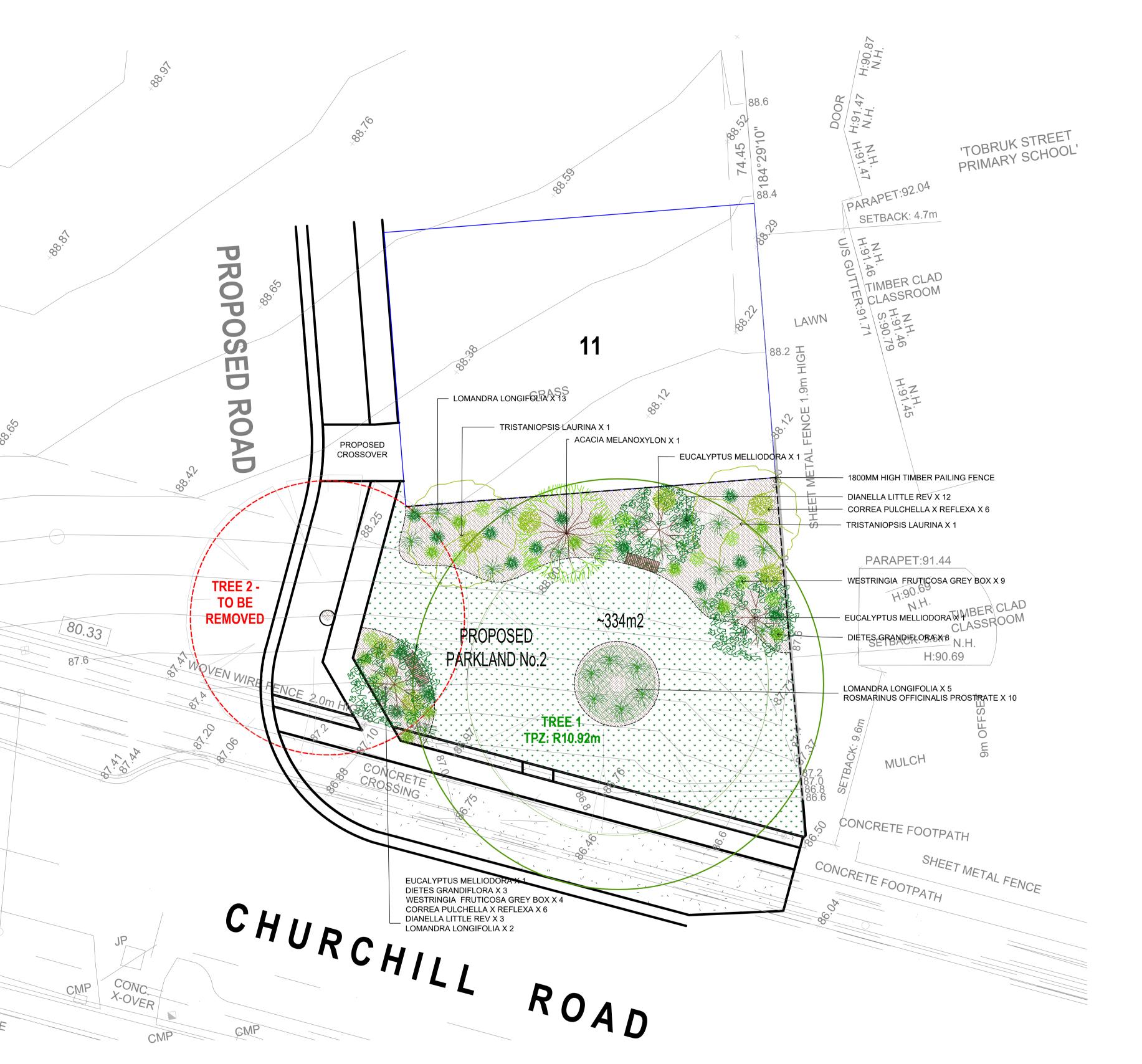
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- MARCA CO.

Document Set ID: 2641236 Version: 1, Version Date: 15/05/2024



LANDSCAPE PLAN PARK LAND 2

2 TOBRUK STREET - MORWELL - VIC



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Report

2 Tobruk Street, Morwell – Stormwater Management Strategy

Beveridge Williams

4 December 2023





Document Status

Version	Doc type	Reviewed by	Approved by	Date issued
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02	Rev02	Aram Manjikian	Aram Manjikian	14 November 2023
03	Rev03	Aram Manjikian	Aram Manjikian	4 December 2023

Project Details

Project Name	2 Tobruk Street, Morwell – Stormwater Management Strategy
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1 INTRODUCTION

This report sets out the stormwater management strategy (SWMS) for a proposed residential development at 2 Tobruk Street, Morwell, outlining a concept design to manage stormwater discharge from the proposed development, and has been prepared in response to preliminary planning advice provided by Latrobe City Council. The preliminary advice states that on-site flow detention may be needed to restrict stormwater discharge from the site to pre-development levels, per Clause 53.18 – Stormwater Management in Urban Developments of the Victorian Planning Provisions. Additionally, the Council confirms in its preliminary advice that stormwater quality management per Clause 56.07-4 is not required to be considered in relation to the site, therefore excluding the need for any potential stormwater treatment assets to be designed into the development.



2 BACKGROUND

The site is a cleared large-scale lot located approximately 1.5 km north-east of the Morwell town centre, within a General Residential Zone 1 (GRZ1) area. Vegetated along its perimeter, it is bordered by Alamen Street to the north, Tobruk Street to the west, and Churchill Road to the south. Waterhole Creek is aligned north-south approximately 600 m east of the site (refer to Figure 2-1).

The site is approximately 1.4 ha in size and slopes in a south-westerly direction, with high and low points of 92.47 and 86.98 m AHD respectively (see Figure 2-2).



Figure 2-1 Site Locality

23010374_R01_v03









In addition to the above, initial investigation of the site established that it was occupied by a school campus prior to 2017, after which the campus was closed and demolished (see Figure 2-3). This indicates that the post-development flows generated at the site are possibly less than the historic pre-development flows, due to the apparent high imperviousness of the original land use.







Figure 2-3 Site Land Use Change (2016 & Current)



2.1 Proposed Development

The proposed development is for a residential subdivision, with the development concept plan shown in Figure 2-4, with a total of 27 lots to be developed. Access to the subdivision via Alamein Street to the north and Churchill Road to the south is proposed.







Figure 2-4 Development Layout Plan

It must be noted that the proposed concept site layout may change as the development progresses. Provided that the overall density and layout are not significantly altered, minor revisions will not impact the stormwater management concept design presented in this report.



3 STORMWATER QUANTITY MANAGEMENT

This section of the SWMS details the behaviour and conveyance of the stormwater generated at the site. The intent is to guide drainage design in a manner that results in the level of pre-development flow being discharged from site being maintained or potentially reduced.

The proposed stormwater management strategy involves conveying runoff to the south-eastern corner of the site, where a 300 mm outfall connection will then direct flow into the existing drainage line along the southern side of Churchill Road (see Figure 3-1). 2kL rainwater harvesting tanks will be installed on each dwelling that comprises the development (for a total of 27 rainwater tanks). Larger scale on-site stormwater detention will not be required, as the proposed development will generate less runoff than the previous land use accommodated by the site. As outlined by Latrobe City Council's preliminary planning advice, additional treatment of stormwater to Victorian Planning Provisions standards will also not be required. The site's internal drainage network will be aligned along the road running through the proposed development, and will convey flows to the designated connection point.



Figure 3-1 Proposed Drainage Connection

3.1 Hydrological Assessment

A hydrological assessment of the site was undertaken in order to confirm the post-development flows generated at the site would be less than the historic pre-development flows.

In order to establish the discharge from the site in the pre- and post-development scenarios, site imperviousness was first quantified through GIS analysis. Using (i) aerial imagery of the site and (ii) the development layout plan for the proposed residential subdivision, impervious areas were digitalised and the fraction impervious for both development cases was determined (see Figure 3-2 and Figure 3-3). Note that not all impervious areas in the post-development scenario were digitalised, as in some instances the impervious areas were duplicates of one another. Values for the duplicate areas were multiplied by the number of similar lots. Additionally, the road centreline was buffered slightly past the extent of the road surface in order to represent the impervious area of the footpaths on either side of the road.







Figure 3-2 Site Impervious Area (2016)



Figure 3-3 Site Impervious Area (Proposed)

Following the determination of the impervious fractions, the rational method was then utilised to calculate the runoff from the site in its pre- and post-development forms as an initial check. The school was assumed to flow continuously along its longest impervious east-west alignment; the proposed residential development was taken as flowing along the entirety of its single internal road at a grade of 0.5%. The results of the hydrologic assessment are detailed in Table 3-1, which shows that the 1% annual exceedance probability (AEP) pre-development flow at the site is 0.06 m³/s less than the equivalent post-development flow.



Table 3-1 1% AEP Pre- and Post-development Flows

Scenario	f _i (Fraction Imperviousness)	1% AEP Flow
School (Pre-development)	0.57	0.47 m³/s
Residential Subdivision (Post-development)	0.47	0.41 m³/s

With post-development flows shown to be less than the historic pre-development flows, it is likely that the local drainage network would have the capacity to accept the runoff discharging from the residential subdivision after its establishment. This operates under the assumption that the network had originally been designed to accommodate discharge from the school as well as the surrounding existing residential area. Therefore, on-site detention of stormwater will not be necessary to implement at the proposed residential development.

3.1.1 Drainage Capacity Check

A capacity check of the drainage network downstream of the site was undertaken to assess any potential impacts related to the proposed development being connected into the existing drainage network. The local catchment and drainage network were digitised for use in DRAINS for this assessment (see Figure 3-4). DRAINS is an urban stormwater software package regularly used in Australia to design and analyse stormwater drainage networks.







Figure 3-4 DRAINS Model Layout

Performing the network analysis, it was found that the drainage system did not currently appear to have capacity for a 20% AEP event upstream of the subject site, regardless of the nature of the development (i.e. surcharging occurred in both the pre- and post-development conditions models). It is likely that due to the age of the network, it is potentially not designed to any known modern standards (e.g. ARR).

This is supported by the main drainage line immediately upstream of the site appearing to be designed to accommodate a flow rate of around 1 m³/s. This capacity estimate is based on checks of the pipe grade/diameter carried out using commercial pipe sizing charts, as well as output provided by the design functionality embedded within DRAINS. When DRAINS was run using the rational method as the hydrological model behind its analysis, the upstream catchment generated approximately 1 m³/s of runoff; however, when modelled with hydrology adhering to the ARR 2019 ensemble method, approximately 1.5 m³/s of flow was produced.

Despite the finding above, post-development conditions nevertheless result in slightly less surcharging than in the pre-development scenario, due to the smaller runoff generated at the site owing to the lower fraction impervious identified as part of the hydrological analysis (refer to Figure 3-5 and Figure 3-6).





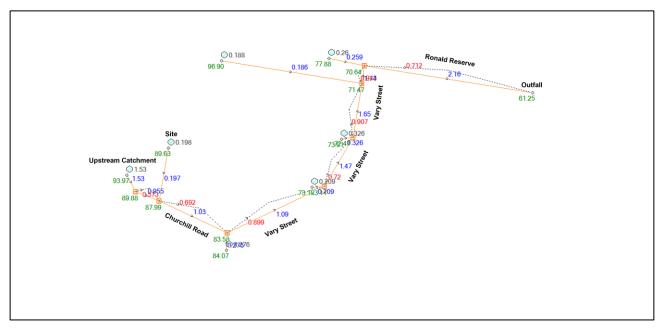


Figure 3-5 DRAINS Model Results (Pre-development)



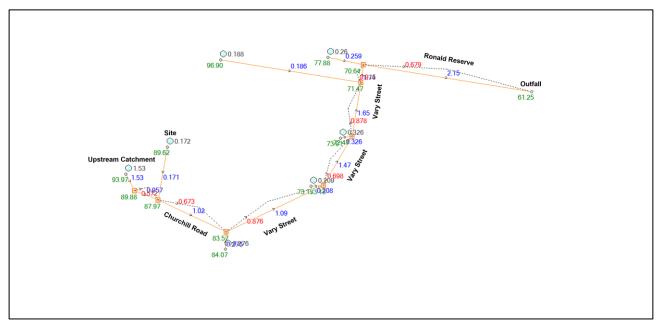


Figure 3-6 DRAINS Model Results (Post-development)

3.2 Sub-surface Drainage

20% AEP event flows will be routed through the underground drainage network, which discharges into Waterhole Creek approximately 850 m downstream of the proposed development. The drainage network will direct runoff generated on the development to the connection point at the south-east corner of the site. The 20% AEP event flow has been estimated at 0.17 m³/s via the DRAINS model results; the 300 mm connection into the existing drainage line along the southern side of Churchill Road has been sized to accommodate this magnitude of runoff.

3.3 Overland Flow

Overland flow will traverse lots as sheet flow and fall towards the internal road of the development. Minor drainage flows will then discharge into the local drainage network or legal point of discharge. Any overland gap flows will follow the internal road until they meet Churchill Road running adjacent to the southern boundary of the site, where they will eventually be conveyed to Waterhole Creek.

The internal road is to contain any of the gap flow that is generated at the site. In order to take a conservative approach, the expected location of the largest gap flow was identified and used as the basis for a PC-Convey assessment.

The intersection of the internal road with Churchill Road was taken as the location accommodating the largest site gap flow of 0.34 m³/s. Assuming a 1 in 200 gradient as per the current site topography and minimum road grade recommendations, the assessment revealed that the road was able to provide 170 mm of freeboard while detaining the gap flow, satisfying the minimum requirement (see Figure 3-7).



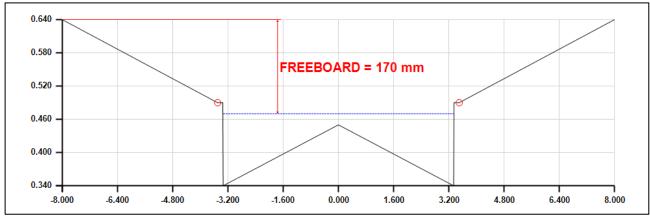


Figure 3-7 PC-Convey Assessment Result

Additionally, the average depth within the cross-section of the road reserve was calculated as 0.08 m and the average flow depth multiplied by the average flow velocity is equal to 0.06 m²/s, which are below the floodway safety criteria thresholds of 0.3 m and 0.35 m²/s respectively.



4 SUMMARY

This report sets out the recommended SWMS for the proposed 1.4-ha residential development at 2 Tobruk Street, Morwell. This SWMS addresses the preliminary planning advice that Latrobe City Council has provided in relation to the development, which included the specification of any potential on-site stormwater detention assets required to limit the discharge of runoff from the subdivision to pre-development levels (satisfying the conditions of Clause 53.18 of the Victorian Planning Provisions as it relates to the proposed development).

The proposed management strategy consists of a 300 mm connection from the south-eastern corner of the site to the existing drainage line along the southern side of Churchill Road. Runoff from the site will be captured by the internal drainage network aligned along the road running through the proposed development, and will be directed to the connection point. A total of 27 2kL rainwater harvesting tanks will be installed at the site (one for each lot). As the proposed development will not result in an increase in flows over the previous land use accommodated by the site, on-site stormwater detention will not be required.

To verify that the post-development flows generated at the site would not be greater than the pre-development flows, a hydrological assessment of the site was carried out. GIS analysis was undertaken to quantify the fraction impervious for both development cases; an initial check of the runoff owing to the site in its pre- and post-development forms was then calculated using the rational method. It was shown that the 1% AEP pre-development flow at the site is 0.06 m³/s less than the corresponding post-development flow.

To gauge any potential impacts of the proposed development being connected into the existing drainage network, a capacity check of the drainage network downstream of the site was carried out using the urban stormwater software package DRAINS. It was discovered that upstream of the proposed development, the drainage system did not currently appear to have capacity for a 20% AEP event, irrespective of the land use of the site. This notwithstanding, slightly less surcharging was present in post-development conditions, in comparison with the pre-development scenario.

Gap flows present at the site during a runoff event will need to be contained by the development's internal road network. A PC-Convey assessment of the road reserve was completed at the location of the largest expected gap flow, which revealed the internal road of the proposed development was able to meet the minimum freeboard requirement.

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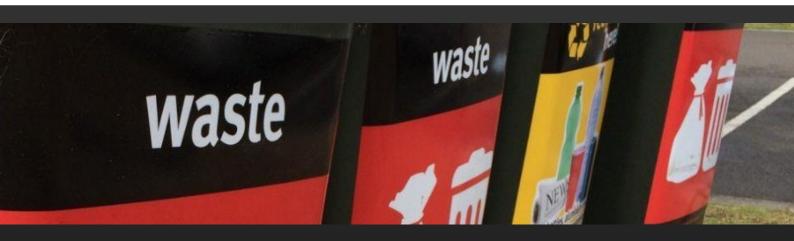
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2-14 Tobruk Street, Morwell

Waste Management Plan



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1 INTRODUCTION

onemile**grid** has been requested by Metricon Homes to undertake a Transport Impact Assessment of the proposed community housing development at 2-14 Tobruk Street, Morwell.

As part of this assessment the subject site has been inspected with due consideration of the development proposal, traffic and parking data has been sourced, and relevant background information has been reviewed.

2 EXISTING SITE CONDITIONS

The <u>subject site</u> is located at 2-14 Tobruk Street, Morwell and is bounded by Alamein Street, Tobruk Street and Churchill Road, as shown in Figure 1.

Figure 1 Site Location



Copyright Nearmap



3 DEVELOPMENT PROPOSAL

3.1 General

It is proposed to develop the subject site for the purposes of a residential subdivision to allow development of the site for community housing dwellings, as shown in Table 1.

Table 1 Proposed Development

Component	No/Area
2-Bedroom Dwelling	17
3-Bedroom Dwelling	10
Total Houses	27

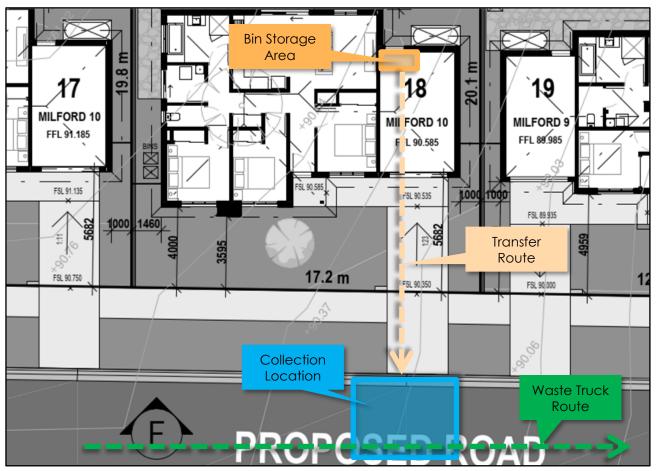
3.2 Waste Management

It is proposed to utilise Latrobe Council's municipal waste collection services to manage the collection and disposal of all waste streams associated with the development.

Bins will be stored within each dwelling, likely in the respective garages and then wheeled out to the kerbside on collection days.

An example collection location and expected transfer route is shown in Figure 2.







4 WASTE GENERATION

4.1 Sustainability Victoria Recommended Rates

Waste generation rates published within Sustainability Victoria's "Better Practice Guide for Waste Management and Recycling in Multi-unit Developments" suggest the following rates for multi-unit developments:

Table 2 Sustainability Victoria Recommended Weekly Rates – Residential

Dwelling Size	Garbage	Recycling and Paper
Individual dwelling	120 L	240 L

4.2 Adopted Council Rates

The standard minimum compulsory kerbside bins within the Latrobe City Council are 1×120 litre garbage bin, 1×240 litres recycling bin and 1×240 litre green waste bin.

4.3 Expected Waste Generation

4.3.1 Garbage and Recycling

It is proposed to provide garbage, organic and recycling bins in accordance with Council standard bin provision.

Based on Sustainability Victoria and Latrobe City Councill's adopted waste generation rates, the following weekly waste generation is expected per dwelling.

Table 3Expected Waste Generation Per Dwelling

Component – Stream	Total Waste/Week
Garbage	120 L
Recycling	120 L
Green Waste	120 L

4.3.2 Green Waste

Latrobe City Council requires the use of a green waste bin. Ample area is available within the garage or open space areas of each dwelling for the storage of a green waste bin. In relation to collection, green waste will be collected fortnightly, on opposite weeks to the recycling collection, therefore the collection of green waste can occur in a similar manner to the recycling collection, utilising the proposed collection points.



4.3.3 Hard Waste

Hard waste will be collected from kerbside in accordance with Council standard requirements. Latrobe City Council has a yearly kerbside hard waste collection service for Morwell.

Additional to the above, hard waste may be disposed of independently by residents, at Council's Recycling Centre/Transfer Station.

4.3.4 Soft Plastics

Soft plastic waste is estimated to contribute approximately 20% of landfill waste volumes, and includes such things as bread bags, plastic bags, bubble wrap and snap lock bags.

Previously, soft plastics were able to be recycled via REDcycle bins located at most Coles and Woolworths supermarkets. However, REDcycle have since paused the recycling of soft plastic due to supplier/storage issues, therefore soft plastic should be disposed of using the garbage bins.

4.3.5 Electronic Waste (E-Waste)

E-waste includes all manner of electronic waste, such as televisions, computers, cameras, phones, household electronic equipment, batteries and light bulbs. E-waste contains valuable materials that can be recovered and reused such as tin, nickel, zinc, aluminium, copper, silver and gold.

On 1st July 2019, the disposal of E-waste to landfill was banned by the Victorian Government.

A large number of e-waste collection points are available in Victoria and private contractors are equipped with the resources to undertake E-waste collections.

Council does not provide a residential kerbside pick-up service for E-waste, therefore E-waste must be taken by residents to the appropriate collection centre, as described below:

- Planet Ark operate a number of e-waste recycling drop-off locations throughout Victoria (<u>https://recyclingnearyou.com.au/electrical</u>);
- > Officeworks stores accept small amounts of personal E-waste;
- > Aldi stores accept batteries; and
- > Some Bunnings stores accept batteries.

Additional recycling locations are provided at https://recyclingnearyou.com.au/



5 **BIN REQUIREMENTS**

5.1 Bin Provision and Specifications

It is proposed to utilise Council's municipal waste collection for all waste services for the proposed development. Latrobe City Council offers a 120 litre garbage bin, a 240 litre green waste bin and a 240 litre recycling bin for each dwelling.

Latrobe City Council collects garbage bins weekly while recycling and green waste bins are collected fortnightly on alternating weeks.

Consequently, the following bins will be required for each dwelling of the proposed development.

Component – Stream	Total Waste/Week	Bin Size	Collection Frequency	Bins Required
Garbage	120 L	120 L	Weekly	1 bin
Recycling	120 L	240 L	Fortnightly	1 bin
Green Waste	120 L	240 L	Fortnightly	1 bin
Total				3 bins

 Table 4
 Individual Dwelling Bin Provision

* The total bin capacity is slightly less than the expected generation, and may require some minor compaction of waste

The typical bin specifications for each bin size are provided in Table 5 below.

Stream	Capacity	Width	Depth	Height	Area	Colour
Garbage	120 litres	0.50m	0.55m	0.95m	0.28m²	Red lid and dark green body
Recycling	240 litres	0.60m	0.75m	1.10m	0.45m ²	Yellow lid and dark green body
Green Waste	240 litres	0.60m	0.75m	1.10m	0.45m ²	Light green lid and dark green body

Table 5Bin Specifications

5.2 Bin Storage

Each dwelling will store their garbage, recycling and green waste bin either in their garage or outdoor space.

With only a small number of bins in each garage and ventilation of the garages and car parking areas, the proposed storage of waste bins within a garage is considered to be appropriate, and not uncommon for residential waste.

5.3 Bin Collection

To allow for collection, bins will be transported to one of Alamein Street, Tobruk Street, Churchill Road or the internal road frontages and positioned kerbside for collection by Council.

5.4 Bin Cleaning

Residents are responsible for the maintenance and cleaning of their own bins.



6 WASTE MANAGEMENT

6.1 Best Practice Waste Management

Best Practice Waste Management is an initiative designed to reduce the amount of waste generated through encouraging a change of behaviour and action on waste management and moreover recycling.

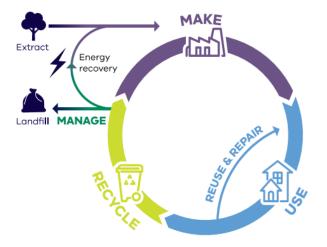
The benefits of reducing waste generation are far reaching and have been identified as significantly important by Council and the Victorian Government.

Recycling Victoria: A New Economy is a policy and 10-year action plan, prepared by the Victoria Government, to "deliver a cleaner, greener Victoria, with less waste and pollution, better recycling, more jobs and a stronger economy".

Four overarching goals have been identified in order to achieve a circular economy in relation to waste, as below:

- 1. MAKE Design to last, repair and recycle;
- 2. USE Use products to create more value;
- 3. RECYCLE Recycle more resources;
- 4. MANAGE Reduce harm from waste and pollution.

Figure 3 Resource Flows in a Circular Economy



6.2 Bin Usage

Residents will dispose of recyclables, green waste and bagged garbage in their individual bins, stored within each dwelling. Cardboard boxes should be flattened, and containers rinsed and cleaned prior to disposal in the provided bins.



6.3 Signage

To avoid contamination between garbage streams, bin lids will be colour coded in accordance with Council standards, to ensure the bin type is easily distinguishable. Furthermore, bins should include typical signage (preferably on the bin lid) to reinforce the appropriate materials to be deposited in each bin. Example signage is shown in Figure 4 below.





6.4 Collection

Residents will be responsible for the transfer of their own bins to the Alamein Street, Tobruk Street, Churchill Road or internal road street frontages for collection.



7 CONTACT INFORMATION

7.1 Council

Latrobe City Council

Phone:	1300 367 700 (Customer Service)
Web:	https://www.latrobe.vic.gov.au/

7.2 Others

Sustainability Victoria

Services:	Sustainable Waste Management initiatives and information
Phone:	1300 363 744 (Energy, Waste and Recycling)
Web:	www.sustainability.vic.gov.au
Email:	info@sustainability.vic.aov.au