

PLANNING NOTICE

An application has been received for a Permit under s.57 of the Land Use Planning Approvals Act 1993:

APPLICANT:	Wykeham Developments Pty Ltd - PA\24\0117
PROPERTY ADDRESS:	111A Meander Valley Road WESTBURY (CT: 184301/1) with stormwater infrastructure over 6 Quamby Street WESTBURY (CT: 182121/2) and 12 Quamby Street WESTBURY (CT: 124290/2)
DEVELOPMENT:	Multiple Dwellings (10 Units), Demolition of Outbuildings – density, setbacks, parking areas, pedestrian access, siting of parking area, traffic generation, attenuation area.

The application can be inspected until **Monday, 13 May 2024**, at <u>www.meander.tas.gov.au</u> or at the Council Office, 26 Lyall Street, Westbury (during normal office hours).

Written representations may be made during this time addressed to the General Manager, PO Box 102, Westbury 7303, or by email to <u>planning@mvc.tas.gov.au</u>. Please include a contact phone number. Please note any representations lodged will be available for public viewing.

If you have any questions about this application please do not hesitate to contact Council's Planning Department on 6393 5320.

Dated at Westbury on 27 April 2024.

Jonathan Harmey
GENERAL MANAGER





SEARCH OF TORRENS TITLE

VOLUME	FOLIO
184301	1
EDITION	DATE OF ISSUE
1	14-Mar-2023

SEARCH DATE : 22-Apr-2024 SEARCH TIME : 01.58 PM

DESCRIPTION OF LAND

Town of WESTBURY Lot 1 on Plan 184301 Being the land described in Conveyance No. 54/9143 Excepting thereout Lots 1, 2 & 9, 7675m2 (SP 33210) Lot 1, 1825m2 (SP 184300) Derivation : Part of Lot 1, 10 Acres and Part of Lot 2, 7A-OR-11P Gtd. to Ellen Moriarty Prior CT 33860/1

SCHEDULE 1

M952207 TRANSFER to WYKEHAM DEVELOPMENTS PTY LTD Registered 30-May-2022 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any M985330 BURDENING EASEMENT: a Pipeline and Services Easement in favour of Tasmanian Water and Sewerage Corporation Pty Limited over the land marked Taswater Easement 3. 00 wide on Plan 184301 Registered 14-Mar-2023 at 12. 01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

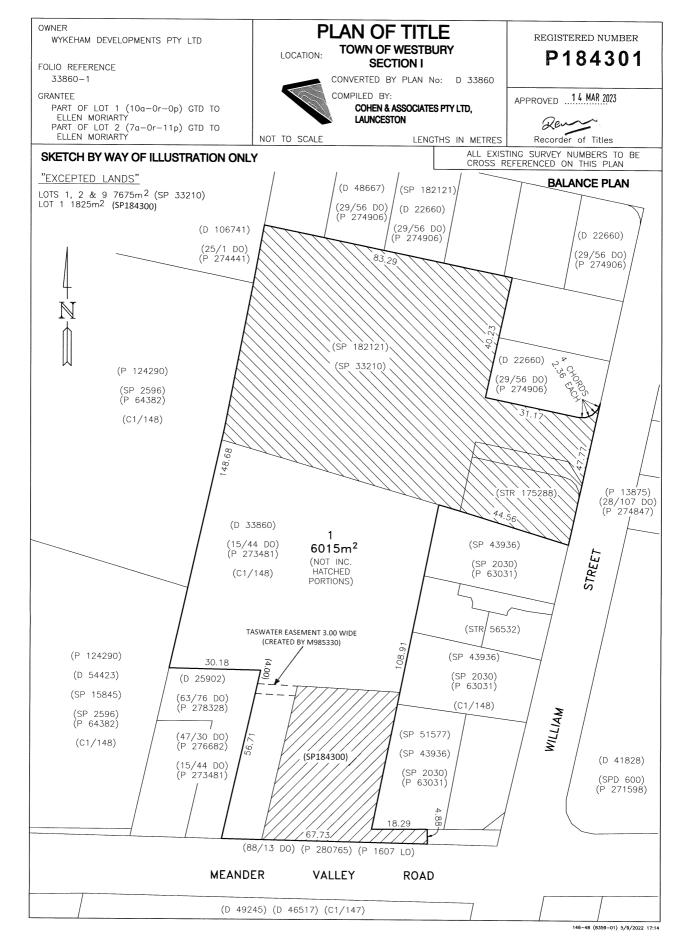


FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980





/ Volume Number: 184301





SEARCH OF TORRENS TITLE

VOLUME	FOLIO
182121	2
EDITION	DATE OF ISSUE
1	11-Feb-2022

SEARCH DATE : 22-Apr-2024 SEARCH TIME : 01.58 PM

DESCRIPTION OF LAND

Town of WESTBURY Lot 2 on Sealed Plan 182121 Derivation : Part of Lot 2, 7A-OR-11P Gtd. to Ellen Moriarty Prior CTs 22660/3 and 33210/1

SCHEDULE 1

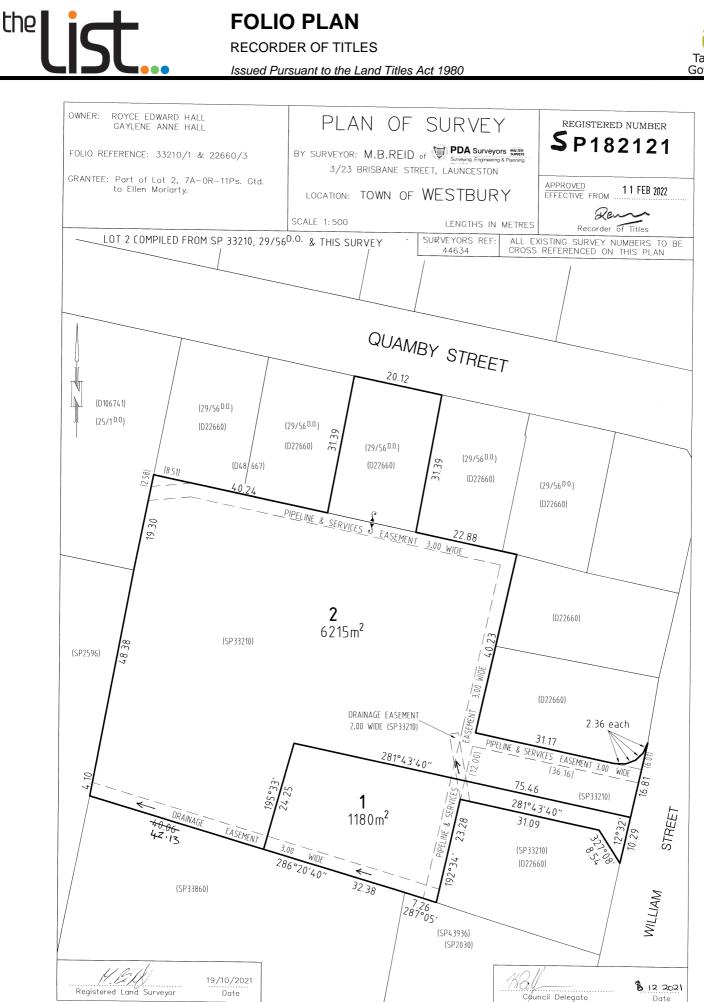
B174885 TRANSFER to ROYCE EDWARD HALL and GAYLENE ANNE HALL

SCHEDULE 2

Reservations and conditions in the Crown Grant if any SP182121 EASEMENTS in Schedule of Easements SP182121 FENCING COVENANT in Schedule of Easements SP 33210 FENCING PROVISION in Schedule of Easements 26/3176 CONVEYANCE - Condition as to Fencing 32/6603 CONVEYANCE Made Subject to Boundary Fences Condition

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



Volume Number: 182121

www.thelist.tas.gov.au





RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



SCHEDULE OF EASEMENTS

NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.

PAGE 1 OF 3 PAGES

Registered Number

SP 182121

EASEMENTS AND PROFITS

Each lot on the plan is together with:-

(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and

(2) any easements or profits a prendre described hereunder.

Each lot on the plan is subject to:-

(1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and

(2) any easements or profits a prendre described hereunder.

The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

each

(as defined herein)

Lots 1 and 2 on the Plan are subject to a Pipeline and Services Easement in gross in favour of the Tasmanian Water and Sewerage Corporation Pty Ltd, its successors and assigns ("TasWater") over the land marked "PIPELINE & SERVICES EASEMENT 3.00 WIDE" on the Plan.

reach

Lots 1 and 2 on the Plan are subject to a right of drainage in gross in favour of the Meander Valley Council over the land marked "DRAINAGE EASEMENT 3.00 WIDE" on the Plan. .\$2

are each

Lots1 on the Plan is subject to a right of drainage in gross in favour of the Meander Valley Council over the land marked "DRAINAGE EASEMENT $\frac{3.00}{2.00}$ WIDE" on the Plan.

Lots 1 & 2 on the plan are each subject to a right of drainage (appurtenant to Lot 2 on Sealed Plan 33210) over the land marked Drainage Easement 2.00 wide (SP33210) on the plan. Definitions

PIPELINE & SERVICES & DRAINAGE EASEMENT means:-

FIRSTLY, THE FULL RIGHT AND LIBERTY for TasWater and its employees, contractors, agents and all other persons duly authorised by it, at all times to:

- enter and remain upon the Easement Land with or without employees, contractors, agents (1) and all other persons duly authorised by it and with or without machinery, vehicles, plant and equipment;
- (2) investigate, take soil, rock and other samples, survey, open and break up and excavate the Easement Land for any purpose or activity that TasWater is authorised to do or undertake;
- install, retain, operate, modify, relocate, maintain, inspect, cleanse and repair the (3)Infrastructure:
- (4) remove and replace the Infrastructure;

SUBDIVIDER: ROYCE EDWARD HALL & GAYLENE ANNE HALL	PLAN SEALED BY: MEANDER VALLEY COUNCIL DATE: 8 December 2021 //
FOLIO REF: Certificates of Title Volume 33210 Folio 1 & Volume 22660 Folio 3	PA12010207 18
SOLICITOR & REFERENCE: Julie Byrne Legal JLB.20210319	REF NO. Covíncil Delegate
NOTE: The Council Delegate must sign the Certi	ficate for the purposes of identification.

G. allal 1



SCHEDULE OF EASEMENTS

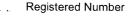
RECORDER OF TITLES

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ANNEXURE TO SCHEDULE OF EASEMENTS

PAGE 2 OF 3 PAGES



SP 182121

SUBDIVIDER: ROYCE EDWARD HALL & GAYLENE ANNE HALL FOLIO REFERENCES: 33210/1 & 22660/3

- (5) run and pass sewerage, water and electricity through and along the Infrastructure;
- (6) do all works reasonably required in connection with such activities or as may be authorised or required by any law:

(i) without doing unnecessary damage to the Easement Land; and

(ii) leaving the Easement Land in a clean and tidy condition; and

- (7) if the Easement Land is not directly accessible from a highway, then for the purpose of undertaking any of the preceding activities TasWater may with or without employees, contractors, agents and all other persons authorised by it, and with or without machinery, vehicles, plant and equipment enter the Lots from the highway at any then existing vehicle entry and cross the Lot to the Easement Land; and
- (8) use the Easement Land as a right of carriageway for the purpose of undertaking any of the preceding purposes on other land, TasWater reinstating any damage that it causes in doing so to any boundary fence of the Lot

SECONDLY, the benefit of a covenant in gross for TasWater with the registered proprietors of the Easement Land and their successors and assigns not to erect any building, or place any structures, objects, vegetation, or remove any thing that supports, protects or covers any Infrastructure on or in the Easement Land, without the prior written consent of TasWater to the intent that the burden of the covenant may run with and bind the servient land and every part thereof and that the benefit thereof may be annexed to the easement herein described.

PROVIDED ALWAYS THAT:

- (1) The registered proprietors of the Lots in the folio of the Register ("the Owner") must not without the written consent of TasWater first had and obtained (which cannot be unreasonably refused) and only in compliance with any conditions which form the consent:
 - (a) alter, excavate, plough, drill or otherwise penetrate the ground level of the Easement Land;
 - (b) install, erect or plant any building, structure, fence, pit, well, footing, pipeline, paving, tree, shrub or other object on or in the Easement Land;
 - (c) remove anything that supports, protects or covers any Infrastructure on or in the Easement Land;
 - (d) do anything which will or might damage or contribute to damage to any of the Infrastructure on or in the Easement Land;
 - (e) in any way prevent or interfere with the proper exercise and benefit of the Easement Land by TasWater or their employees, contractors, agents and all other persons duly authorised by it; or
 - (f) permit or allow any action which the Owner must not do or acquiesce in that action.
- (2) TasWater are not required to fence any part of the Easement Land.
- (3) The Owner may erect a fence across the Easement Land at the boundaries of the Lot.

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

Volume Number: 182121

SCHEDULE OF EASEMENTS

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



ANNEXURE TO SCHEDULE OF EASEMENTS

PAGE 3 OF 3 PAGES

SUBDIVIDER: ROYCE EDWARD HALL & GAYLENE ANNE HALL FOLIO REFERENCES: 33210/1 & 22660/3

- The Owner may erect a gate across any part of the Easement Land subject to these (4)conditions:
 - (a) the Owner must provide TasWater with a key to any lock which would prevent the opening of the gate; and

Registered Number

SP 182121

- (b) if the Owner does not provide TasWater with that key or the key provided does not fit the lock, TasWater may cut the lock from the gate.
- (5) If the Owner causes damage to any of the Infrastructure, the Owner is liable for the actual cost to TasWater of the repair of the Infrastructure damaged.
- (6) If the Owner fails to comply with any of the preceding conditions, without forfeiting any right of action, damages or otherwise against the Owner, TasWater may:
 - (a) reinstate the ground level of the Easement Land; or
 - (b) remove from the Easement Land any building, structure, pit, well, footing, pipeline, paving, tree, shrub or other object; or
 - (c) replace anything that supported, protected or covered the Infrastructure.

INTERPRETATION

"Infrastructure" means infrastructure owned or for which TasWater is responsible and includes but is not limited to:

(a) sewer pipes and water pipes and associated valves;

- (b) telemetry and monitoring devices:
- (c) inspection and access pits:

(d) power poles and lines, electrical wires, electrical cables and other conducting media (excluding telemetry and monitoring devices);

(e) markers or signs indicating the location of the Easement Land, the Infrastructure or any warnings or restrictions with respect to the Easement Land or the Infrastructure;

(f) anything reasonably required to support, protect or cover any of the Infrastructure;

(g) any other infrastructure whether of a similar nature or not to the preceding which is reasonably required for the piping of sewage or water, or the running of electricity, through the Easement Land or monitoring or managing that activity; and

(h) where the context permits, any part of the Infrastructure.

FENCING COVENANT

the rendor The Owner of each Lot on the Plan covenants with Royce Edward Hall and Gaylene Anne Hall (called "the Owner") that the Owner shall not be required to fence, Vendor

Signed by ROYCE EDWARD HALL and

GAYLENE ANNE HALL as the registered

proprietors of the land comprised in

Certificates of Title Volume 22660 Folio 3

and Volume 33210 Folio 1 in the presence of

Jenny Fellows - 56 Cormiston Rd. RIVERSIDE ADMIN. OFFICER

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.





SEARCH OF TORRENS TITLE

VOLUME	FOLIO
124290	2
EDITION	DATE OF ISSUE
9	23-Aug-2019

SEARCH DATE : 22-Apr-2024 SEARCH TIME : 01.59 PM

DESCRIPTION OF LAND

Town of WESTBURY Lot 2 on Plan 124290 Derivation : Part of Lots 1 and 2 Section I. Gtd. to E. Moriarty. Prior CT 250289/1

SCHEDULE 1

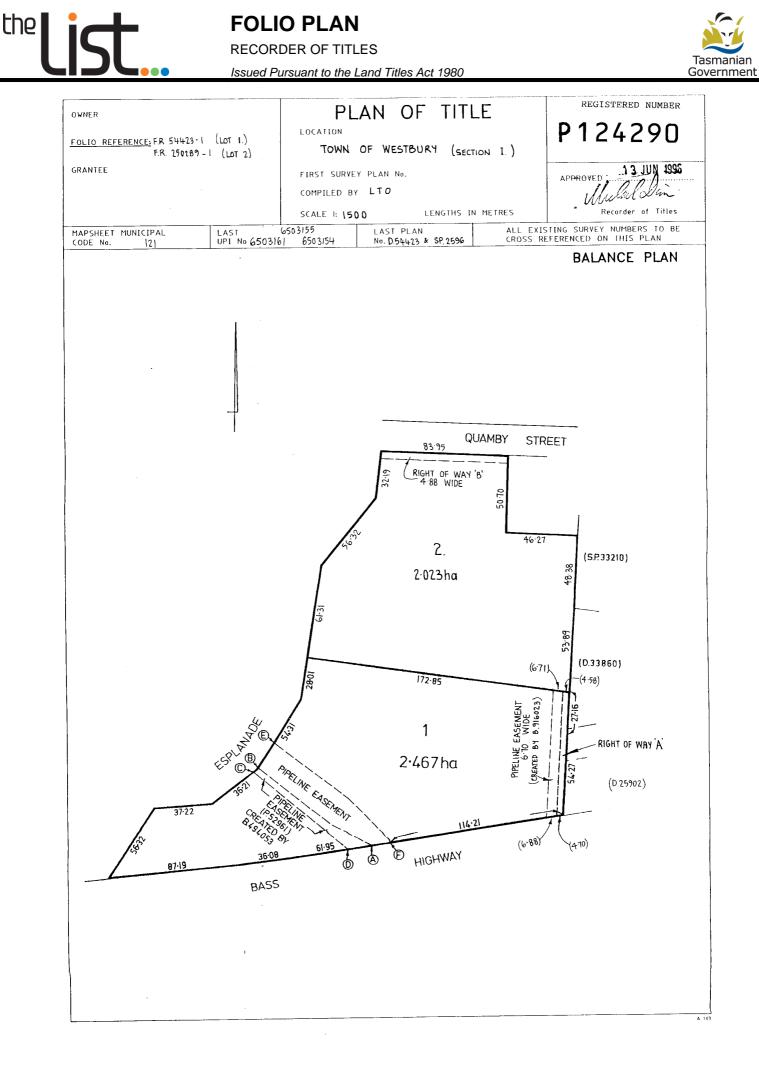
M283375 TRANSFER to ROBERT ALEXANDER MACLEOD BRYANT Registered 03-Jun-2010 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any Benefiting easement: a right of carriage way over the land marked RIGHT OF WAY `A' shown passing through Lot 1 on P.124290 Burdening easement: a right to go pass and repass over and upon the land marked RIGHT OF WAY `B' 4.88 WIDE shown passing through the said land within described created by and more particularly described in Conveyance Registered No. 8/364 2596 FENCING COVENANT in Schedule of Easements SP B916023 Benefiting easement: pipeline rights over the land marked `PIPELINE EASEMENT 6.70 WIDE' on P.124290 (Subject to the condition contained therein) Registered 14-Aug-1996 at 12.01 PM MORTGAGE to Bendigo and Adelaide Bank Limited E192555 Registered 23-Aug-2019 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

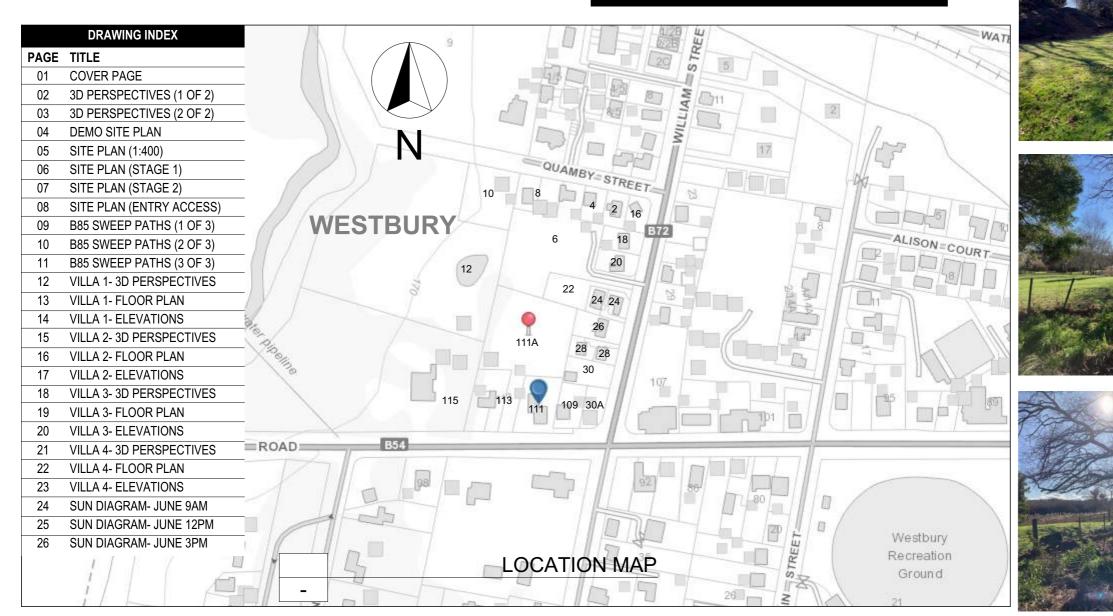
No unregistered dealings or other notations



Volume Number: 124290

DEVELOPMENT APPLICATION

PROPOSED 10 x VILLA COMPLEX CLIENT: WYKEHAM DEVELOPMENTS PTY LTD ADDRESS: 111A MEANDER VALLEY ROAD, WESTBURY, TAS, 7303 TITLE REFERENCE: 184301/1 PROPERTY ID: 2137481





CLIENT SIGNATURE	REV	AMENDMENTS	DATE	INT	PROJECT:	CLIENT:
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DER VALLEY ROAD, , TAS, 7303

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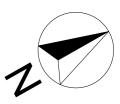




111 TO 111A MEANDER VALLEY ROAD

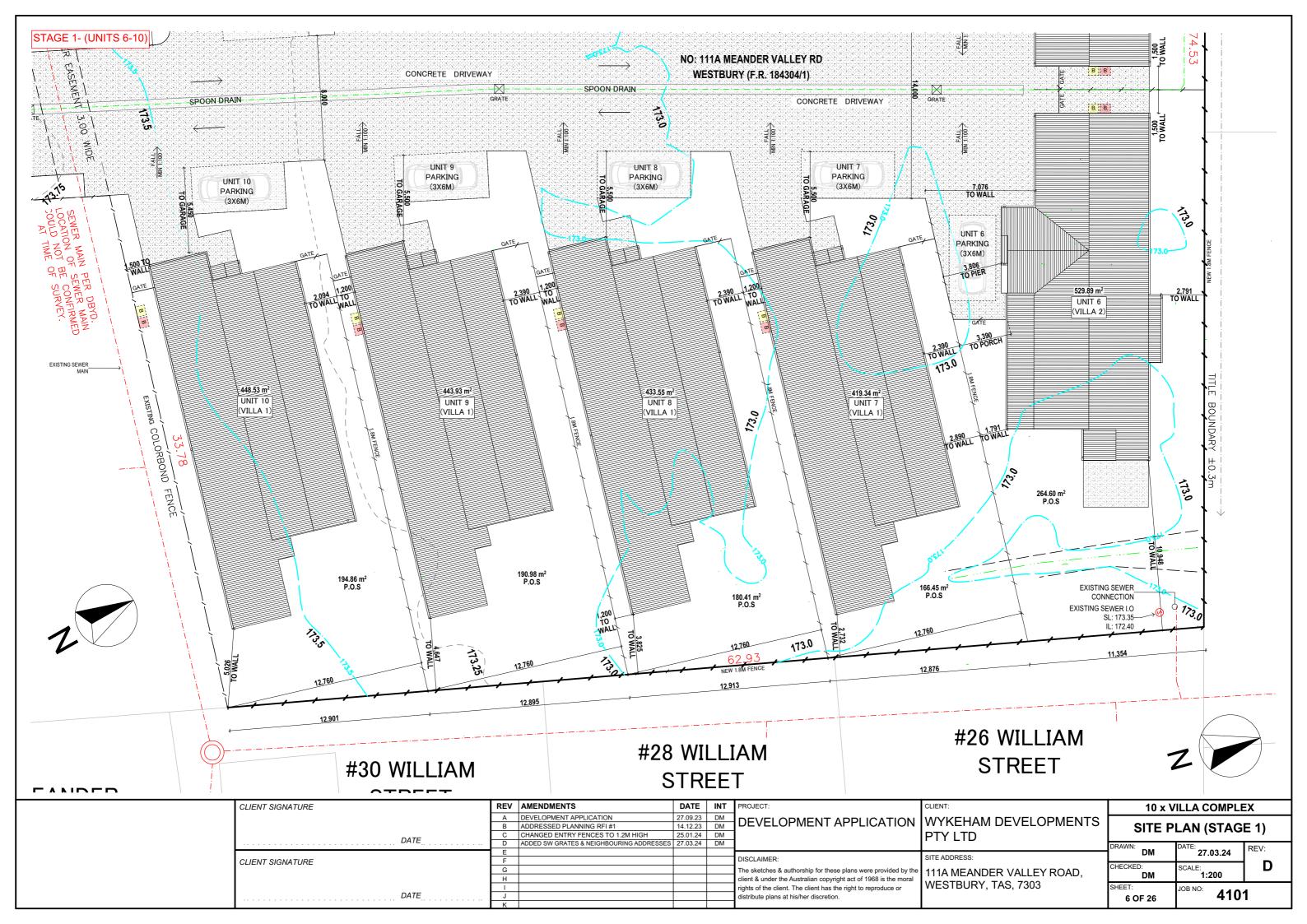
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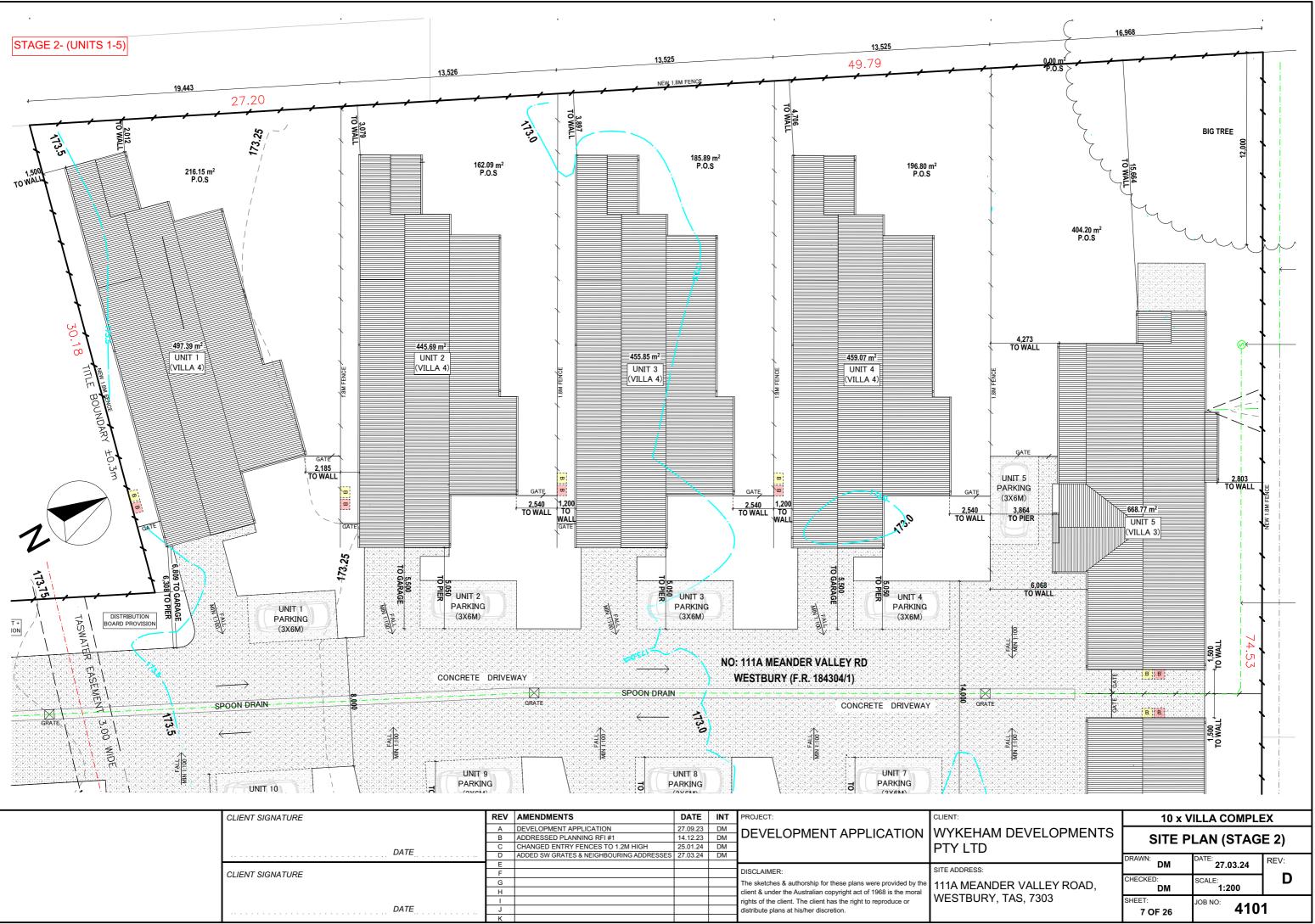
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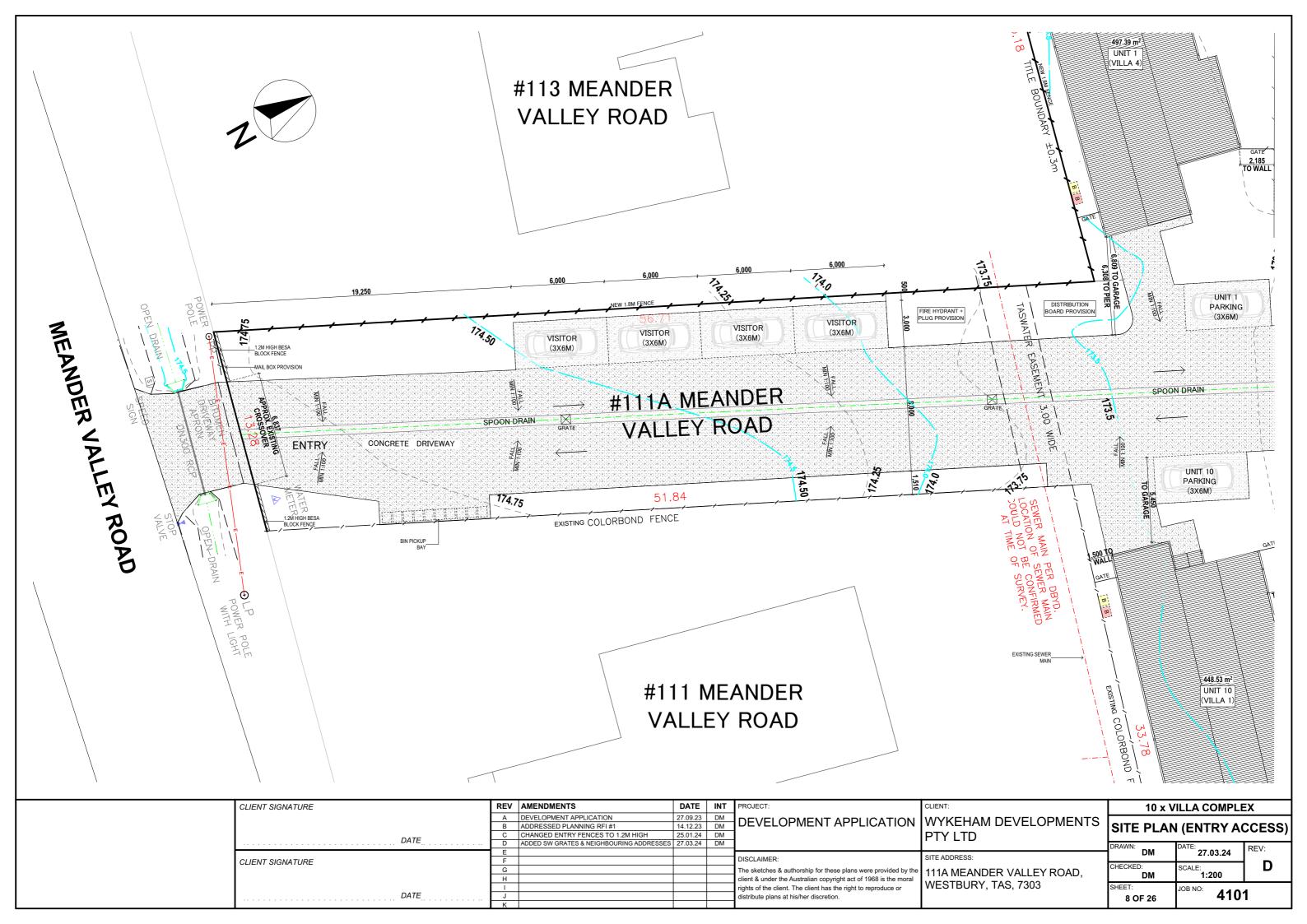
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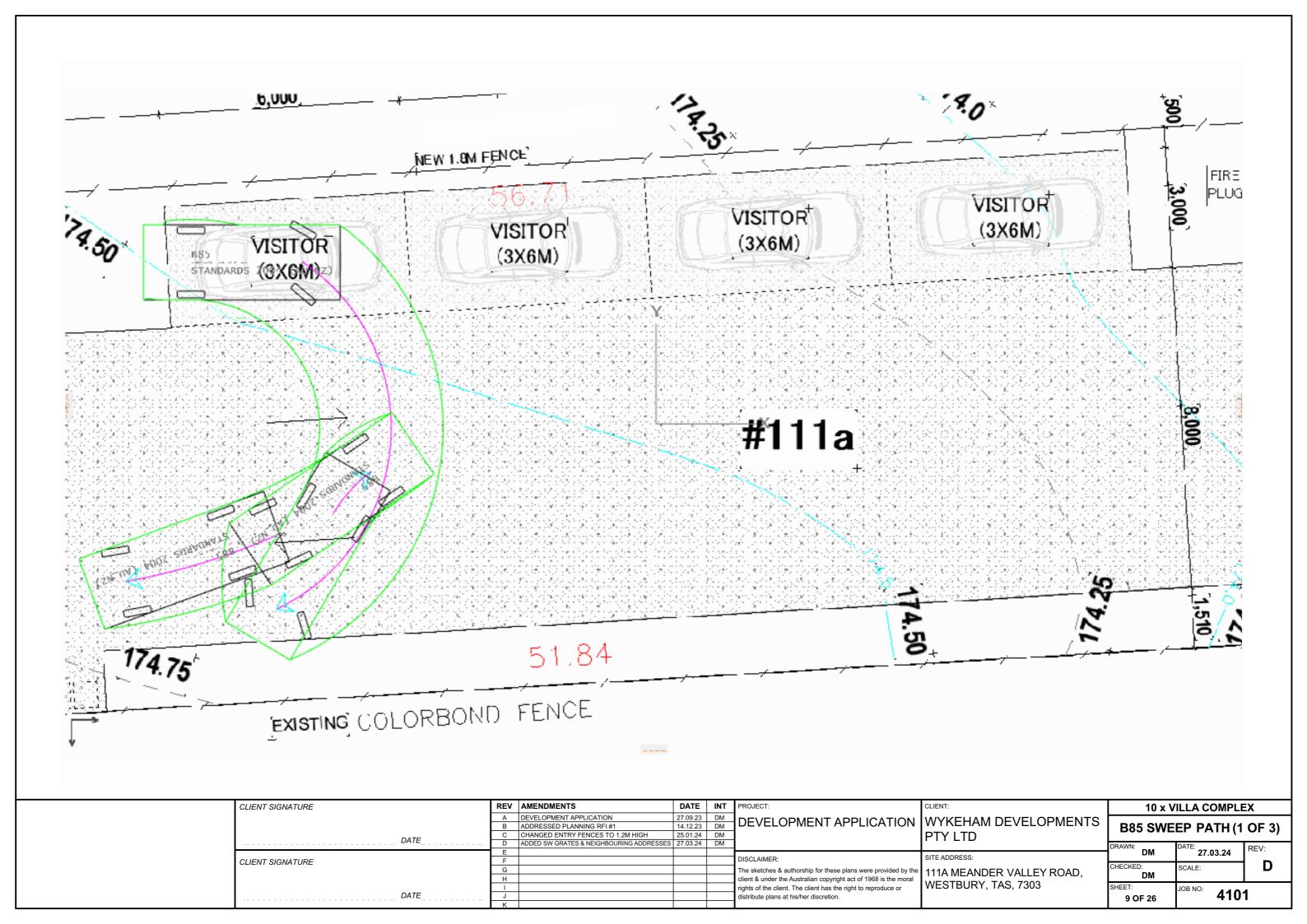


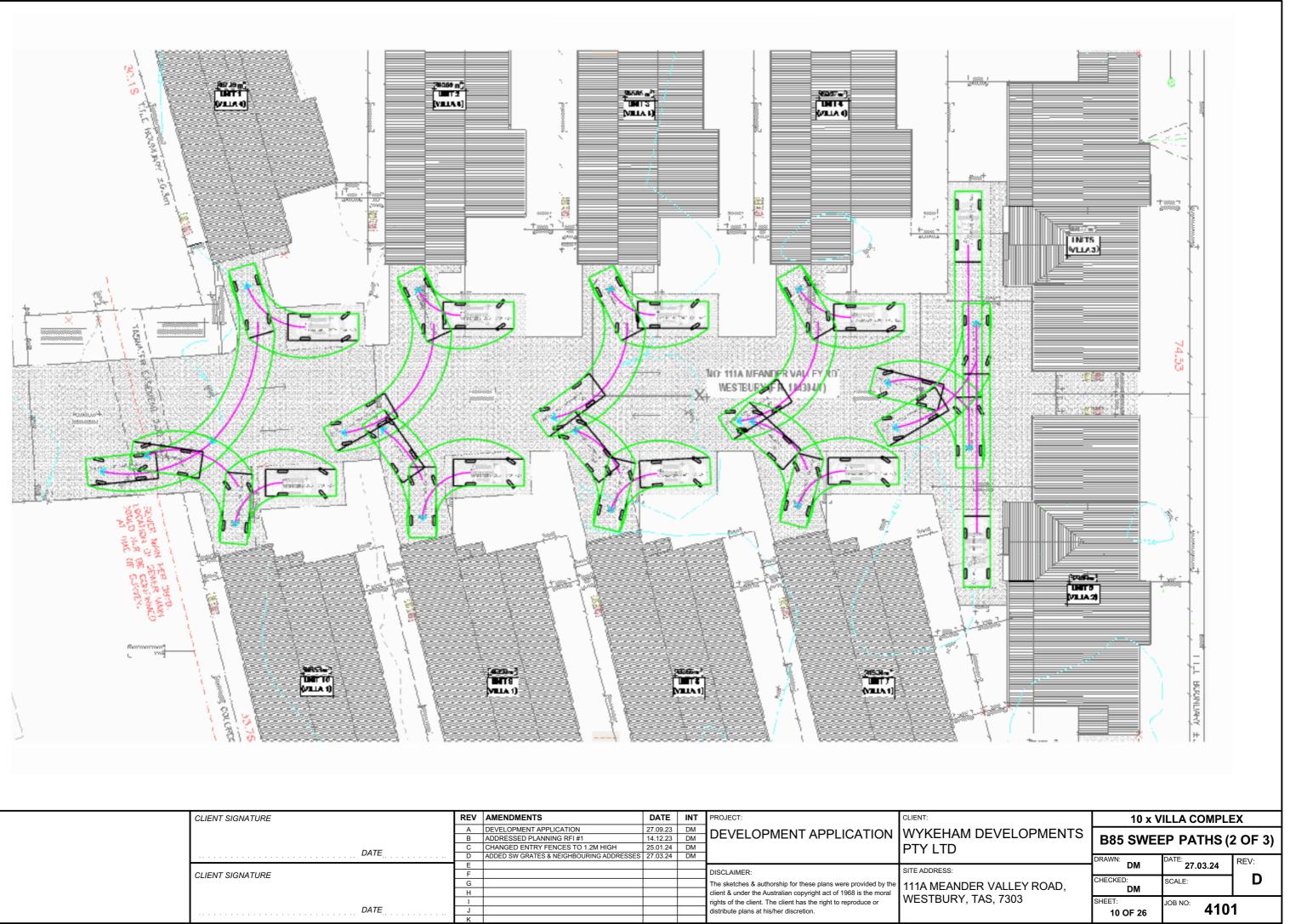




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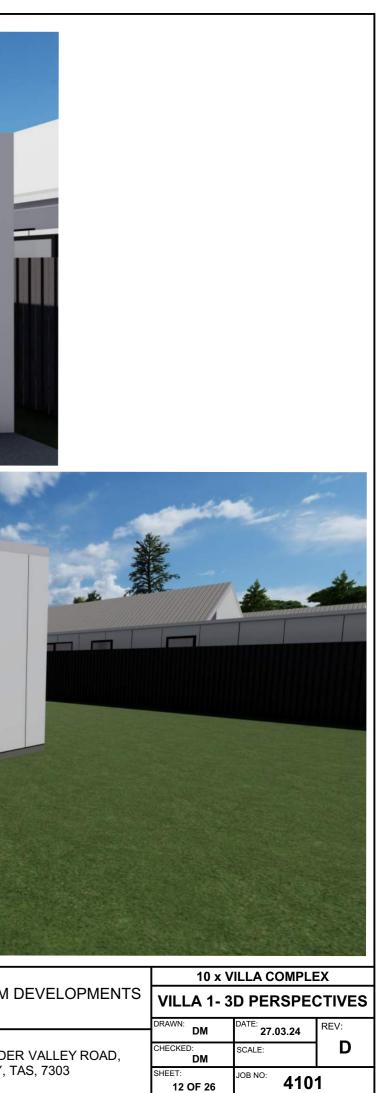
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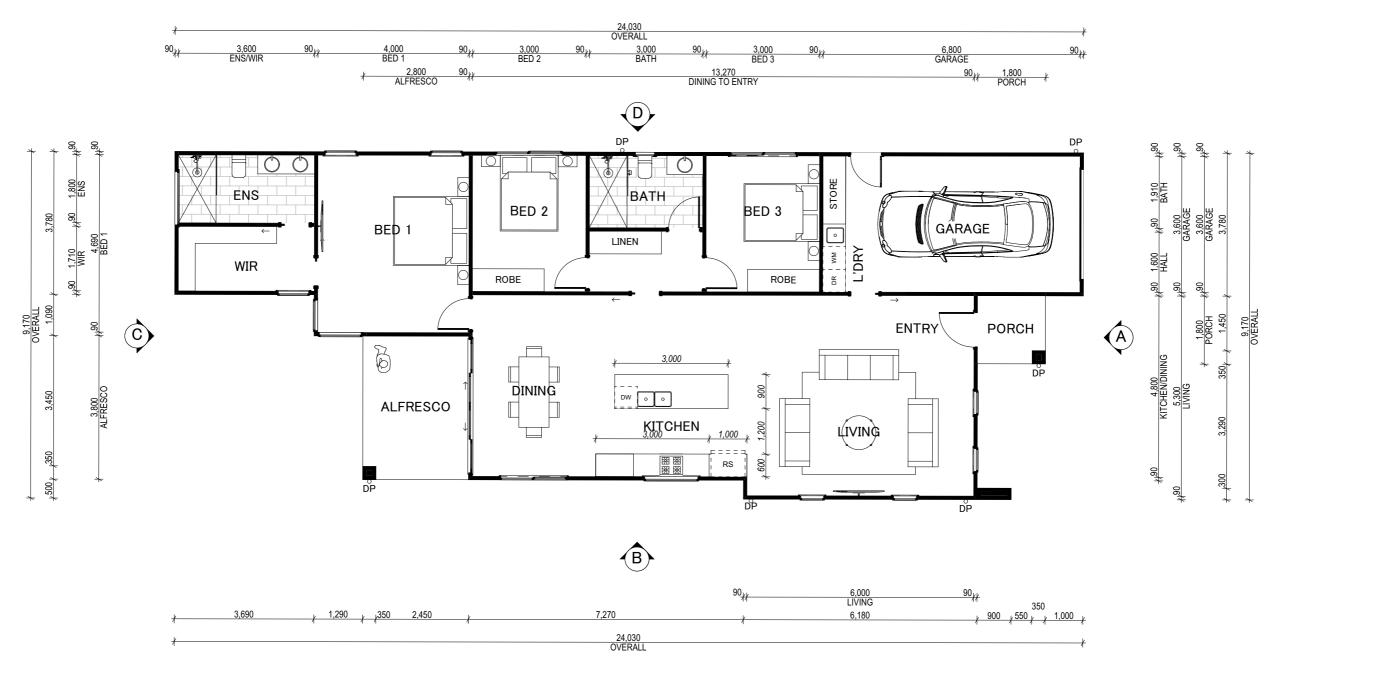
VILLA 1

COLORS TO BE CONFIRMED



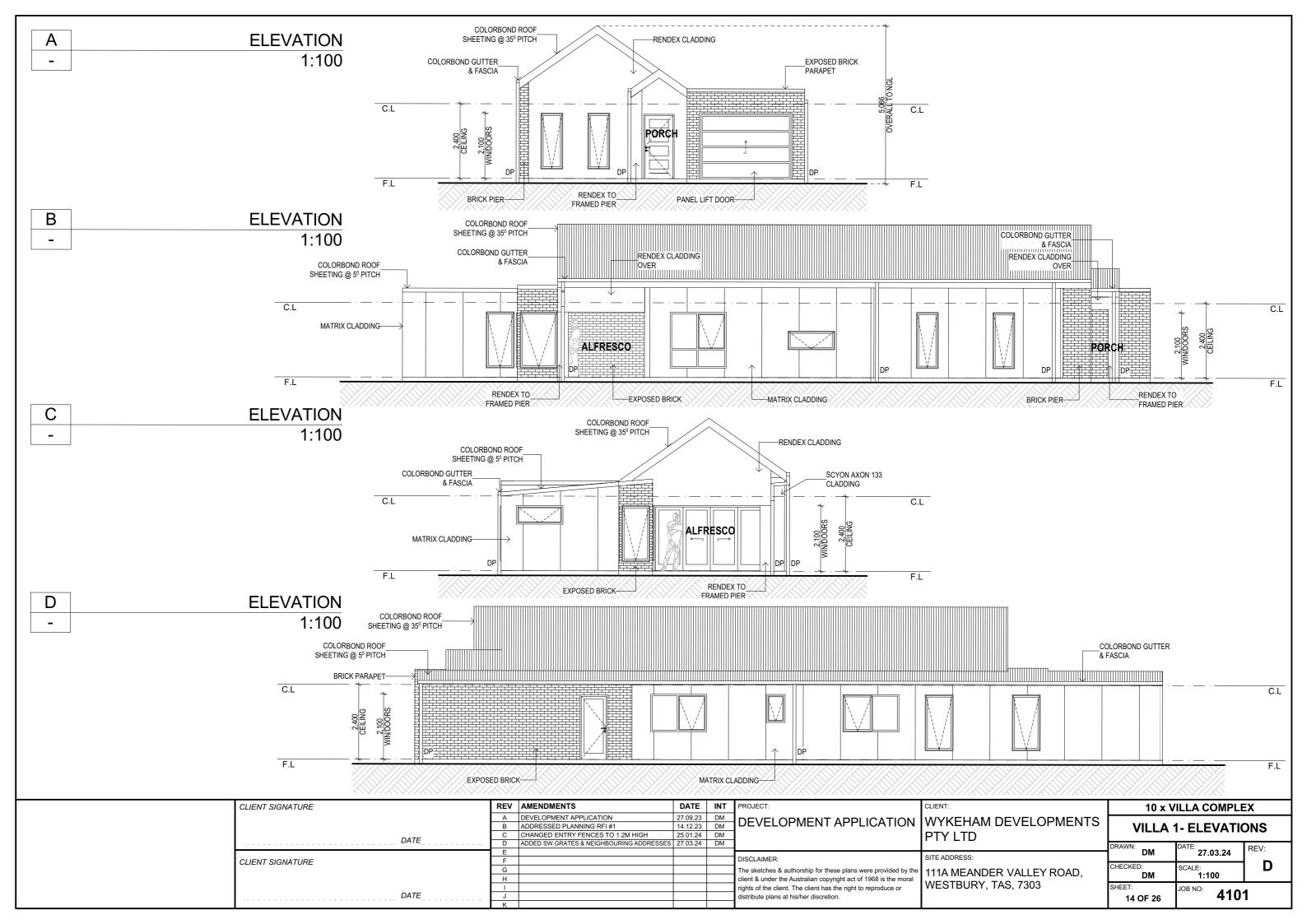
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VILLA 1- AI	REAS
PORCH	3.24 M2
INDOOR LIVING	164.42 M2
ALFRESCO	10.64 M2
TOTAL	178.30 M2



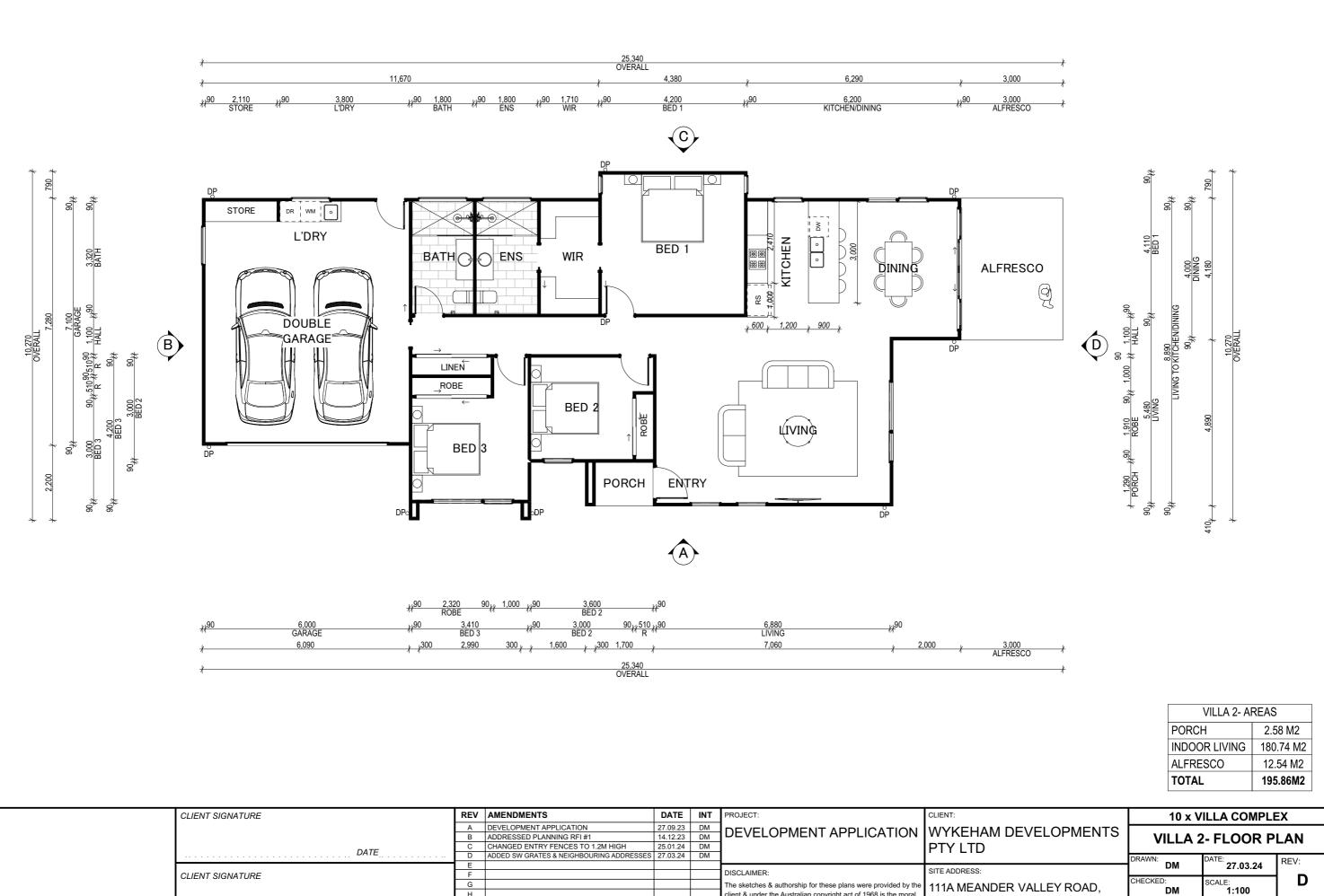






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DATE	J				distribute plans at his/her discretion.	
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	10 x VILLA COMPLEX								
I DEVELOPMENTS	VILLA 2-3	VILLA 2- 3D PERSPECTIVES							
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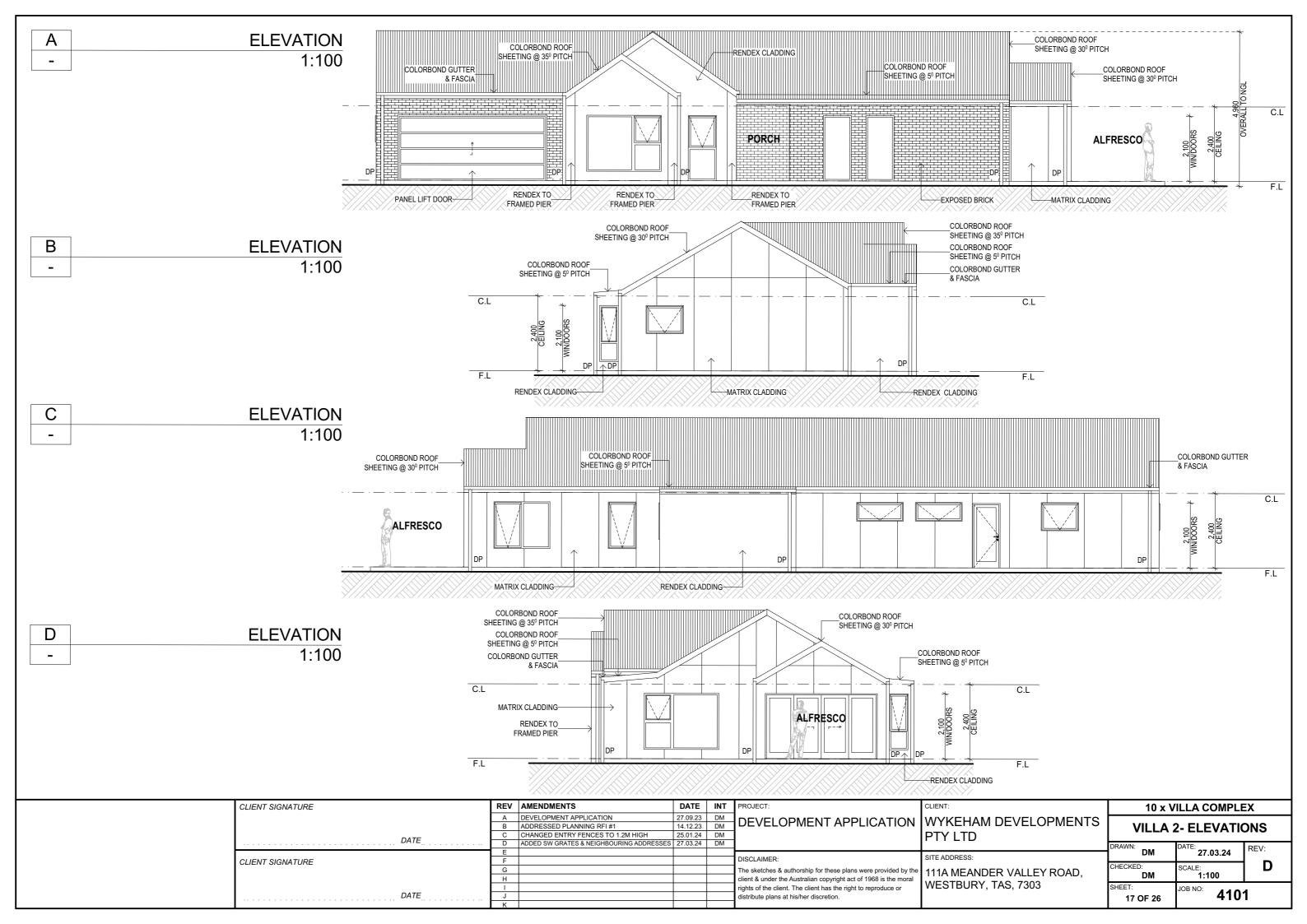
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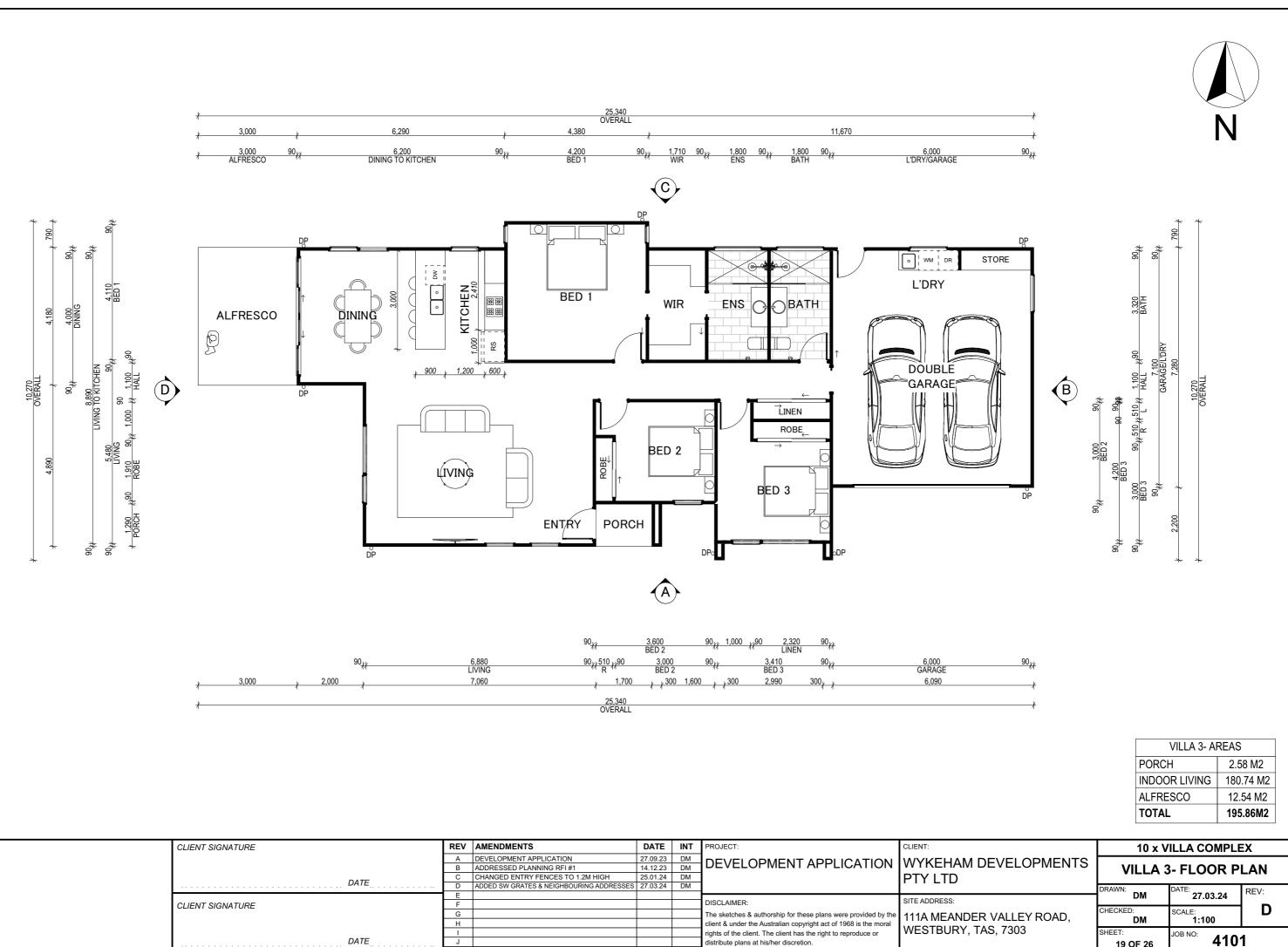


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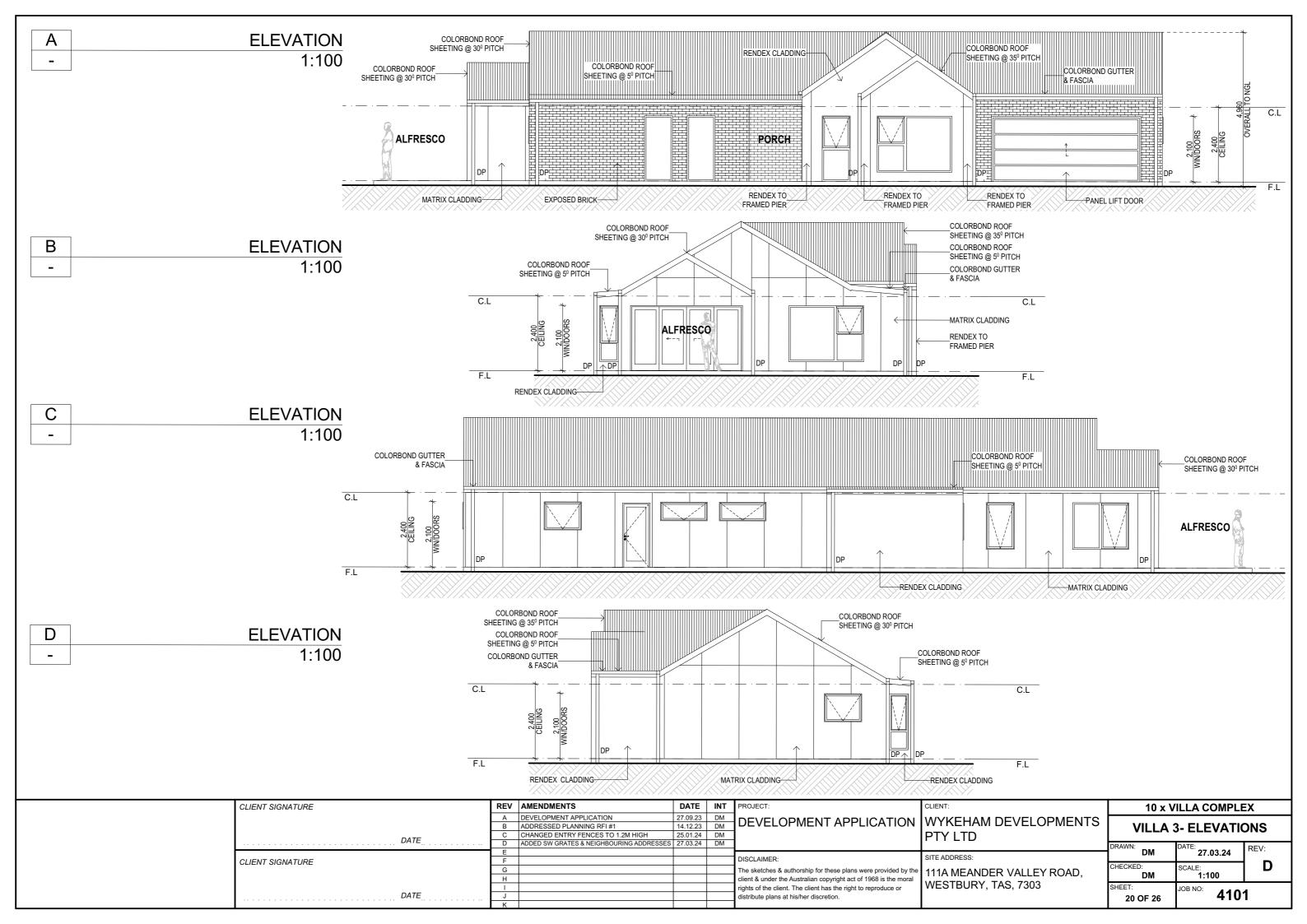


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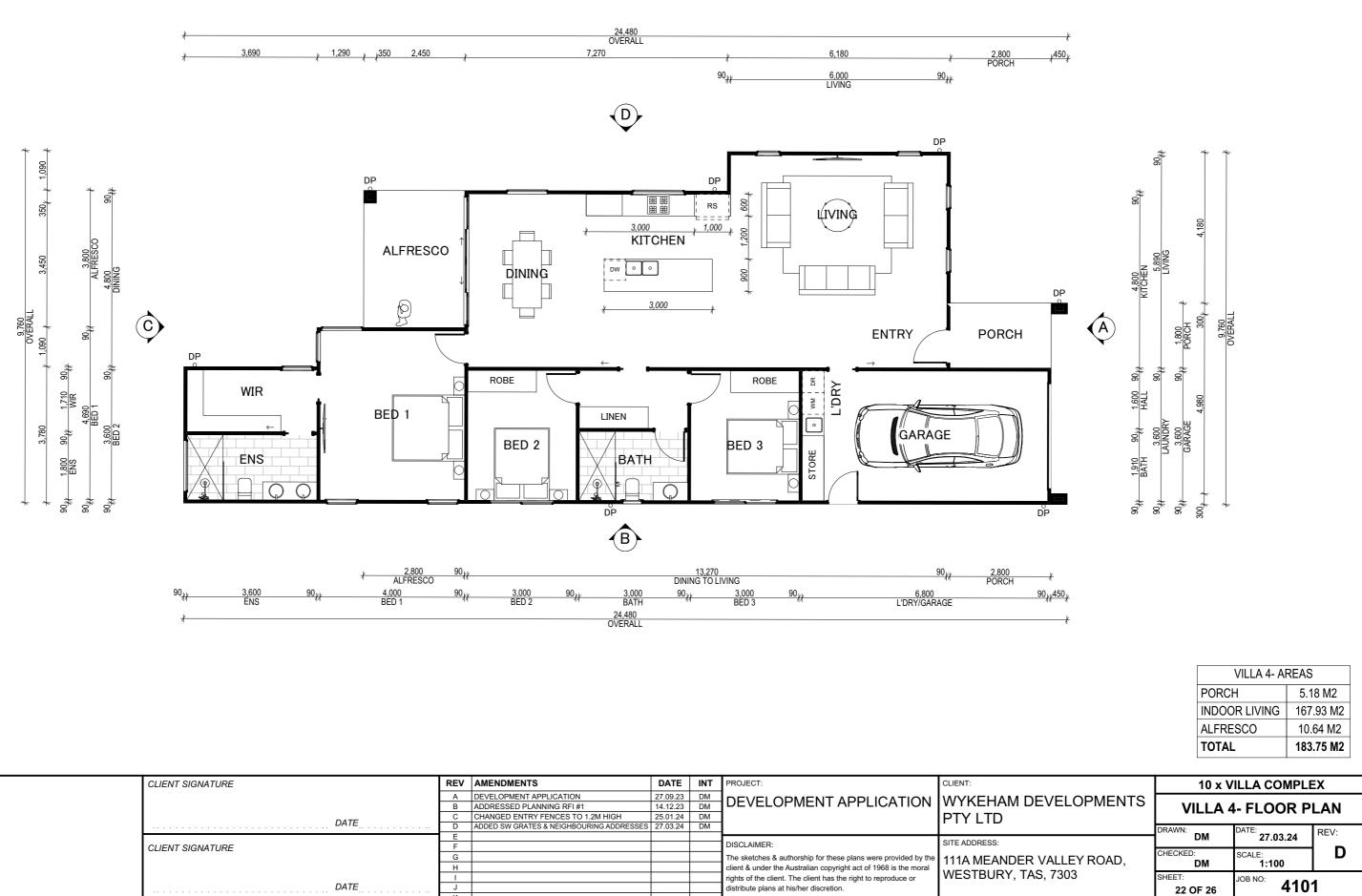
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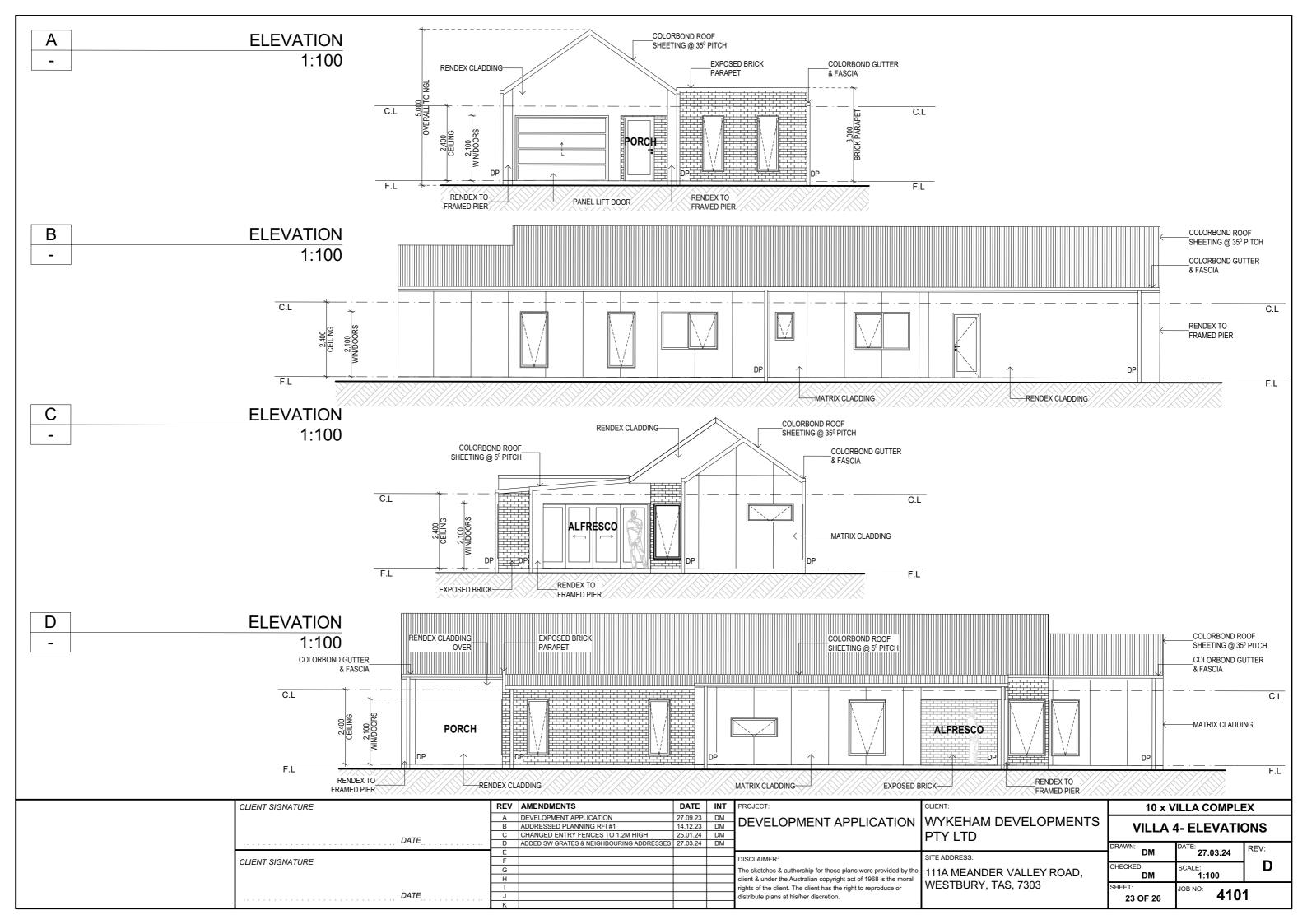




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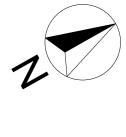
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Planning Report 10 x Multiple Dwelling proposal 111a Meander Valley Road Westbury

Prepared by: Town Planning Solutions Pty Ltd





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Document Issue Status

Ver.	Issue Date	Description	Origi	Originator		Originator		Originator		cked	Аррі	oved
1	24/10/23	Planning Application	MP		MP		MP					
2	13/3/24	Response to MVC FIR	MP		MP		MP					
3	9/4/24	Revised Attenuation Code response	MP		MP		MP					



Introduction

This report provides an assessment of a proposed 10-unit multiple dwelling proposal at 111A Meander Valley Road, Westbury against the *Tasmanian Planning Scheme – meander Valley*.

This report was prepared by Mick Purves, Principal and Director of Town Planning Solutions Pty Ltd.

Mick is a qualified and practising Town Planner with a Bachelor of Environmental Design and a Master of Town Planning from the University of Tasmania. Mick is a member of the Planning Institute of Australia, a Certified Practising Planner and current President of the Tasmanian Division of the Institute.

Mick has 29 years' experience in the development industry and 24 years post-graduate experience working as a town planner and development manager in Local Government and consultancy.

Proposal documents

The drawings used for this assessment were prepared by iDesign Residential, Job no 4101, issue: Development application, dated 08.12.2023, sheets 01 to 24 inclusive.

PLEASE NOTE: sheets 22, 23 and 24 suggest an entry wall will be constructed between the access strip and the body of the site. This is incorrect, with the correct location of the entry wall shown on sheets 5 through 8 inclusive.

The Traffic Impact Assessment was prepared by Traffic & Civil Services, 111A Meander Valley Road, Westbury, Multiple Dwelling Development, Traffic Impact Assessment, dated October 2023.

The Odour Assessment prepared to assess potential impacts from the Westbury Sewerage Treatment Plant was prepared by Royce Aldred of ES&D Consulting, Odour Risk Assessment, 111A Meander Valley Road, Westbury, FINAL for Wykeham Developments Pty Ltd, dated 5/1/2024.

The written advice from the EPA for the proposal was issued by the Director, dated 20 September 2023.

Abbreviations

Scheme	Tasmanian Planning Scheme – Meander Valley
Site	CT 184301.1, 111A Meander Valley Road, Westbury
Proposal	10 x multiple dwellings, Job no 4101 by iDesign Residential
ΤΙΑ	111A Meander Valley Road, Westbury, Multiple Dwelling Development, Traffic Impact Assessment, October 2023 by Traffic & Civil Services
ES&D Report	ES&D Consulting, Odour Risk Assessment, 111A Meander Valley Road, Westbury, FINAL v3 for Wykeham Developments Pty Ltd.
D1 Report	Stormwater Management Report, 111A Meander Valley Road, Westbury. D1 Consulting Engineers



The Site and Proposal

The project is located on land contained in Certificate of Title CT 184301.1, and known as 111A Meander Valley Road, Westbury (Site).

The site is described as follows:

- it is generally a rectangular shaped internal lot on the northern side of the road that forms the change from a suburban style development pattern to a rural character adjoining Quamby Brook and agricultural lands further west of the area;
- it is surrounded by existing suburban style development to the south, east and further north, with large lots and established gardens to the north;
- the area is generally flat;
- it contains an existing driveway that serves an adjoining property, a 4-bay garage, green houses, outbuildings, established lawns and garden shrubs and trees;
- it has frontage to Meander Valley Road to the south;
- it is accessed via Meander Valley Road, a bitumen road with kerb and channel;
- the title identifies the site has an area of 6105 m²;
- it has connections to reticulated water, stormwater and sewer services; and
- the adjoining titles contain the following:
 - 113 Meander Valley Road, an established single story house and gardens over two titles;
 - 115 Meander Valley Road contains a substantial heritage listed house and gardens;
 - 26-30 William Street contain a mix of single and multiple dwellings and gardens;
 - 22 William Streed is a vacant residential title;
 - 6 Quamby Street contains a house near the road and substantial gardens on an internal lot; and
 - 12 Quamby Street contains what appears to be a shed on a substantial lot with established gardens.

The existing site conditions are shown in the aerial photography shown in Figure 1, with the site outlined in red and unit sites within the area bordered in cyan.



Figure 1 - site and context Source: adapted from LISTmap



Proposal

The proposal is described in the plans prepared by iDesign Residential, and includes the following:

- demolition of the existing structures, removal of the existing vegetation, internal fencing and driveways;
- construction of the proposed 10 dwelling units on the site, services, ground works, landscaping and fencing.

The plans provide full details of the proposal, with the layout and typical elevations are reproduced in Figures 2 through to 6.

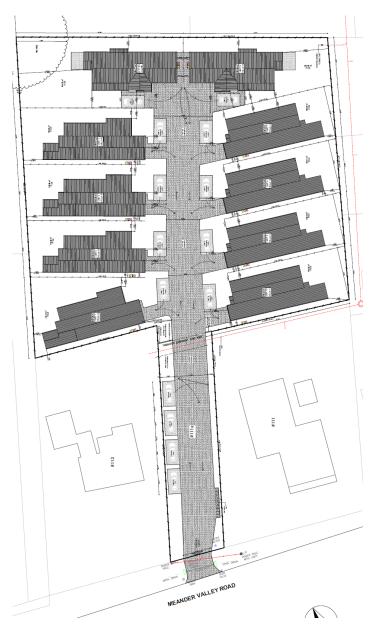


Figure 2 - Proposed site layout plan Source: iDesign proposal plans





Figure 3 - Villa type 1 perspectives Source: iDesign proposal plans



Figure 4 - Villa type 2 perspectives Source: iDesign proposal plans









Figure 6 – Perspective from driveway Source: iDesign proposal plans

Planning Scheme

The site is located within the Meander Valley Council and therefore subject to the *Tasmanian Planning Scheme – Meander Valley* (Scheme).

Zoning and overlay information was obtained from TheLIST, which identified 111a Meander Valley Road as:

- within the Village zone;
- subject to the Bushfire Hazard overlay; and
- is not identified as subject to any hazards under the LPS.

The Scheme and LPS documents were obtained from the Tasmanian Planning Commission website in October 2023.

Review of aerial photography identified that the site is within 200 metres of the Westbury Wastewater Treatment Plant and therefore partly subject to the attenuation buffers established under the Attenuation Code. This was confirmed by email advice from Council staff on 28 July. This advice requested the written advice of the EPA, which was provided with the application documents and addressed in the response to the Attenuation Code later in this report.

The existing use of the property complies with the defined use of residential at Table 6.2 of the Scheme, as follows:

use of land for self-contained or shared accommodation. Examples include a secondary residence, boarding house, communal residence, home-based business, home-based child care, residential care facility, residential college, respite centre, assisted housing, retirement village and single or multiple dwellings.

The proposal complies with the term Multiple dwellings (2 or more dwellings on a site), which is part of a residential use and defined at Table 3.1 of the Scheme, as follows:

The site is an internal lot and does not require any other detailed consideration.:

The exemption for fencing at 4.6.3 (a) applies to fencing on the Meander Valley Road frontage.

The exemption provided at clause 4.6.18 of Table 4.6 of the Scheme provides for strata division of the proposal under the *Strata Titles Act 1998* without requiring planning approval, provided it is completed in accordance with a planning permit.

The proposal includes some demolition of existing improvements on the site, which is permitted pursuant to clause the General Provision at clause 7.9.1 of the Scheme.

Clause 6.10.2 of the Scheme identifies that the zone purpose statements at clause 12.1 are relevant to the consideration applications for discretionary use and not development issues.

12 Village zone

Clause 12.2 of the Scheme establishes the use table for the zone and defines Residential use for multiple dwellings as a permitted use within the zone. The use is therefore permitted and the zone purpose statements at clause 12.1 are not relevant to considerations of development issues.

The application does not include non-residential or visitor accommodation uses. Use standards at clause 12.3 do not apply to the proposal.

Development standards at clause 12.4 apply to the proposal, as follows.

12.4.1 Residential density for multiple dwellings					
P1.1 For a site that has a connection to or is capable of being connected to, a reticulated sewerage, stormwater and full water supply service, multiple dwellings must only have a site area per dwelling that is less than 600m ² if the number of dwellings:	 Site area per dwelling (SPD) is a term defined at Table 2.1 of the Scheme and means: the area of a site, excluding any access strip, divided by the number of dwellings on that site. LISTmap identifies that the main body of the site has an area of 5290 m². 				

V3 Planning Application FIR

 (a) have a site area per dwelling that does not exceed the capacity of the reticulated infrastructure services; and 	10 units result in a site area per dwelling (SPD) of 529m ² per unit. Assessment against P1 is required.
(b) are consistent with the density existing on established properties in the area; or	Meander Valley Road is a main road that provides access to and from Westbury. The TIA by Traffic & Civil Services identified that Meander Valley Road had capacity to accommodate the subject proposal without additional improvements to the road.
(c) the development provides a specific accommodation need with significant social or community benefit.	Information about the capacity of reticulated stormwater services was provided by D1 Consulting
P1.2	Engineers following a request from Council. The D1 Report identified upgrades to the existing 300mm
For a site that is not capable of being connected to a reticulated sewerage, stormwater and full water supply service, multiple dwellings must have a site area that:	section of stormwater line was required to accommodate the development. It is understood that these conclusions were review and supported by Council's engineers. The proponent with work with Council to provide the required upgrades.
 (a) is sufficient for on-site wastewater and stormwater disposal and water supply; and 	Taswater did not advise of any service limitations to the title. Telecommunications and electricity reticulation are not considered through the Tasmanian Planning Scheme.
(b) a regulated entity has provided written advice stating that the site is unable to be connected to a full water supply service or a reticulated sewerage system.	The proposal is therefore not expected to exceed the capacity of reticulated services available to the site (with the recommended improvements) and complies with criterion (a).
	The area for assessment of <i>established properties</i> under this standard was limited to urban zones in land bounded by Meander Valley Road, William Street and the Western railway line to the north (shown within the dark blue border in Figure 1). Rural zoned lands to the west were not considered as they have a fundamentally different purpose and character.
	The area contains a mix of suburban style development including single and multiple dwellings and some remaining houses with substantial established gardens. The SPD for existing dwellings within this area was detailed in Table 1 and identified the following:
	Dwelling Type SPD range
	Single dwellings: 349 m ² and 5740 m ² ; and
	Multiple dwellings: 405 m^2 to 792 m^2 .
	Table 1 identifies that the proposal is in the range of the SPD of established properties for single and multiple dwellings within the area, and is within the higher range of SPD for multiple dwelling sites. The proposal is consistent with the SPD of established single and multiple dwelling sites and the number of dwellings in the area.
	More unit sites are located east of William Street and south of Meander Valley Road, which were not considered for this assessment.



 This analysis demonstrated that the density of the proposed units is consistent with established properties in the area in terms of: the general pattern of development; the location of unit sites in relation to each other and single dwellings; and the SPD on established sites.
Complies with P1.1 (a) and (b).

Address	Development	Site area m²	Site area per dwelling m ²	Notes
2A William St ^	House	709	709	
4 William St	4 units	3137	792	area excludes access strip
2 William St	House	1370	1370	area excludes access strip
6 William St	House	2548	2548	area excludes access strip
8 William St	House	828	828	
10 William St	House	841	841	
12 William St	House	876	876	
16 William St	House	611	611	
18 William St	House	763	763	
20 William St	House	732	732	
22 William St*	Vacant	1008	0	area excludes access strip
24 William St,	2 units	917	458	
26 William St	House	959	959	
28 William St,	2 units,	830	415	
30 William St	House	968	968	
30A William St	House	712	712	
109 Meander Valley Rd	House	917	917	
111 Meander Valley Rd	House	1811	1811	
113 Meander Valley Rd	House	1673	1673	over two titles
1 Quamby St	House	1363	1363	
1A Quamby St	2 units	866	433	
2 Quamby St	House	624	624	
4 Quamby St	House	642	642	
5 Quamby St	8 units	3200	405	area excludes access strip
6 Quamby St*	House	5740	5740	area excludes access strip
7 Quamby St	House	1405	1405	
8 Quamby St	House	634	634	
8 Qamby St	Sheds	624	624	
2C William St ^	House	722	722	separate CT reference
2/2B William St ^	House	349	349	separate CT reference
1/2B William St ^	House	364	364	separate CT reference

Table 1 – Site Area per Dwelling within the existing area Source: compiled from LISTmap data and property information, as noted



12.4.2 Building height	
A1 Building height must be not more than 8.5m.	The plans identify a maximum height of less than 5.1 metres above ground level.
	Complies with A1.
12.4.3 Setback	
 A1 Buildings must have a setback from a frontage of: (a) not less than 4.5m; (b) not less than existing buildings on the site; or (c) not more or less than the maximum and minimum setbacks of the buildings on adjoining properties. 	The plans show that the proposed units will be set into the main body of the site and provide a setback to the frontage with Meander Valley Road of much more than 4.5 metres. Complies with A1(a).
A2 Buildings must have a setback from side and rear boundaries of not less than:(a) 3m; or(b) half the wall height of the building, whichever is the greater.	The plans show varying setbacks to side and rear boundaries. Units 2, 3, 4, 8 & 9 comply with the 3-metre minimum setback requirement under A2.
 P2 Buildings must be sited so that there is no unreasonable loss of amenity to adjoining properties, having regard to: (a) the topography of the site; (b) the size, shape and orientation of the site; (c) the setbacks of surrounding buildings; (d) the height, bulk and form of existing and proposed buildings; (e) the existing buildings and private open space areas on the site; (f) sunlight to private open space and windows of habitable rooms on adjoining properties; and (g) the character of development existing on established properties in the area. 	 The plans show that the following units do not comply with the 3-metre minimum setback requirement: 1 to south and west; 5 & 6 to north; 7 to east; and 10 to east and south. In response to P2: (a) the site has a very gentle slope, with the single storey construction of all units on the site minimising potential amenity impacts to adjoining properties through overshadowing, overlooking and the general use of the subject units; (b) the size, shape and orientation of the site allows the subject units to be located on the site to minimise potential impacts to amenity on adjoining sites; (c) the setbacks of surrounding buildings on adjoining sites are not likely to create any adverse impacts to an adverse impacts to an adverse impacts to adverse impacts to adverse impacts to adverse impacts to adverse impacts the subject to create any adverse impacts to adverse impacts to adverse impacts to adverse impacts the subject to create any adverse impacts to adverse impacts t
	through the proposed setbacks. The setbacks to existing dwellings are substantial to the south, east and north, and mixed to the east;(d) the height, bulk and form of the proposed units is consistent with the single storey construction of existing buildings on adjoining properties;



(e) there are no existing buildings or private open space areas on the subject site that will remain and therefore be impacted as part of the proposal; (f) the diagrams provided with the drawings show that sunlight to private open space and windows of habitable rooms on adjoining properties will be largely unaffected to 111 and 113 Meander Valley Road, with shading limited to the rear yards; and (g) the character of development existing on established properties in the area is: East – urban scale residential with rear yards to the subject site that are unlikely to experience any loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any loss of amenity from the proposal; North - vacant land and large gardens. Air extraction, pumping, refrigeration systems, compressors or generators, excluding Residential, Visitor Accomples with A2 for units 2, 3, 4, 8 & 9 and P2 for units 1, 5, 6, 7, and 10. A1 site coverage The proposal is for residential. A3/P3 not applicable. The site plans identify a site coverage of 1840 m² of the 5924 m² site. 50%.		SU	
sunlight to private open space and windows of habitable rooms on adjoining properties will be largely unaffected to 111 and 113 Meander Valley Road, with shading limited to the rear yards, and (g) the character of development existing on established properties in the area is: East — urban scale residential with rear yards to the subject site that are unlikely to experience any urban scale residential with rear yards to the subject site that are unlikely to experience any ureasonable loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any uses of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any uses of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any unreasonable loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any unreasonable loss of amenity from the proposal; North - vacant land and large gardens, which cannot reasonable experience any unreasonable loss of amenity from the proposal; North - vacant land and large gardens, and large lot (approx. 2ha), both with structures near but not close to the common boundary with the site. As a result of these considerations, the proposal is not expected to result in any unreasonable loss of amenity to adjoining properties. Complies with A2 for units 2, 3, 4, 8 & 9 and P2 for units 1, 5, 6, 7, and 10. A1 extraction, pumping, refrigeration systems, compressors or generators, excluding Residential, Visitor Accommodation, Natural and Cultural 3/P3 not applicable.		space areas on the subject site that will remain	
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	residential uses, excluding for the display of goods for sale, must not be visible from any road or public open		
The proposal does not include subdivision. Not applicable.	8.6 Development Standards for Subdivis	ion	
	The proposal does not include subdivision. Not applicable.		

The proposal complies with the relevant acceptable solutions and performance criteria and is therefore eligible for approval based on the zone standards.



C2.2.1 This code applies to all use and development of land.	The Code applies to the proposal and is not exempt under C2.4.
C2.2.2 Clause C2.5.3 applies to use and development for Residential (multiple dwellings).	The code applies to the proposal.
C2.5.1 Car Parking Numbers	
A1 The number of car parking spaces must	Table C2.1 requires:
beno less than the number specified in Table C2.1, excluding if:	2 spaces per 2+ bedrooms/dwelling; and
- , - 3	1 visitor space per 4 dwellings.
	The proposal requires 20 spaces for units and 3 visitor space.
	The Plans show 22 sealed and formed parking spaces are provided for residents, with another 4 visitor parking spaces.
	Complies with A1.
C2.5.2 Bicycle parking numbers	Not applicable as no requirement is set under Table
C2.5.3 Motorcycle parking numbers	C2.1.
C2.5.4 Loading Bays	
C2.6.1 Construction of car parking spaces	
A1 All parking, access ways, manoeuvring and circulation spaces must:	The Site Plans note a sealed driveway provided to all units and manoeuvring areas. Visitor spaces and
 (a) be constructed with a durable all weather pavement; 	passing bays will be clearly marked as such. Drainage will be connected to the public stormwater
(b) be drained to the public stormwater	system in accordance with the <i>Building Act 2016</i> .
system, or contain stormwater on the site; and	The TIA by Traffic & Civil Services confirmed that the requirements of A1 were met.
(c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.	Complies with A1.
C2.6.2 Design and layout of parking areas	
A1.1 Parking, access ways, manoeuvring and circulation spaces must either:(a) comply with the following:	The Plans show the requirements of A1.1(a) are met. This is confirmed in the TIA by Traffic & Civil Services, which provides qualified advice that the application was assessed against the relevant sections of the Code and AS/NZS 2890.1:2004,





	SO
(i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6;	Parking facilities, Part 1: Off-street car parking and determined to comply.
 (ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces; 	Complies with A1.1.
(iii) have an access width not less than the requirements in Table C2.2;	
 (iv) have car parking space dimensions which satisfy the requirements in Table C2.3; 	
 (v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces; 	
 (vi) have a vertical clearance of not less than 2.1m above the parking surface level; and 	
(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or	
(b) comply with Australian Standard AS 2890- Parking facilities, Parts 1-6.	
A1.2 Parking spaces provided for use by persons with a disability must satisfy the following:	The TIA by Traffic & Civil Services identified that no disabled parking was required for the proposal.
 (a) be located as close as practicable to the main entry point to the building; 	Disabled car parking may be provided at the discretion of the Building Surveyor, through the assessment under the National Construction Code.
(b) be incorporated into the overall car park design; and	Complies with A1.2.
(c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities.1	
C2.6.3 Number of accesses for vehicles	
A1 The number of accesses provided for each frontage must:	The proposal includes a single, tow way access point.
(a) be no more than 1; or	Complies with A1.
(b) no more than the existing number of accesses,	
whichever is the greater.	
A2 Within the Central Business Zone or in a pedestrian priority street no new access is provided unless an existing access is removed.	Not applicable.
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C2.6.4 Lighting of parking areas within the General Business Zone and Central Business Zone	Not applicable.
C2.6.5 Pedestrian access	
P1 Safe and convenient pedestrian access must be provided within parking areas, having regard to:	The proposal requires 23 parking spaces, and does not provide dedicated pedestrian access. P1 therefore applies.
(a) the characteristics of the site; (b) the nature of the use;	P1 was assessed at page 31 of the TIA by Traffic & Civil Services and determined to comply.
 (c) the number of parking spaces; (d) the frequency of vehicle movements; (e) the needs of persons with a disability; (f) the location and number of footpath crossings; (g) vehicle and pedestrian traffic safety; (h) the location of any access ways or parking aisles; and (i) any protective devices proposed for pedestrian safety. 	Complies with P1.
A1.2 In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.	Not applicable.
C2.6.8 Siting of parking and turning areas	
A1 Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas must be located behind the building line of buildings, excluding if a parking area is already provided in front of the building line.	The proposal includes a 1.5m high block wall fence and mail box structure between the road and parking spaces. The proposed visitor parking spaces are located behind this structure.
	The proposed parking is setback from the road frontage to match the existing dwelling at 111 Meander Valley Road.
	The parking spaces are therefore behind the building line.
	Complies with A1.

The following standards were not applicable to the proposal:

- C2.6.6 Loading bays;
- C2.6.7 Bicycle parking and storage facilities within the General Business Zone and Central Business Zone;
- C2.6.8 Siting of parking and turning areas;
- C2.7 Parking Precinct Plan

The application complies with the relevant acceptable solutions for the Car Parking and Sustainable Transport Code and was supported by the Traffic Impact Assessment.

C3 Road and Rail Asset code



C3.2.1 This code applies to a use or development that:	The Code applies to the proposal and is not exempt at C3.4.
(b) will require a new vehicle crossing, junction or level crossing; or	
C3.5.1 Traffic generation at a vehicle cro	ossing, level crossing or new junction
P1 Vehicular traffic to and from the site must minimise any adverse effects on	The proposal exceeds the traffic generation rates set in Table C3.1 and does not comply with A1.4.
the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:	An expert assessment against P1 was provided at pages 33-34 of the TIA by Traffic & Civil Services, which concluded the proposal complies with P1.
 (a) any increase in traffic caused by the use; 	Complies with P1.
(b) the nature of the traffic generated by the use;	
(c) the nature of the road;	
(d) the speed limit and traffic flow of the road;	
(e) any alternative access to a road;	
(f) the need for the use;	
(g) any traffic impact assessment; and	
 (h) any advice received from the rail or road authority. 	
C3.6.1 Habitable buildings for sensitive	uses within a road or railway attenuation area
	Not applicable.
A1 Unless within a building area on a	The site is not within an attenuation area.
sealed plan approved under this planning scheme, habitable buildings for a sensitive use within a road or railway attenuation area, must be:	Not applicable.
C3.7.1 Subdivision for sensitive uses wi	thin a road or railway attenuation area
	Not applicable.

The application complies with the relevant performance criteria for the Road and Rail Assets Code.

The assessment against the standards supports approval of the application.

C9.0 Attenuation Code

C9.2.1 This code applies to: (a) activities listed in Tables C9.1 and C9.2;	The ES&D Report and EPA advice confirm the site is within the attenuation buffer for the Westbury Wastewater Treatment Plant. The Code applies to the proposal and is not exempt at C3.4.
---	--

C9.5.1 Activities with potential to cause emissions

Not applicable.



C9.5.2 Sensitive use within an attenuation area			
P1 Sensitive use within an attenuation area, must not interfere with or constrain an existing activity listed in Tables C9.1 or C9.2, having regard to:	Listmap identifies the Westbury Sewerage Treatment Plant (STP) as an EPA regulated site with approval to process up to 600 KL per day (EPA Permit ref 2589).		
(a) the nature of the activity with potential to cause emissions including:	Table C9.2 of the Scheme identifies a 550m attenuation distance for a wastewater treatment plant with a capacity of up to 1375 Kl per day. This was		
(i) operational characteristics of the activity;	confirmed in the Odour Risk Assessment Report prepared by ES&D Consultants (ES&D Report), following the advice of Taswater.		
 (ii) scale and intensity of the activity; and (iii) degree of hazard or pollution that may be emitted from the activity; (b) the nature of the sensitive use; (c) the extent of encreachment by the 	ES&D note that the buffer from Taswater information does not reflect the requirement to calculate attenuation distances from title boundaries (shown at Figure 1 in that report based on Taswater GIS data and partially reproduced in this report as Figure 8 in this report).		
 (c) the extent of encroachment by the sensitive use into the attenuation area; (d) measures in the design, layout and construction of the development for the sensitive use to eliminate, mitigate or manage effects of emissions of the activity; 	An approximation of the buffer area was developed from LISTmap was provided at Figure 7, with the subject site shown in red and the attenuation buffer shown in cyan. Figure 7 identifies that there are over 200 properties that either zoned as suitable for or accommodate existing residential uses, within the approximated attenuation buffer under the Code.		
(e) any advice from the Director, Environment Protection Authority; and(f) any advice from the Director of Mines.	 This clearly shows that a substantial portion of the existing residential areas at Westbury are within the Attenuation Area, including many recent sites for multiple dwellings. Taswater data identifies: there are 133 dwellings within the existing buffer area; there are 6 existing dwellings that are closer to the plant than the proposed dwellings; and there were 44 complaints in the 29 months between March 2021 and August 2023 from the operation of the site. 		
	The proposal does not reduce the distance between existing sensitive use and the treatment plan site or infrastructure. It is understood that the increase of residential use that does not reduce the established buffer to sensitive uses differs from previous cases such as Cooper & Clayton v Meander Valley Council and does not increase encroachment.		
	On this basis alone, there is no reasonable argument that the additional 10 dwellings proposed will interfere with or further constrain operation of the wastewater treatment plant.		
	Council may take a different interpretation of this situation. The following is provided against P1 in this event:		
	 (a) The plant operates with existing sensitive uses located inside the attenuation buffer under the Scheme. Operation of the site must comply with existing planning and environmental conditions for the plant, which includes condition A1 Odorous 		



gasses of the Permit Part B Permit Conditions (PCE 7018 R3), as follows:
A1 Odorous Gases
Odorous gases arising from the activity must be managed so that they do not cause environmental nuisance beyond the boundary of the land.
The operational requirements of the plant prevent odour emissions that cause environmental nuisance beyond the boundary of the land.
The ES&D Report identifies that the existing activity creates odour emissions that impact existing residential areas at Westbury and this situation is unlikely to change in the foreseeable future based on the advice of the operator.
The operating requirements and characteristics of the plant provide significant constraint on the operation of the plant, and that the proposed dwellings will not reduce the existing attenuation area or further constrain operation of the STP;
 (b) the proposal is consistent with the nature and density of existing residential use and development within the buffer, zoning for residential use and does not seek to reduce the established buffers provided by existing sensitive uses. The ES&D Report identified that the proposal was unlikely to further constrain operation of the STP;
(c) the number and proximity of existing residential uses within the Scheme buffer area establish a significant constraint on the STP to operate the plant in a way that minimises opportunity for complaints and issues. The attenuation area under the Scheme must also be considered in light of the existing permit conditions for the plant;
 (d) the ES&D Report did not identify that any specific responses were required within the proposal to eliminate, mitigate or manage effects of emissions of the activity. The proponent is willing to plant a hedge along the closest boundary if the Council considers this will assist;
 (e) advice was provided from the Director, Environment Protection Authority dated 20 September 2023, which recognised the existing opportunity for land use conflict but deferred to Council for consideration of additional uses. This advice is noted, but does not appear to recognise: the scale of existing residential development within the attenuation area (133 dwellings by Taswater advice, in excess of 200 dwellings based on attenuation requirements under the Scheme); that the opportunity for complaint is not a limitation or constraint on the operation of the plant, unless any such complaints result in an



	 environmental nuisance under condition A1 for the operation of the plant or the relevant action under the <i>Environmental management and Pollution Control Act 1993</i>;or the existing permit conditions and constraints that prevent odour emissions from the site.
	(f) advice from the Director of Mines is not relevant to the proposal.
	The ES& D Report provided an expert assessment of the potential impact of the proposal to the STP and concluded the proposal will not further constrain operation of the STP.
	This demonstrates that the proposal can be established without creating any further constraint for operation of the Westbury STP.
	The proposal complies with the requirements of P1.
C9.6.1 Lot design for subdivision	·

Not applicable.

The application complies with the relevant performance criteria for the Attenuation Code.



Figure 7 - approximation of STP buffer (shown in cyan) (source: modified from LISTmap)





Figure 8 – Westbury STP buffer (Taswater GIS system) (source: extract from ES&D Report)

C13 Bushfire Prone Areas Code

C13.2.1 This code applies to:	The site is located within the Bushfire Prone Areas
(a) subdivision of land that is located	Overlay under the Code.
within, or partially within, a bushfire-	The application does not include subdivision, nor
prone area; and	hazardous or vulnerable uses.
(b) a use, on land that is located within, or partially within, a bushfire-prone area, that is a vulnerable use or hazardous use.	

Clause 7.2.1 establishes that the Code does not apply to the proposal.

Remaining Scheme Codes

The following codes were determined as not applicable to the application:

- C1.0 Signs Code
- C4.0 Electricity Transmission Infrastructure Protection Code
- C5.0 Telecommunications Code
- C6.0 Local Historic Heritage Code
- C8.0 Scenic Protection Code
- C9.0 Attenuation Code
- C10.0 Coastal Erosion Hazard Code
- C11.0 Coastal Inundation Hazard Code
- C12.0 Flood-Prone Areas Hazard Code
- C13.0 Bushfire-Prone Areas Code
- C14.0 Potentially Contaminated Land Code
- C15.0 Landslip Code, and
- C16.0 Safeguarding of Airports Code.

Conclusion

The proposal seeks approval for 10 multiple dwellings on an existing title within an established residential area.

The site is not affected by any natural hazards and both the use and development were able to demonstrate compliance with all relevant standards from the Scheme.

Discretions were assessed against and determined to comply with the relevant performance criteria for the following standards:

- 12.4.1 P1 for dwelling site area requirements
- 12.4.3 P2 for setbacks to side and rear boundaries for units 1, 5, 6, 7, and 10;
- C2.6.5 P1 for Pedestrian Access to the site;
- C3.5.1 P1 for traffic movements to and from the site; and
- C9.5.1 P1 for proposing sensitive use (residential) within the attenuation area to the Westbury Sewerage Treatment plant.

Expert advice was provided to support assessment against standards within the codes, from Traffic & Civil Services and ES&D respectively.

The application has demonstrated compliance with the requirements of the Scheme.

Pursuant to clauses 6.7, 6.8 and 6.10 of the Scheme, the application can be considered for approval.

We request the application be notified and that a permit is issued in due course.







111A MEANDER VALLEY ROAD, WESTBURY

MULTIPLE DWELLING DEVELOPMENT

TRAFFIC IMPACT ASSESSMENT

MARCH 2024





111a Meander Valley Road, Westbury Multiple Dwelling Development

TRAFFIC IMPACT ASSESSMENT

- Final #4
- March 2024

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1. Introduction

1.1 Background

A 10*3-bedroom multiple dwelling development is proposed at the rear of 111a MVR, Westbury. A Traffic Impact Assessment (TIA) has been prepared that considers the existing roads and traffic affected, current and future traffic generation due to the proposal and the impact this will have on the adjacent road network.

This Traffic Impact Assessment (TIA) should be submitted with the development application for the proposal and has been prepared based on Department of State Growth guidelines and provide details as follows:

- Anticipated additional traffic and pedestrian movements.
- The significance of the impact of these movements on the existing road network
- Any changes required to accommodate the additional traffic.

1.2 Objectives

A Traffic Impact Assessment is a means for assisting in the planning and design of sustainable development proposals that consider:

- Safety and capacity
- Equity and social justice
- Economic efficiency and the environment and
- future development with traffic projections for 10 years

1.3 Scope of Traffic Impact Assessment (TIA)

This TIA considers in detail the impact of the proposal on MVR, Westbury.

1.4 References

- AS /NZS 2890.1- 2004 Off-street parking
- AS /NZS 2890.6 2004 Off-street parking for people with disabilities
- RTA Guide to Traffic Generating Developments 2002
- Tasmanian Planning Scheme Meander Valley
- Austroads Guidelines
 - Road Design Part 4A: Unsignalised & Signalised Intersections 2021
 - Traffic Management Part 6: Intersections, Interchanges & Crossings 2020.



1.5 Statement of Qualifications and Experience

This TIA has been prepared by Richard Burk, an experienced and qualified traffic engineer in accordance with the requirements of the Department of State Growth's guidelines and Council's requirements. Richard's experience and qualifications include:

- 36 years professional experience in road and traffic engineering industry
 - Manager Traffic Engineering at the Department of State Growth until May 2017.
 - Previous National committee membership with Austroads Traffic Management Working Group and State Road Authorities Pavement Marking Working Group
- Master of Traffic, Monash University, 2004
- Post Graduate Diploma in Management, Deakin University, 1995
- Bachelor of Civil Engineering, University of Tasmania, 1987

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Director Traffic and Civil Services Pty Ltd



1.6 Glossary of Terms

AADT	Annual Average Daily Traffic - The total number of vehicles travelling in both directions passing a point in a year divided by the number of days in a year.
Acceleration Lane	An auxiliary lane used to allow vehicles to increase speed without interfering with the main traffic stream. It is often used on the departure side of intersections.
Access	The driveway by which vehicles and/or pedestrians enter and/or leave the property adjacent to a road.
ADT	Average Daily Traffic – The average 24-hour volume being the total number of vehicles travelling in both directions passing a point in a stated period divided by the stared number of days in that period.
Austroads	The Association of Australian and New Zealand road transport and traffic authorities and includes the Australian Local Government Association.
Delay	The additional travel time experiences by a vehicle or pedestrian with reference to a vase travel time (e.g. the free flow travel time).
DSG	Department of State Growth – The Tasmanian Government Department which manages the State Road Network.
GFA	Gross Floor Area
Intersection Kerb	The place at which two or more roads meet or cross. A raised border of rigid material formed at the edge of a carriageway, pavement or bridge.
km/h	Kilometres per hour
Level of Service	An index of the operational performance of traffic on a given traffic lane, carriageway or road when accommodating various traffic volumes under different combinations of operating conditions. It is usually defined in terms of the convenience of travel and safety performance.
m	Metres
Median	A strip of road, not normally intended for use by traffic, which separates carriageways for traffic in opposite directions. Usually formed by painted lines, kerbed and paved areas grassed areas, etc.
Movement	A stream of vehicles that enters from the same approach and departs from the same exit (i.e. with the same origin and destination).
Phase	The part of a signal cycle during which one or more movements receive right- of -way subject to resolution of any vehicle or pedestrian conflicts by priority rules. A phase is identified by at least one movement gaining right-of-way at the start of it and at least one movement losing right-of-way at the end of it.

The distance, measured along the road over which visibility occurs between a driver and an object or between two drivers at specific heights above the carriageway in their lane of travel.
Sequential arrangement of separately controlled groups of vehicle and pedestrian movements within a signal cycle to allow all vehicle and pedestrian movements to proceed.
Safe Intersection Sight Distance – The sight distance provides sufficient distance for a driver of a vehicle on the major road to observe a vehicle on a minor road approach moving into a collision situation and to decelerate to a stop before reaching the collision point.
Distance travelled per unit time.
The speed at which 85% of car drivers will travel slower and 15% will travel faster.
A control method that allows a variable sequence and variable duration of signal displays depending on vehicle and pedestrian traffic demands.
A control method that allows a variable sequence and variable duration of signal displays depending on vehicle and pedestrian tragic demands.
A factor used to estimate the percentage annual increase in traffic volume.
A one-way vehicular movement from one point to another excluding the return journey. Therefore, a vehicle entering and leaving a land use is counted as two trips. (RTA Guide to Traffic generating Developments).
The number of vehicles observed to make a particular turning movement (left or right turn, or through movement) at an intersection over a specified period.
A traffic count at an intersection during which all turning movements are recorded.
Traffic signals in which the phasing varies in accordance with the detected presence of vehicles on the signal approaches.
vehicles per day – The number of vehicles travelling in both directions passing a point during a day from midnight to midnight.
vehicles per hour – The number of vehicles travelling in both directions passing a point during an hour.

1.7 Site specific glossary of Terms

MVR Meander Valley Road



Site Description 2.

The development site at #111a MVR is shown highlighted in Figure 1. The property is some 5,900m² in area. The existing access to 111a MVR is within the Westbury 50km/h zone.

The property is some 1.2km South of the Bass Hwy / Birralee Road interchange by road.

The development site is flat and cleared land suitable for residential use. Figures 1 and 2 show the site location and access.



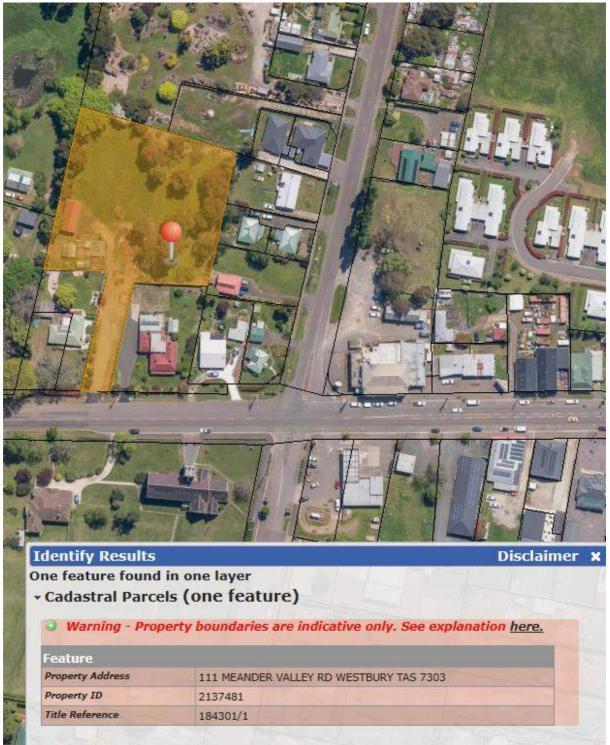
Figure 1 - Location of proposed development

Source: LISTmap, DPIPWE

Traffic Impact Assessment



Figure 2 - Location of proposed development



Source: LISTmap, DPIPWE

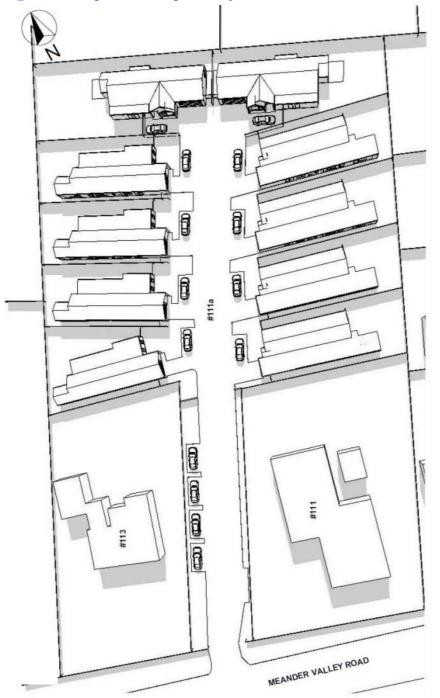


3. Proposed Development

3.1 Description of Proposed Development

The proposal is to develop 111a MVR with 10*3-bedroom dwellings .For each dwelling 2 resident parking spaces are proposed. 4 visitor parking spaces are included including a space for motorcycle parking, see Figure 3. See Appendix C for design plans.

Figure 3 – Proposed development layout at 111a MVR





3.2 Council Planning Scheme

The development involves land currently zoned in accordance with the Tasmanian Planning Scheme - Meander Valley as shown in Figure 4.

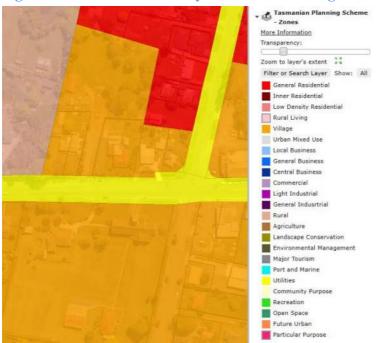


Figure 4 – 111a Meander Valley Road is zoned Village.

Source: LISTmap, DPIPWE

3.3 Local Road Network Objectives

The Meander Valley Community Strategic Plan 2014-2024 is a ten-year plan that outlines the future strategic directions for the Meander Valley Council including future direction for planned infrastructure services. Strategic infrastructure and transport network outcomes contained in the plan include:

- The future of Meander Valley infrastructure assets is assured through affordable planned maintenance and renewal strategies.
- The Meander Valley transport network meets the present and future needs of the community and business.

3.4 State Road Network Objectives

DSG manage the state road network and current objectives are:

• Maintain traffic safety and transport efficiency.



4. Existing Conditions

4.1 Transport Network

The local transport system consists of the MVR, William Street and nearby Council Roads. William Street connects MVR with the Bass Hwy via the Birralee Interchange.

4.1.1 Meander Valley Road

MVR is a Category 5 Other Road in the state road hierarchy and carries some 1,730 vpd (2022) West of William Street at Westbury. MVR in the vicinity of the development site is not classified as *Limited Access* and is not part of the Tasmanian 26m B Double Network West of William Street, see Appendix A.

MVR is a two-lane two-way road with parking lanes and footpaths either side through the Westbury Township which has a 50km/h speed limit encompassing the access to 111a MVR. The road width is typically 14.2m wide from face to face of kerb, which narrows at the access to 111a MVR.

4.1.2 William Street

William Street is a Collector Road in the Council Road Hierarchy and is part of the Tasmanian 26m B Double Network, see Appendix A The road has a posted 50km/h Speed Limit within Westbury.

The road has a typical sealed width of 7.5m within Westbury with footpath along the West side of the road.

4.1.3 Meander Valley Road / William Street Intersection

MVR is the priority road through this at grade intersection and is unchannelised, see Figure 5.

The intersection is part of the Tasman 26m B Double network and within the posted Westbury 50km/h zone.

This intersection operates at LOS A as traffic activity on all approaches is low i.e < 2,000 vpd.



Figure 5 – Aerial view of MVR / William Street Intersection



Source: LISTmap, DPIPWE

4.1.4 111a Meander Valley Road Access

The access to 111a MVR caters for all turning movements with layout shown in Figure 6. Figures 7 to 14 show the access layout in more detail.

Figure 6 – Aerial view of 111a MVR Access



Source: LISTmap, DPIPWE



Figure 7 – Elevation view of access to 111a MVR



Figure 8 – Looking right along MVR from existing access



Figure 9 – Looking left along MVR from existing access



Sight distance left is 250m.

Sight distance right is > 150m.



Figure 10 – MVR Eastern approach to 111a MVR access



MVR Westbound Lane narrows from 6.8m to 5.0m opposite the entrance to 111a MVR.

Figure 11 – MVR Eastern approach at 111a MVR access



Figure 12 – MVR Western approach to 111a MVR





Figure 13 – 111a MVR driveway approach to MVR



Figure 14 – Side elevation of 111a MVR driveway





4.2 Traffic Activity

4.2.1 Meander Valley Road

Interpolation of historic traffic data from the DSG count site 370 West of Lonsdale Promenade provides evidence of a 1.0% compound annual growth rate West of Westbury in the vicinity of 111a MVR, see Appendix A. Further development from rezoning and subdivision development is expected to continue over the next 10 years which will see the 1.0% growth rate at least maintained.

Average annual daily traffic (AADT) on the MVR at the western edge of Westbury is estimated by interpolation as follows:

- 1,592 vpd (2014)
- 1,730 vpd (2022)
- 1,930 vpd (2033)

4.2.2 William Street

Average annual daily traffic (AADT) on William Street at Westbury is estimated at 1,280 vpd (2020) from TCS traffic count data.

4.2.3 # 111 MVR

The existing property is undeveloped and generates 0 vpd.

4.3 Sight Distance (Figure 15)

Figure 15 – Sight Distance Compliance

Junction	Speed	Speed	Ro	oad fronta	ge sight di	stance
Major Rd - Minor Rd	Limit	Environment	Austroads	Avai	lable	AS/NZS 2890.1
	(km/h)	(km/h)	SISD (m)	Left (m)	Right (m)	SSD (m)
111a MVR	50	50	97	250	> 150	45

Austroads Compliant

AS/NZS 2890.1 Compliant



4.4 Crash History

The DSG is supplied with reported crashes by Tasmania Police. DSG maintains a database from the crash reports which is used to monitor road safety, identify problem areas and develop improvement schemes.

The 5-year reported crash history for MVR(William St to Lonsdale Pr.) is summarised in Figures 16 and 17. The crash history shows no crash propensity on MVR in the vicinity of the proposal.

Figure 16 – 5 Year Reported Crash History on MVR (William St to Lonsdale Pr.)

Crash Id	Crash Type	Description	Date	Time	Severity	Light	Location
49990691	LV	167 - Animal (not ridden)	07-MAY-2019	22:30	PDO	Night	MVR
50297614	LV; HV	132 - Veh. in same lane/ right rear	18-OCT-2019	15:45	PDO	Day	MVR / Lonsdale Pr. Jcn.
50592852	MC	184 - Out of control on c/way	08-JAN-2020	09:00	Serious	Day	MVR / William St.
51326815	LV; LV	110 - Cross traffic	27-JUL-2021	09:20	First Aid	Day	MVR / William St.
51926020	LV	189 - Other curve	12-MAR-2023	16:40	First Aid	Day	MVR / William St.

LV Light Vehicle HV Heavy Vehicle MC Motorcycle PDO Property Damage Only

Figure 17 - Crash Locations along MVR (William St to Lonsdale Pr.)



4.5 Road Safety

4.5.1 Road Safety Review

It was observed that the West bound lane of MVR narrows from 6.8m to 5m opposite 111a MVR access, see Figure 10. There is risk of through traffic conflict with the kerb or propped right turner to 111a MVR.



4.5.2 Safe Systems Assessment

MVR at 111a MVR has been assessed in accordance with the Austroads Safe System assessment framework. This framework involves consideration of exposure, likelihood and severity to yield a risk framework score. High risk crash types and vulnerable road user crash types are assessed and aggregated to provide an overall crash risk. Crash risk is considered in terms of three components:

- Exposure (is low where low numbers of through and turning traffic) i.e.1 out of 4
- Likelihood (is low where the infrastructure standard is high) i.e. 1 out of 4
- Severity (is low where the speed environment is low) i.e. 1 out of 4

The Austroads Safe System Assessment process enables the relative crash risk of an intersection or road link to be assessed. Vulnerable Road users are considered along with the most common crash types.

The crash risk score indicates how well the infrastructure satisfies the *safe system objective* which is for a forgiving road system where crashes do not result in death or serious injury.

From safe system assessment the overall situation has been determined to be well aligned with the safe system objective with a crash risk score of 27/448 which is a very low crash risk, see Figure 18 and Appendix B for details.

Figure 18 – Austroads Safe System Assessment alignment between crash score and risk

<40/448 Very low risk score (40-80)/ 448 Low risk score (80-180)/448 Moderate to high risk score

>180/448 High risk score



5. Traffic Generation and Assignment

This section of the report describes how traffic generated by the proposal is distributed within the adjacent road network now and in ten years (2033).

5.1 Traffic Growth

Highway traffic growth is projected to increase at 1.0 % compound annual growth.

5.2 Trip Generation

The applicable traffic generation rates for the proposal are as follows for medium density residential dwelling development:

• For 2 or 3-bedroom town houses 5-6.5 trips /day and 0.5 - 0.65 trips / peak hour

This suggests the proposal which involves 10 *3-bedroom dwellings will contribute 66 trips per day with peak hour traffic contribution of up to 6 trips per hour.

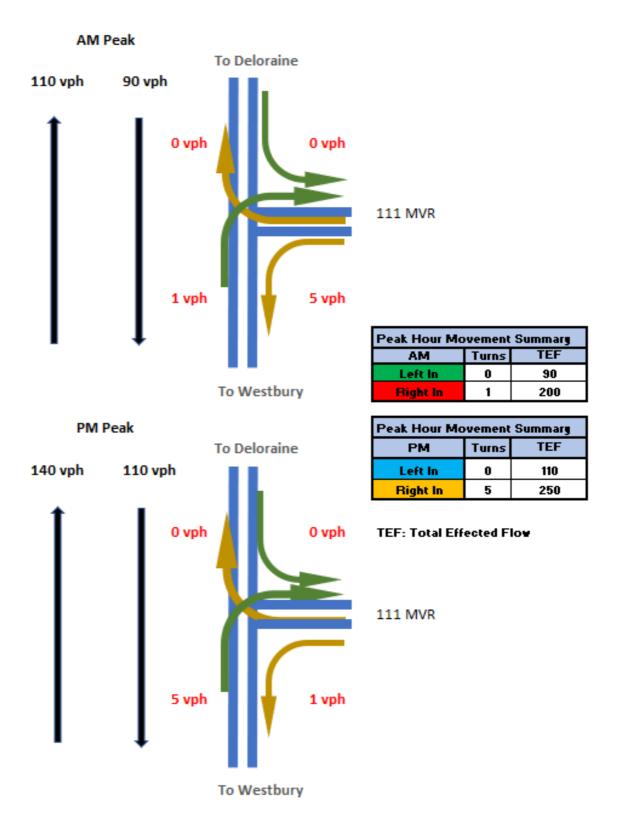
This is consistent with Traffic Generation Rates for Key Land Uses sourced from the RTA Guide to Traffic Generating Developments under section 1.4 References.

5.3 Trip Assignment

Figure 19 shows the projected traffic at the 111a MVR access in 2033.



Figure 19 – 2033 Peak traffic activity at 111a MVR access





6. Impact on Road Network

6.1 Traffic impact

6.1.1 Meander Valley Road

By 2033 the MVR is estimated to have an AADT of 1,930 vpd with peak hour traffic:

- AM Peak 200vph in total with 90 vph East bound.
- PM Peak 250 vph in total with 110 vph West bound.

The increased traffic due to the proposal is estimated at 66 vpd is minimal and can be easily absorbed by MVR. The proposal has negligible impact on the operation of the MVR.

6.1.2 Meander Valley Road / William Street Intersection

This intersection has a simple at grade layout with no delineation of turn lanes on MVR. The traffic activity at the intersection is very low i.e less than 2,000vpd on MVR and less than 2,000vpd on William St.

The existing intersection is estimated to be operating at LOSA and the increase in traffic due to the proposal will have negligible impact on operation of the intersection which is estimated to operate at LOSA with the proposal by 2033.

6.1.3 111a MVR access

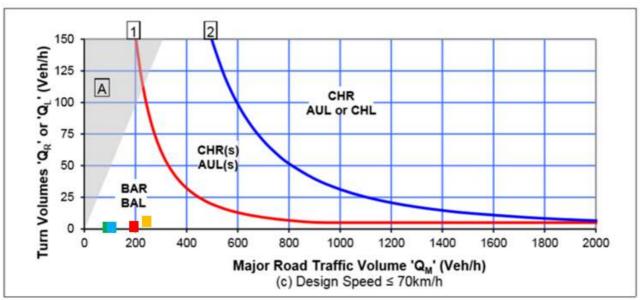
Currently the property is undeveloped and is not generating any traffic. The existing access is estimated to operate at LOS A with the proposal.

6.2 Junction Warrant

Junction layout requirements are based on Austroads Guidelines which take into account the road standard, speed limit and volume of through & turning traffic. Figure 20 demonstrates that technically a BAR right run facility is warranted for the right turn into 111a MVR.



Figure 20 – Austroads junction warrant for 111a MVR access 2033



AM	Turns	TEF
Left in	0	90
Bight In	1	200

Peak Hour M		
PM	Turns	TEF
Left in	0	110
Right In	5	250

TEF: Total Effected Flow

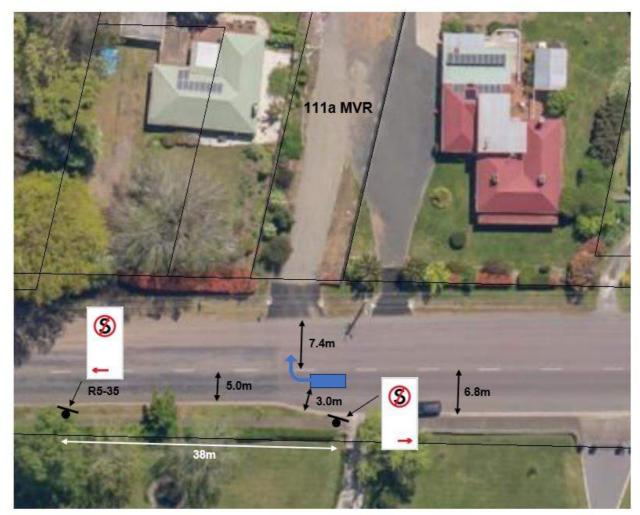
Techncially the exisitng access to 111a MVR does not meet the BAR requirement for 6.5m of trafficable road width in the MVR West bound direction opposite the access.

The current West bound lane narrows from 6.8m to 5m just West of the access with the West bound lane some 6m wide opposite the access which leaves some 3m to the left of a propped right turner for a west bound through vehicle to pass.

Accordingly the current layout is partially BAR with provision of No Stopping signs on the West Bound kerb to maintain uninterrupted West bound through flow, see Figure 21. A partial BAR is considered acceptable as through and turning traffic volumes are low and the speed environment is low.



Figure 21 – Proposed access to 111a MVR



The proposed No Stopping zone is 38m in length and reduces on street parking by 5 car parking spaces however these parking spaces are narrow an exposed to side swipes from through traffic due to the narrowed road width.

The on-street parking East of the No Stopping zone can accommodate some 10 car parking spaces and is not affected.

The nearby church also has access to on street parking in William Street.

Accordingly, the reduced on-street parking is considered reasonable and does not unreasonably disadvantage the church or neighbouring properties.

The proposed No Stopping sign installation may be installed by Meander Valley Council having delegation from the Transport Commissioner to install parking control signage on State Roads where the speed limit is 60km/h.

TRAFFIC & CIVIL SERVICES

6.3 Impacts on road users.

The proposal will impact road users as follows:

- Cars negligible impact
- Trucks negligible impact
- Public transport negligible impact
- Pedestrians negligible impact
- Cyclists negligible impact
- Motorcyclists negligible impact

6.4 Other impacts

6.4.1 Services

Traffic generated by the proposal will not affect above ground services.

6.4.2 Environmental

No applicable environmental impacts were identified in relation to:

- Noise, Vibration and Visual Impact
- Community Severance and Pedestrian Amenity
- Hazardous Loads
- Air Pollution, Dust and Dirt and Ecological Impacts
- Heritage and Conservation values

6.4.3 Street Lighting and Furniture

MVR has street lighting and does not require more roadside furniture such a bus shelters, seats, direction signs, cycle racks, landscaping, and fencing.



7. Tas. Planning Scheme – Meander Valley

Parking and Sustainable Transport Code C2

C2.5.1 Car parking numbers

Acceptable Solution A1: The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:

- (a) The site is subject to a parking plan for the area adopted by Council, in which case parking provision (spaces or cash in lieu) must be in accordance with that plan,
- (b) The site is contained within a parking precinct plan and subject to Clause C2.7,
- (c) The site is subject to Clause C2.5.5;or
- (*d*) It relates to an intensification of an existing use or development or a change of use where:
 - i. The number of onsite car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional onsite car parking is required; or
 - *ii.* The number of onsite car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:

Table C2.1 requires for Residential use:

- 2 spaces per 2 or more-bedroom dwelling
- 1 dedicated space per 4 dwellings

The proposal is for 10 *3-bedroom dwellings so Table C2.1 requires:

- 20 resident car parking spaces, 22 are proposed.
- 3 visitor car parking space, 4 are proposed.

Proposal meets the Table C2.1 requirement, see Figure 3. A1 is satisfied.

C2.5.2 Bicycle parking numbers

Acceptable Solution A1: Bicycle parking spaces must:

- (a) Be provided on the site or within 50m of the site, and
- (b) Be no less than the number specified in Table C2.1.

Table C2.1 has no requirement for residential use.



C2.5.3 Motorcycle parking numbers

Acceptable Solution A1: The number of on-site motorcycle parking spaces for all uses must:

- (a) Be no less no less than the number specified in Table C2.4. and
- (b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.

Table C2.4 has no requirement where the number of car parking spaces required is 0-20. A total of 23 car parking spaces are proposed so 1 motorcycle parking space is required.

Proposal includes a motorcycling parking space. A1 is satisfied.

C2.5.4 Loading bays

Acceptable Solution A1: A loading bay must be provided for uses with a floor area of more than 1,000m2 in a single occupancy.

A1 is not applicable. The proposed dwellings have floor area < 1,000m2.

C2.6.1 Construction of parking areas

Acceptable Solution A1: All parking, access ways, manoeuvring and circulation spaces must:

- (a) be constructed with a durable all-weather pavement,
- (b) be drained to the public stormwater system, or contain stormwater on the site; and
- (c) excluding all uses in the Rural Zone, Agricultural Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Public Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.

The proposal involves a combination of asphalted pavement and concrete road surfaces with drainage to the public stormwater system, see separate stormwater report prepared for the development.

A1 is satisfied.



C2.6.2 Design and layout of parking areas

Acceptable Solution A1.1: Parking, accessways, manoeuvring and circulation spaces must All parking, access ways, manoeuvring and circulation spaces must either:

- (a) comply with the following:
- i. have a gradient in accordance with AS 2890 Parking facilities, Parts 1-6. Satisfied.
- *ii. Provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces.* Satisfied
- iii. *Have an access width not less than the requirements in Table C2.2.* For 23 car parking spaces the Table C2.2 requirement for driveway width us 5.5m. The proposed driveway width is 7m at the access culvert and throughout the property and therefore compliant.
- *iv. Have car parking space dimensions which satisfy the requirements in Table C2.3.* Proposed parking dimensions are as follows:
 - Single Garage Units 1-4 & 7-10 have 2.8m wide spaces by 6.2 m long.
 - Double Garage Units 5 & 6 have 2.8m wide spaces by 6.2 m long.
 - Driveway parallel parking 3.0m wide spaces by effectively 6.7m long
 - Visitor parallel parking 3.0m wide spaces by 7.0m long

Satisfied, Table C2.3 requires minimum 2.6m wide by 5.4m long spaces for 90-degree parking and 2.3m wide by 6.7m long spaces for parallel parking.

- v. Have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces. The following manoeuvre spaces are required:
 - 90-degree parking spaces 2.6m wide require 6.4m of manoeuvre space.
 - 90-degree parking spaces 3.4m wide require 4.8m of manoeuvre space.

Available manoeuvre space between parking space and the driveway is > 8m and the outdoor parking spaces have width 3m and length 6m.

Appendix F shows various parking entry and exit paths for an Austroads B 99 car demonstrating adequate manoeuvre space is available for the most demanding movements and as such there is no need to every movement for each unit. Note that the two-way driveway is 8m wide with separate indented parallel parking. Table C2.3 is satisfied.

- *vi. Have a vertical clearance of not less than 2.1 metres above the parking surface level,* Satisfied.
- vii. *Excluding a single dwelling*, *be delineated by line marking or other clear physical means*. Satisfied with garage and carport parking spaces.



(b) Comply with Australian Standard AS 2890 Parking facilities, Parts 1-6. Satisfied.

A1.1 is satisfied.

Acceptable Solution A1.2: Parking spaces provided for use by persons with a disability must satisfy the following:

- (a) Be located as close as practical to the main entry point to the building.
- (b) be incorporated into the overall car park design.
- (c) be designed and constructed in accordance with Australian/ New Zealand Standard AS/NZS 2890.6-2009 Parking facilities Off-street parking for people with disabilities.

No requirement for residential use.

C2.6.3 Number of accesses for vehicles

Acceptable Solution A1: The number of accesses provided for each frontage must:

- (a) be no more than 1;or
- (b) no more than the existing number of accesses

whichever is the greater.

A single two-way access is proposed. A1 is satisfied.

C2.6.5 Pedestrian access

Acceptable Solution A1.1

Applies to uses that require 10 or more car parking space must:

(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:

- *i. a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or*
- *ii.* protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and

(b) be signed & line marked at points where pedestrians cross access ways or parking aisles.

26 car parking spaces are proposed without footpaths. A1.1 is not satisfied.



Performance Criteria P1

Safe and convenient pedestrian access must be provided within parking areas, regarding:

- (a) the characteristics of the site.
- (b) the nature of the use
- (c) the number of parking spaces
- (d) the frequency of vehicle movements
- (e) the needs of persons with a disability
- (f) the location and number of footpath crossings
- (g) vehicle and pedestrian traffic safety
- (h) the location of any access ways or parking aisles
- *(i)* any protective devices proposed for pedestrian safety.

The use is residential in a low-speed environment < 30km/h.

Adequate off-street parking is proposed.

Vehicle activity is low with peak vehicle movements at some 6 vph at the MVR access.

Sealed surfaces are provided in all areas conducive to safe pedestrian use.

From Austroads Safe System Assessment crash risk is considered very low:

- Crash exposure is low as traffic activity levels are low and pedestrian activity in the vicinity of vehicles is low i.e low crash exposure.
- Crash likelihood is low as Australian Standard off street parking is provided, sight lines are open and pedestrian activity and parking areas are reasonable separate and at low activity levels.
- Crash severity is low as the vehicle speed environment is low < 30km/h.

Formal signage of shared zones is a recognised pedestrian safety improvement where there is a mix of pedestrian, local access traffic only and situation where this is no kerb separation between pedestrians and vehicles. This is because Shared Zone signage includes provision of a regulator speed limit to keep speed to an appropriate level. In the case of the proposed driveway a 10 km/hr speed limit is considered normal. The proposed development is in keeping with this kind of situation. Figure 22 shows Shared Zone signage standards.



Figure 22– Shared Zone signage standards, AS1742.1-2014

	SHARED ZONE	R4-4	450 × 750
SHARED			
END	END SHARED ZONE	R4-5	450 × 750
SHARED			
*			

Accordingly, TCS recommends acceptance of the proposal with provision of 10km/hr Shared and End Shared Zone signage at the entry and exit to the development to limit speeds to a safe level. **P1 is satisfied.**

C2.6.6 Loading bays

Acceptable Solution A1: The area and dimensions of loading bays and access way areas must be designed in accordance with Australian Standard AS 2890.2-2002, Parking facilities, Part 2: Offstreet commercial vehicle facilities, for the type of vehicles likely to use the site.

A1 is not applicable.

Acceptable Solution A2: The type of commercial vehicles likely to use the site must be able to enter, park and exit the site in a forward direction in accordance with Australian Standard AS 2890.2-2002, Parking facilities, Part 2: Offstreet commercial vehicle facilities.

An 8.8m medium rigid truck (Garbage or Firefighting truck) can reverse into the driveway and exit onto Meander Valley Road in a forward direction, see Appendix E. **A2 is satisfied.**



Road and Railway Assets Code C3

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

Acceptable Solution A1.1 – For a category 1 road or a limited access road, vehicular traffic to and from the site will not require:

- (a) A new junction
- (b) A new vehicle crossing.
- (c) A new level crossing.

Not applicable as the roads are not Category 1.

Acceptable Solution A1.2 – For a road, excluding a Category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority.

A1.2 is not satisfied as no written consent has been issued by the road authority, see response to Performance Criteria P1.

Acceptable Solution A1.3 – For rail network, written consent for a new private level crossing to serve the use & development has been issued by the rail authority. Not Applicable.

Acceptable solution A1.4: Vehicular traffic to and from the site, using and existing vehicle crossing or private level crossing will not increase by more than:

- (a) The amounts in Table C3.1
- (b) Allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road; and

Currently the property generates no traffic. The proposal is estimated to generate 66 vpd i.e a 66 vpd increase i.e more than 10vpd on a major road (Meander Valley Road) for vehicles up to 5.5m in length as per Table C3.1. **A1.4 is not satisfied.**

Performance Criteria P1: Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:

- (a) any increase in traffic caused by the use.
- (b) the nature of the traffic generated by the use.
- (c) the nature of the road.
- (*d*) the speed limit and traffic flow of the road.
- (e) any alternative access to a road.
- (f) the need for the use.
- (g) any traffic impact assessment; and
- (*h*) any advice received from the rail or road authority.



- (a) The increase in traffic due to the proposal is 66vpd and the MVR has an estimated AADT of 1,930 vpd (2033). The traffic activity on the MVR is low and the road is easily able to cope with the increase and estimated to continue to operate at LOS A.
- (b) The nature of the traffic generated by the use will be light vehicles.
- (c) The MVR is a Category 5 Other Road in the State Road Hierarchy so the proposed increase in traffic activity is feasible and well within the capacity of the road.
- (d) The existing access to 111a MVR is within the 50km/h zone encompassing Westbury CBD and the speed environment is assessed as similar and suitable for the proposal.
- (e) The existing access to 111a MVR is considered suitable in terms of width, layout, drainage and standard for the proposal.
- (f) The need for the use is based on commercial rationale.
- (g) This assessment identifies no reason to disallow the proposal due to traffic impacts.
- (h) No rail or road infrastructure is disaffected by the proposal, see Appendix D.

In summary there are no traffic safety or capacity issues due to the proposal. P1 is satisfied.

Acceptable solution A1.5: Vehicular traffic must be able to enter and leave a major road in a forward direction. A1.5 is satisfied.

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

Not applicable as the proposal does not involve sensitive uses within a road or railway attenuation area.

C3.7.1 Subdivision for sensitive uses within a road or railway attenuation area Not applicable as no subdivision is proposed within a road or railway attenuation area.



8. Department of State Growth requirements

Proposals involving accesses within a State Road reservation require DSG consideration as the road owner. The following DSG involvements may be required:

8.1 DSG review of TIAs

These reviews are required to:

- consider proposals and whether the TIA prepared satisfies DSG requirements.
- resolve any issues so the TIA can be finalised.
- enable the TIA endorsement provided by DSG to be communicated to Council as part of the Development application process.

These reviews are usually arranged by the TIA author. The email address for submissions is: <u>Development@stategrowth.tas.gov.au</u>

8.2 Crown Landowner Consent

This is to provide DSG to opportunity to check alignment of proposals with DSG objectives for the road. If the proposal aligns with DSG objectives Crown Land Consent is issued by DSG. Crown Landowner Consent is required where there is a proposed change in use of property adjacent to a state road. The website for Crown Landowner Consent is: https://www.transport.tas.gov.au/road/permits/crown_landowner_consent

8.3 Access Works Permits

Developers must obtain an access works permit from DSG for proposed work within a state road reservation. Applications need to include:

- suitably design plans detailing the proposal and any services affected.
- relevant design calculations for stormwater management and pavement design
- a traffic impact assessment

The website for access works permit applications is: https://www.transport.tas.gov.au/road/permits/road-access

For the proposal considered in this TIA DSG requirements are:

- Crown Land Consent
- Access Works Permit to install No Stopping signs , see Figure 21.
- Apply for Access Licence update to reflect change in use, see Appendix D.

DSG advice of acceptance of this TIA is attached in Appendix D.



9. Recommendations and Conclusions

This traffic impact assessment has been prepared to assess the proposed development of 10* 3-bedroom dwellings at 111a MVR, Westbury. The assessment has reviewed the existing road conditions, road safety, reported crash history, Austroads junction guidelines and compliance with the Tasmanian Planning Scheme.

The traffic volume on the MVR is currently in the order of 1,730 vpd (2023) and projected to increase to 1,930 vpd by 2033 assuming continued growth continues at the historic rate of 1.0% pa at this location over the last 18 years. It is estimated the proposal will increase traffic generated at the property from 0 to 66 vpd once fully developed. This increase in traffic is moderate and will have a negligible impact on the traffic safety and transport efficiency of MVR.

Evidence and justification are provided to demonstrate that the proposal satisfies Parking & Sustainable Transport Code C2 and Road & Railway Assets Code C3 requirements of the Tasmanian Planning Scheme – Meander Valley.

Advice of DSG acceptance of this TIA is attached in Appendix D.

DSG requirements:

- Crown Landowner Consent, see the following link.
 <u>https://www.transport.tas.gov.au/road/permits/crown_landowner_consent</u>
- A DSG Access Works Permit is necessary to install No Stopping (R5-35) signs, see Figure 21.
- Apply for Access Licence update to reflect change in use, see Appendix D.

Recommendations

- Install No Stopping (R5-35)signs along the West side of MVR opposite the driveway to 111a MVR, see Figure 21.
- Install 10km/h Shared zone signs on the driveway for traffic entering 111a MVR with End Shared Zone signs on the back side for traffic exiting #111a MVR, see Figure 22 for sign details.

Overall, it has been concluded that the proposed development will not create any traffic issues and MVR traffic safety and transport efficiency will not be disaffected.

Based on the finding of this report the proposed development is supported on traffic grounds.

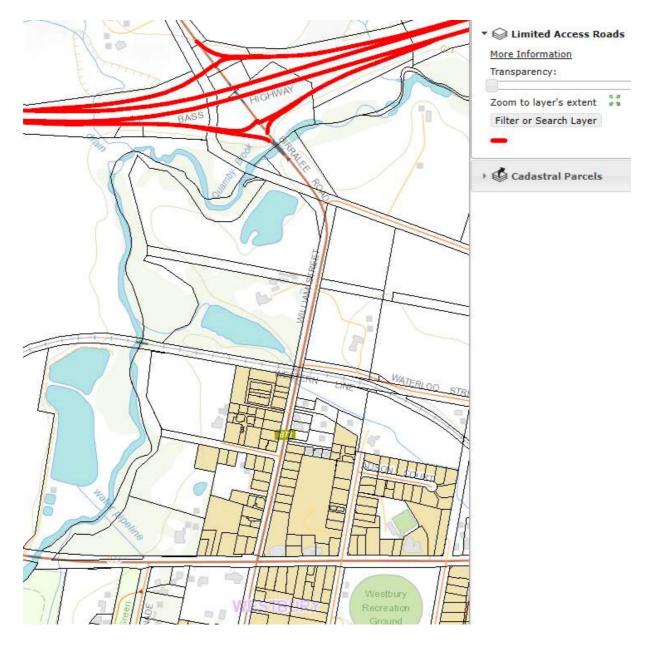






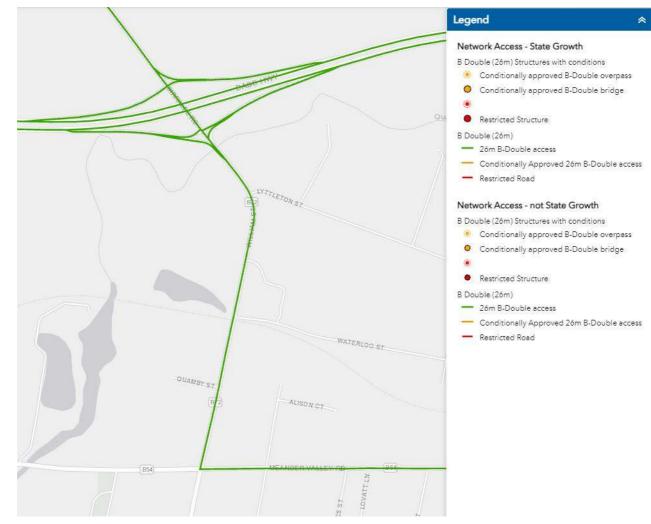
Appendix A – Meander Valley Road Information

Limited Access Restrictions





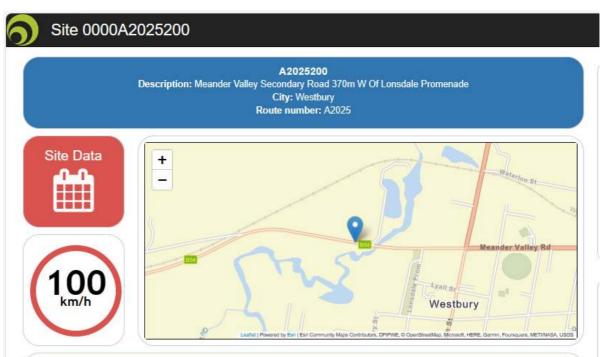
26m B Double Access



TRAFFIC & CIVIL SERVICES

Meander Valley Road Traffic Data

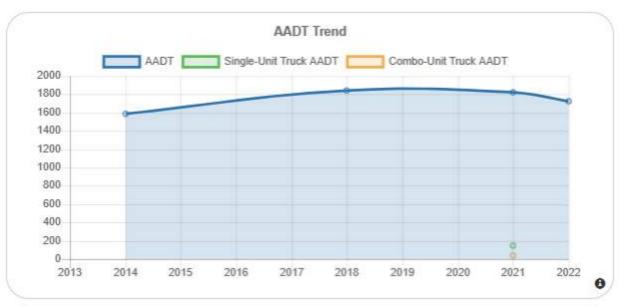
370 m West of Lonsdale Promenade, Westbury



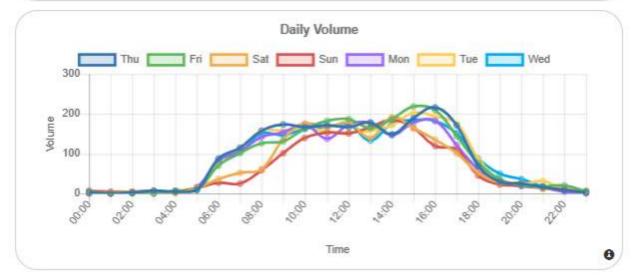
(Traffic	Statistics by Direction	
Direction	Weekday average total traffic	7-day average traffic	Weekly traffic total
East	778	770	5,388
West	960	938	6,564
Total	1,738	1,708	11,952

Data Item	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
AADT	5	1,592		. .		1,848	8	-	1,827	1,730
% HV	0 -	7.7%	1.00	-		13.2%	-	-	9.9%	-











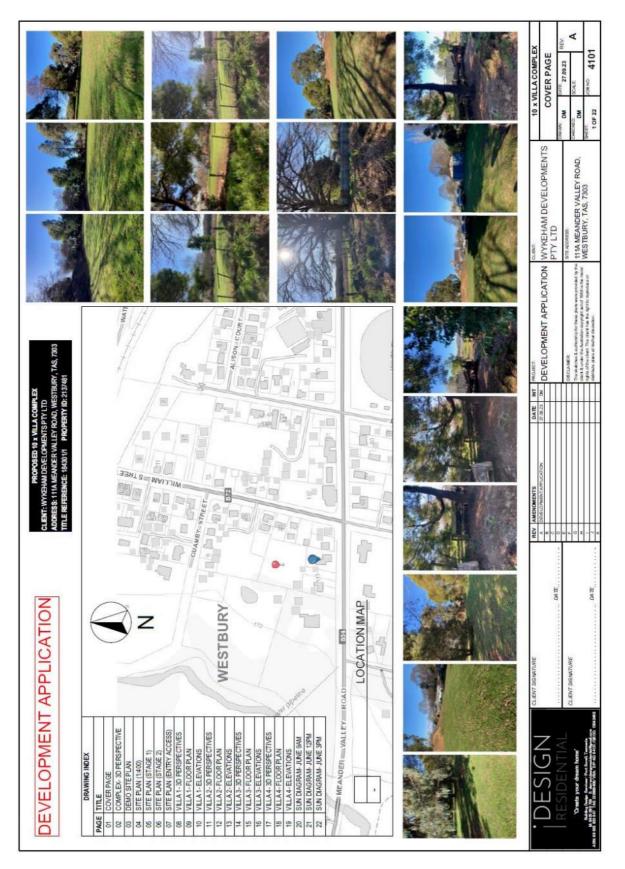
Appendix B – Safe System Assessment

Meander	Meander Valley Road approaches to	pproaches to 1	111a MVR						
		Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclist	Motorcyclist	
Exposure						Low pedestrian	ctivity,	Low motorcycle	
	Justification		no reported crasnes. No reported crasnes.			no reported	no reported	activity, 1 serious	
	(AADT 1,730			1,260 vpn at wiiiiam Street intersection and	reported crasnes.	crasnes	crasnes.	william St	
	(pdv			3 casualty crashes (1				intersection	
				serious & 2 first aid).					
	Score / 4	1	1	3	1	1	1	2	
Likelihood		High road standard	High road standard	Unchannelised at	High road standard Footpaths both		High road standard High road standard	High road standard	
		with straight		n with	with straight		with straight	with straight	
		alignment, good		MVR priority road	alignment, good		alignment, good	alignment, good	
		sight distance &	sight distance &			island for crossing	sight distance &	sight distance &	
	Justification	good delineation	good delineation		good delineation	đu	good delineation,	good delineation	
						warning signage	no cyclist facilities		
	Score / 4	1	1	3	1	2	1	1	
Severity		Low speed	Low speed	Low speed	Low speed	Moderate to High	Moderate to High	Moderate speed	
•	Justification	environment	environment	environment	environment	speed environment speed environment environment for	speed environment	environment for	
	(50km/h speed	-					בובוואלי וטו	וווסנטובארוופנס	
	limit and	1							
	environment								
	Score / 4	1	1	1	1	£	3	æ	Total /448
Product	Total Score /64	1 1	1	6	1	9	æ	9	27

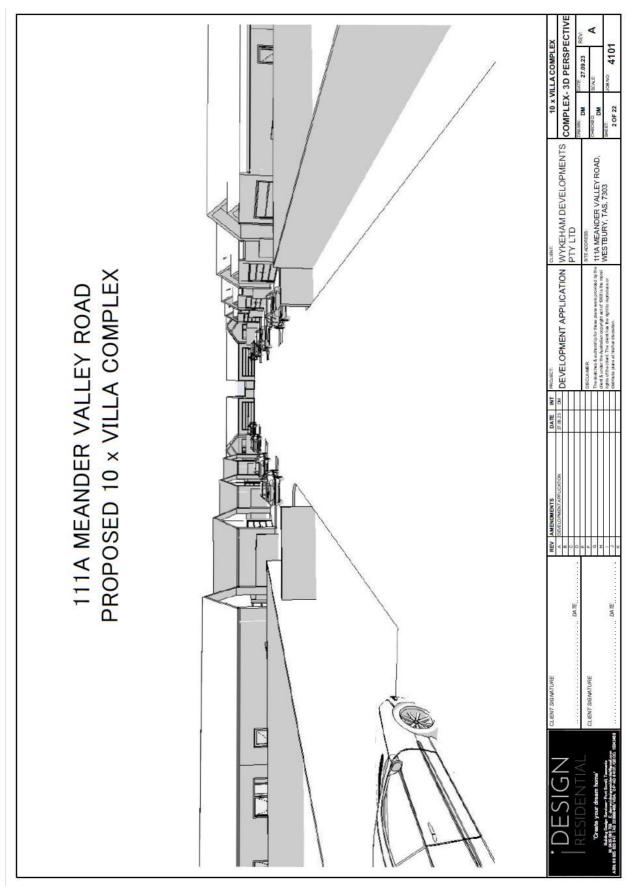
Safe System Assessment



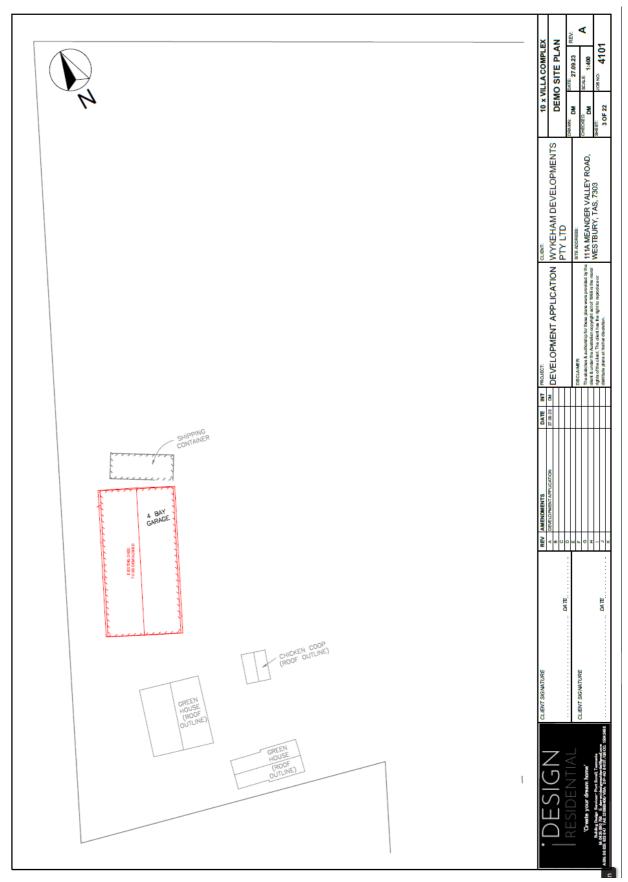
Appendix C – Proposal design plans



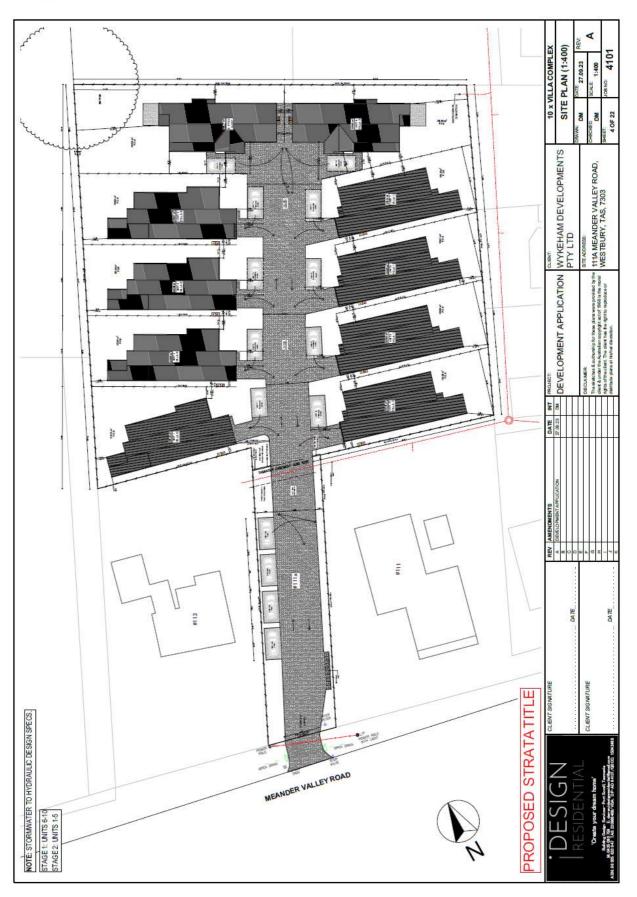




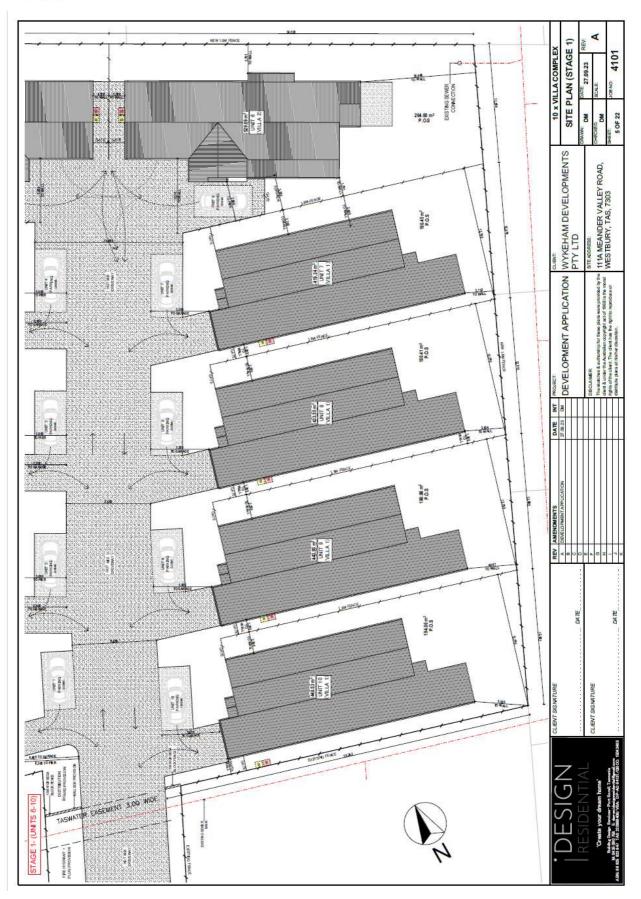




TRAFFIC & CIVIL SERVICES



TRAFFIC & CIVIL SERVICES

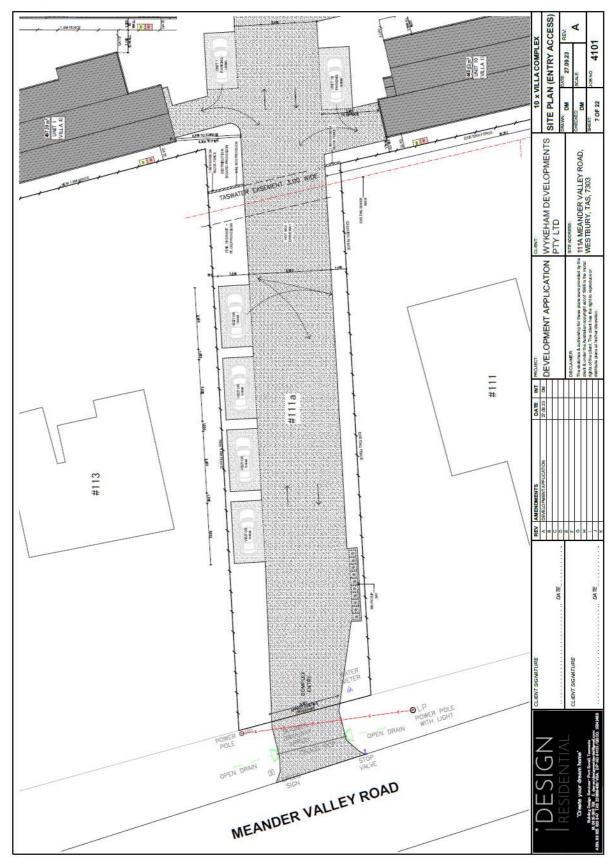


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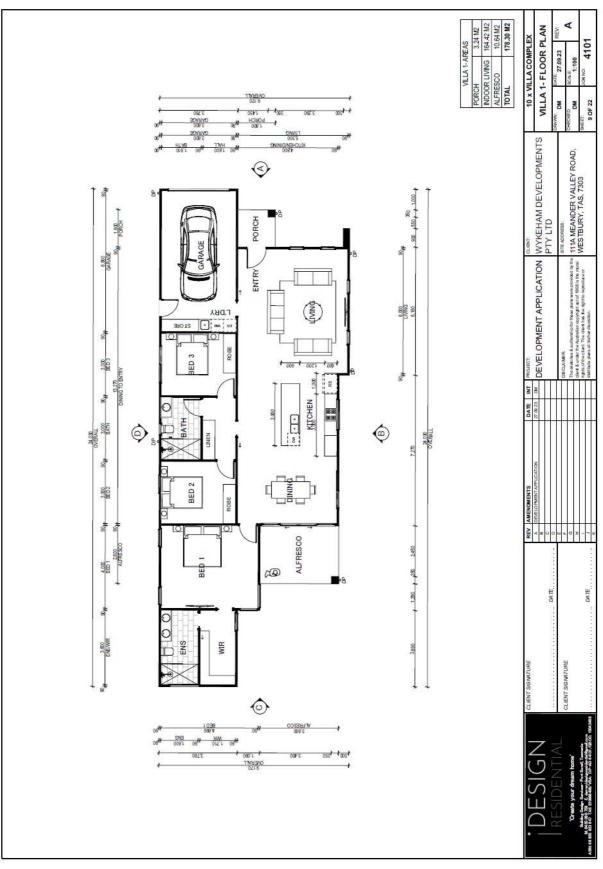




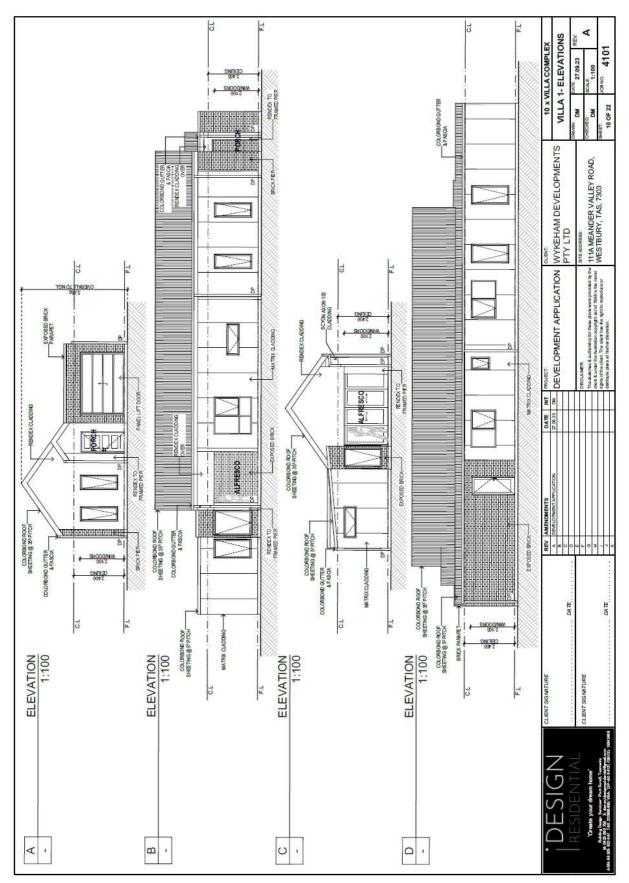




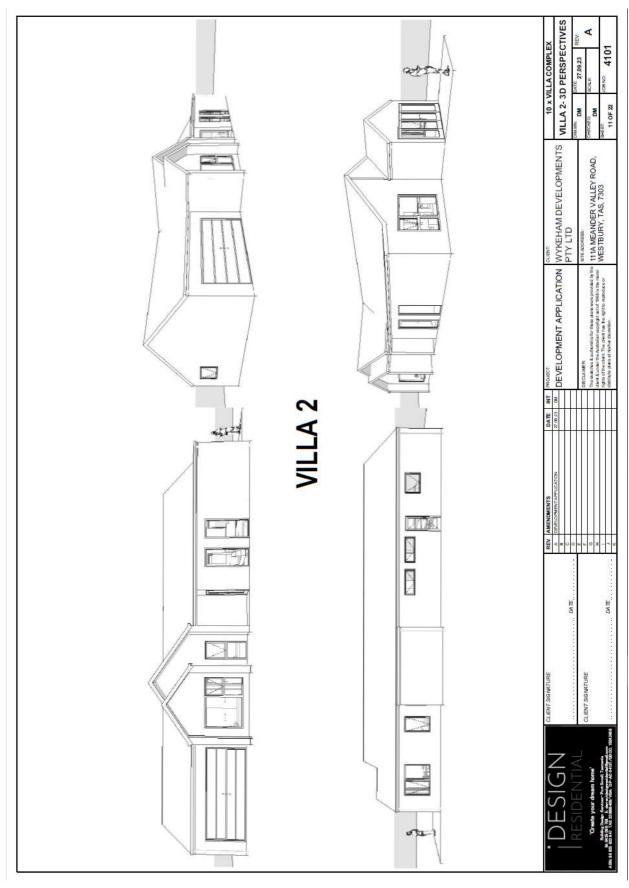




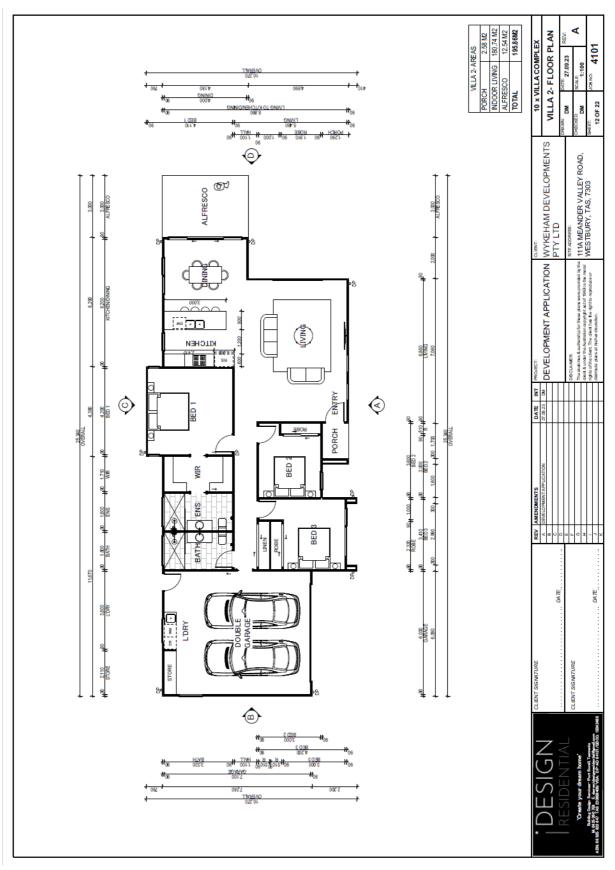




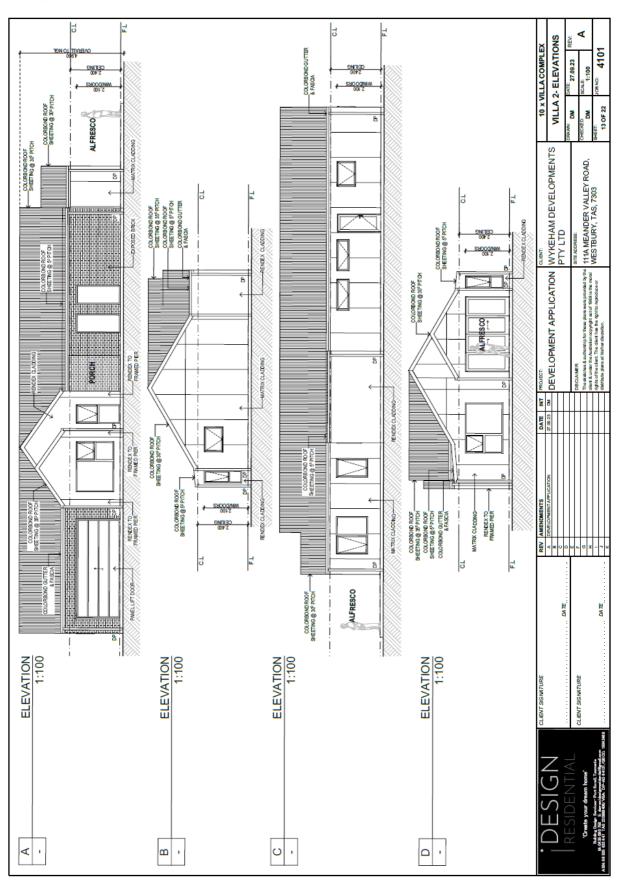




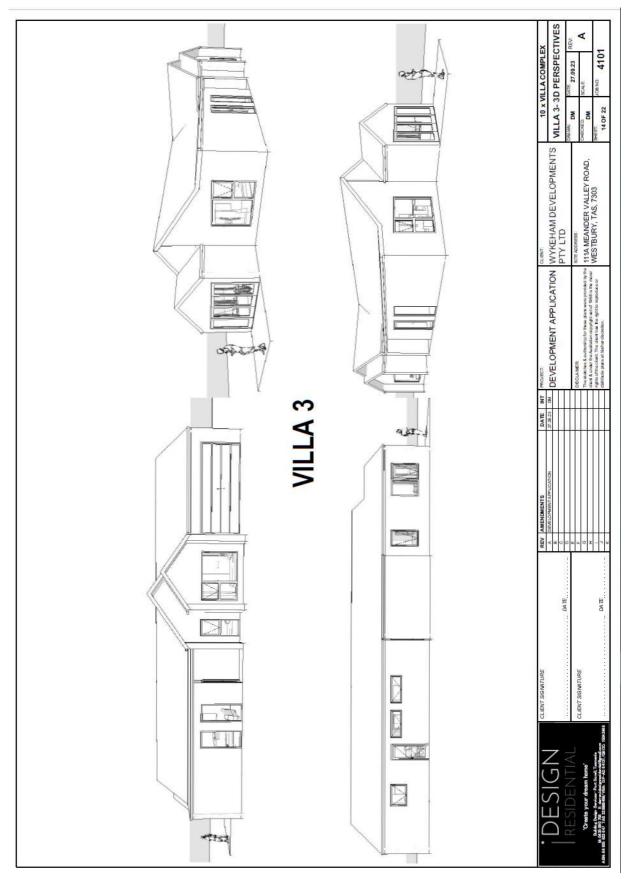




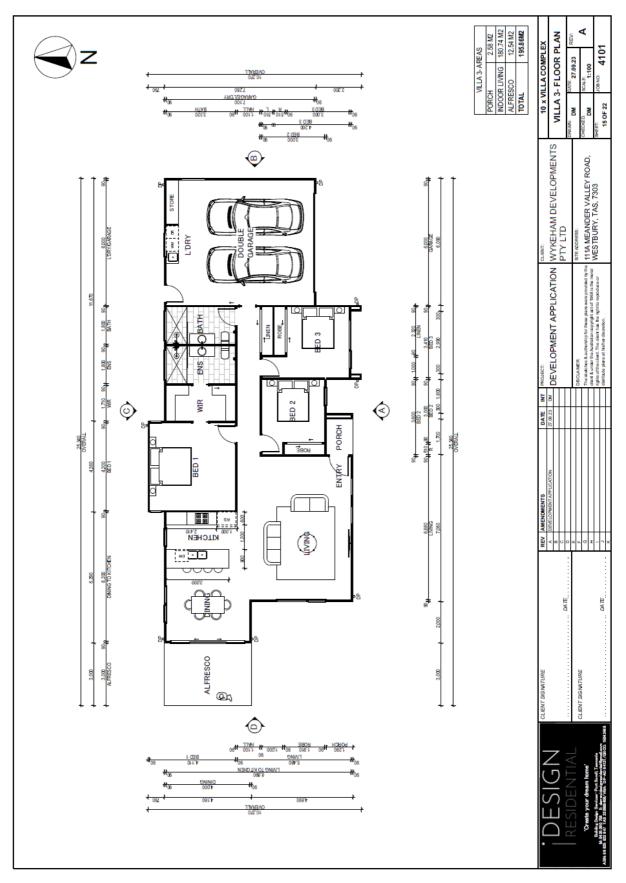




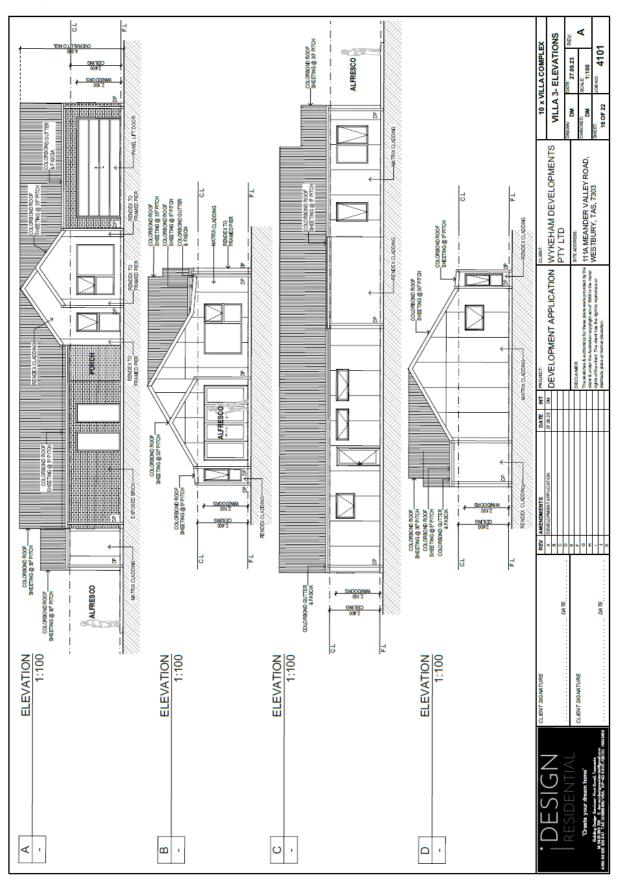




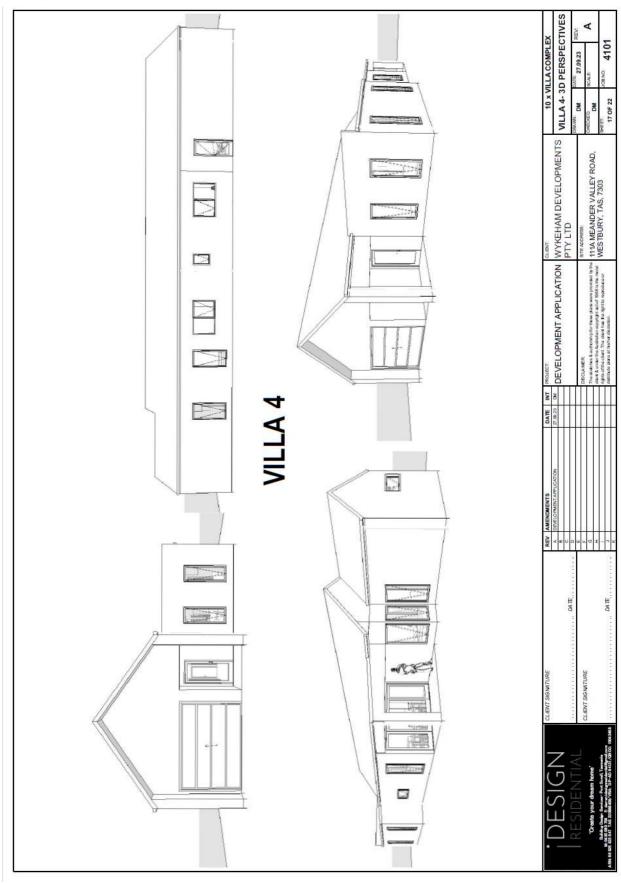




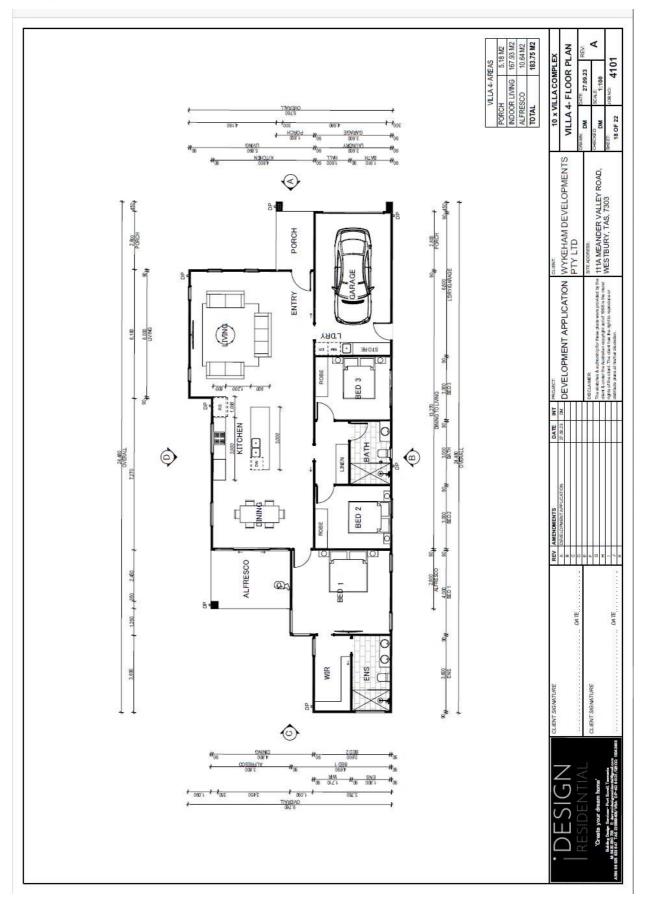




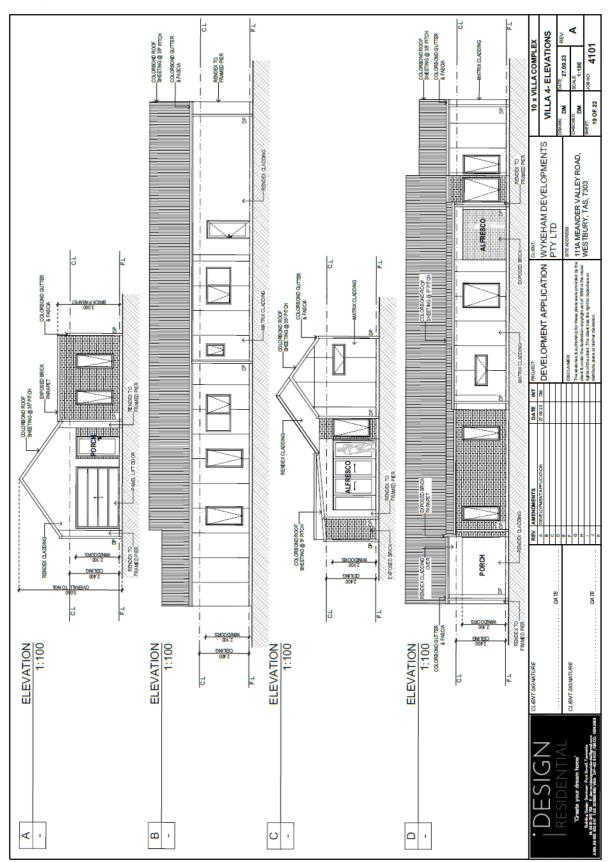




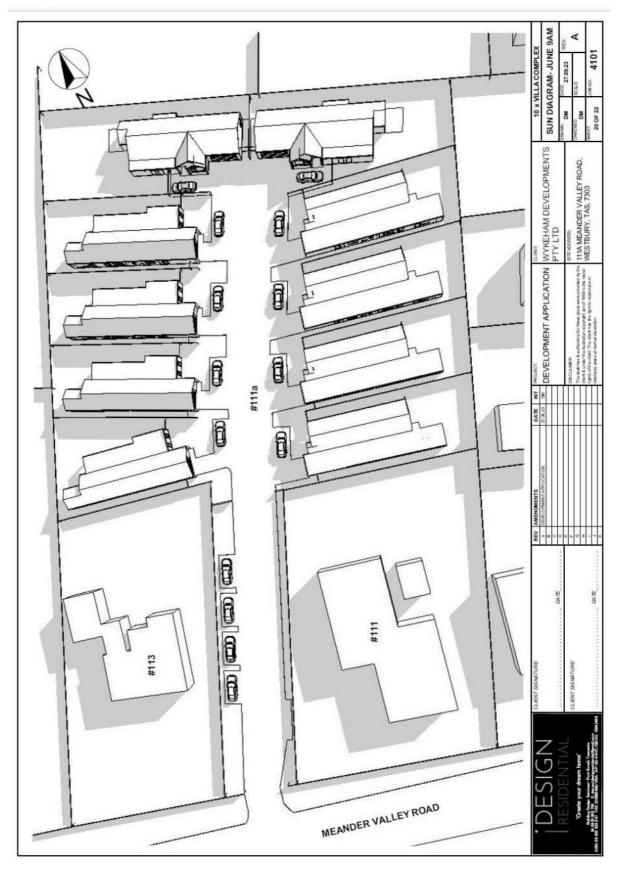




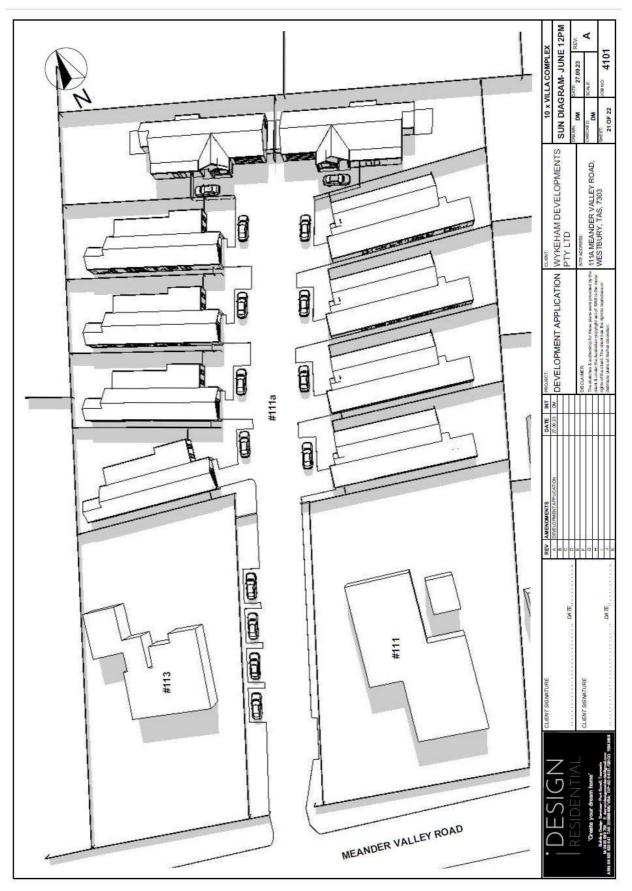




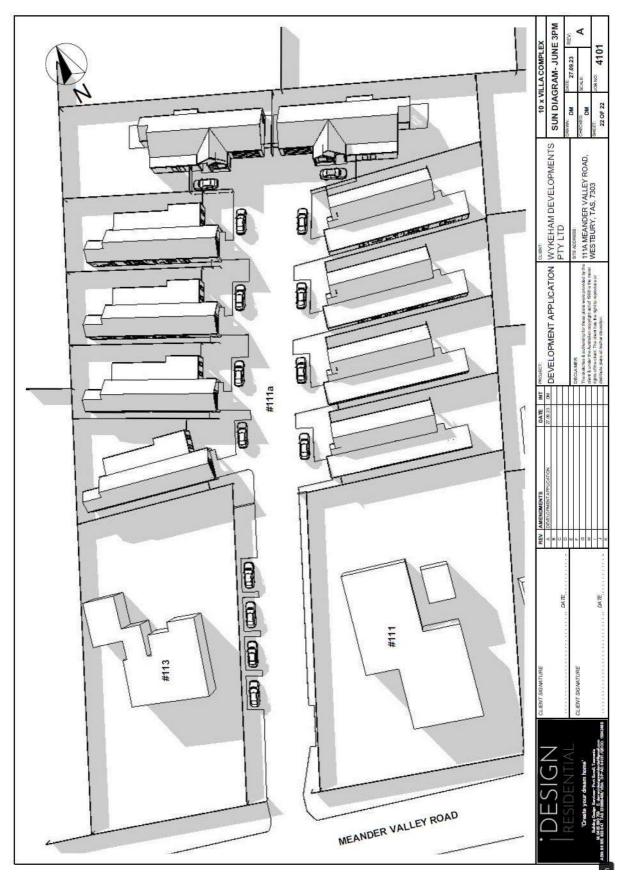




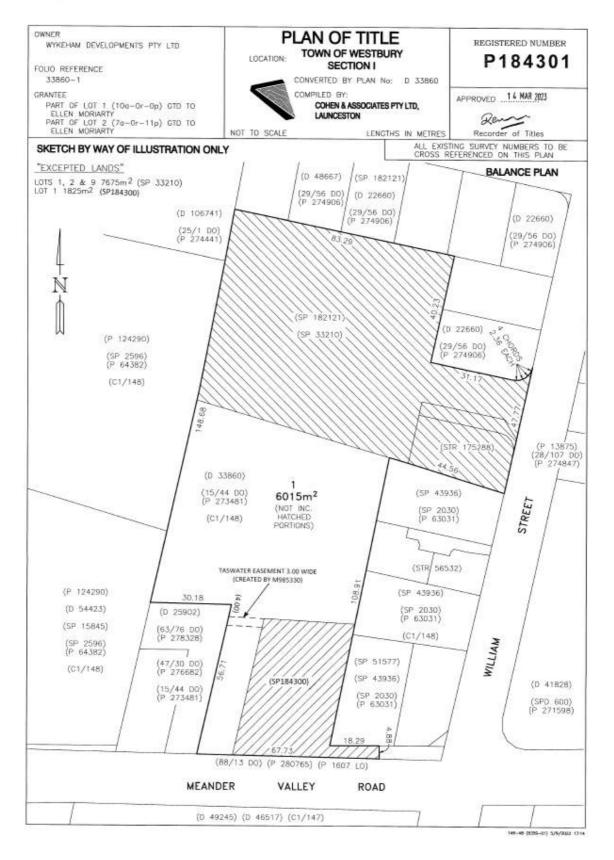














Appendix D – DSG Advice of Acceptance

RE: TIA for 111a Meander Valley Road, Westbury

Siale, Vili To: Richard Burk Attachments: image001.jpg Sent: 30/08/2023 12:23 PM

Our Reference: D23/213688

Hi Richard,

Thank you for your email and TIA.

Following a review, your TIA is accepted.

If you have any further queries regarding this mater, please let me know.

Regards,

Vili.

Vili Siale | Traffic Engineering Liaison Officer

Traffic Engineering | Network Performance

Infrastructure Tasmania | Department of State Growth

11A Goodman Court, INVERMAY TAS 7248 | GPO Box 536, Hobart TAS 7001

Ph. (03) 6777 1951 | Mb. 0439 101 614

www.stategrowth.tas.gov.au

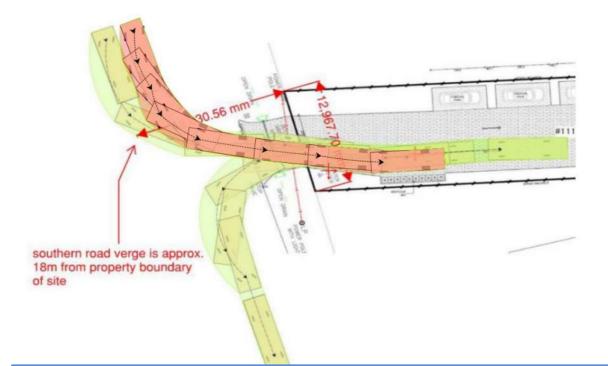
Courage to make a difference through

TEAMWORK | INTEGRITY | RESPECT | EXCELLENCE



Appendix E – 8.8m Service Vehicle Access

Swept path for 8.8m truck reversing in and driving forward out of 111a Meander Valley Road to empty wheelie bins.



3. Road and Railway Assets Code

 a) C3.5.1 P1 – Traffic generation at a vehicle crossing, level crossing or a new junction

Please provide an amended Traffic Impact Assessment report that responds and addresses the following:

 Amend 'Appendix E – 8.8m Service Vehicle Access' to show the road reserve and the extent of the Meander Valley Road therein to ensure that there is sufficient space within the roadway to accommodate the reversing manoeuvre plus clearance.

NOTE: The nearest part of the southern road verge is 18m from the frontage of the site and appears to be intersected by the swept path shown in Appendix E

In response to item 3 of the Council RFI of the 22nd March, see above, an additional tracked path shown in red has been added. This demonstrates there is ample space for the required reverse turning movement for access to the wheelie bin area. Please note that the proposed driveway is very wide and easily accommodates access.

For the record, item 3 of the RFI should refer to C2.6.6 A2. not C3.5.1 P1 (i) as there is no such item in the TPS – Meander Valley.

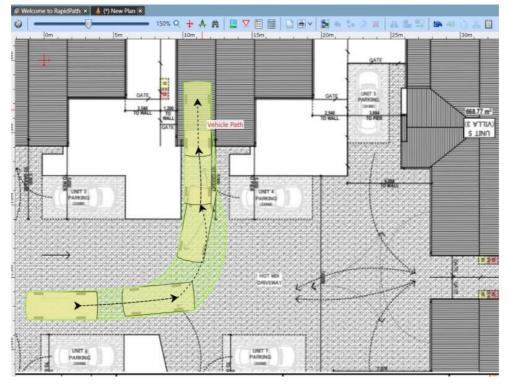


				/B	R
Overall values Length: Max width: Lock to lock:	8.80 m 2.50 m	m Rigid Ve	hicle Steering angle: Turn radius (curb to curb): Turn radius (wall to wall):	10	 ◊ ° ◊ m ◊ m
Dimensions Front: Wheel base: Rear:	5	≬m ≬m ≬m	Width: 2.5	\$ I	m

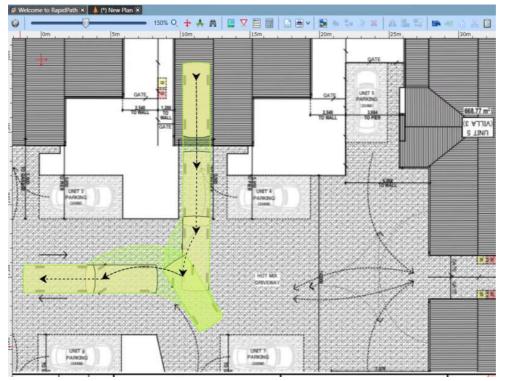


Appendix F – Unit turning path checks.

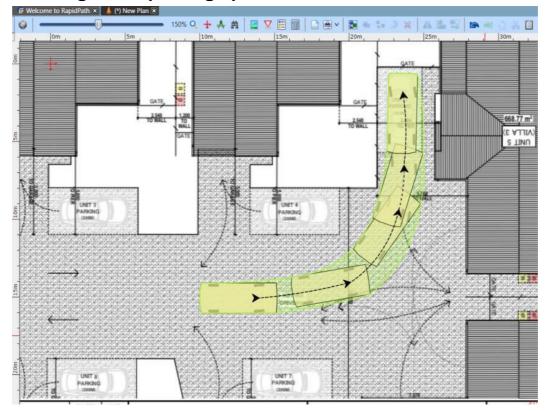
Entering typical unit garage – Austroads B99 Car



Exiting typical unit garage – Austroads B99 Car





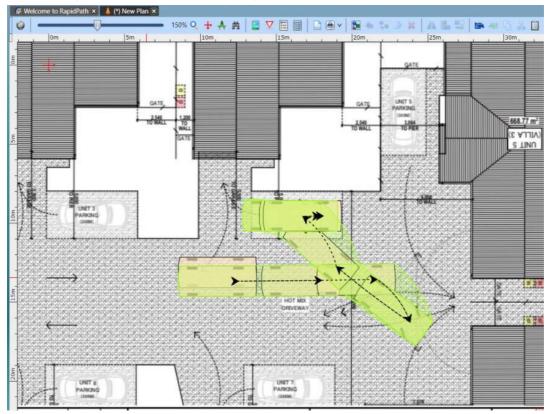


Entering unit 5 parking space – Austroads B99 Car

Exiting unit 5 parking space – Austroads B99 Car

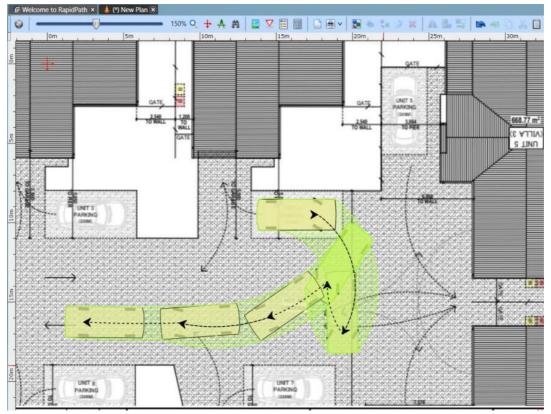


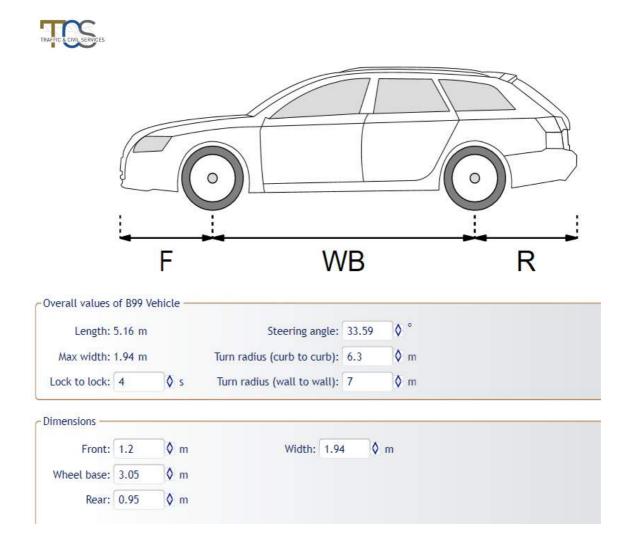




Entering typical unit parking space – Austroads B99 Car

Exiting typical unit parking space – Austroads B99 Car







Odour Risk Assessment

Site: 111a Meander Valley Road, Westbury Prepared for: Wykeham Developments Pty Ltd Version: FINAL v3



Document Control

Prepared & published by:	ES&D Consulting
Version:	FINAL v3
File:	8939
Contact name:	Royce Aldred
Contact number:	0429 335 664
Prepared for:	Wykeham Developments

Version:	Author:	Company:	Date:
FINAL	Royce Aldred	ES&D	15/8/2023
FINAL v2	Royce Aldred	ES&D	5/1/2024
FINAL v3	Royce Aldred	ES&D	9/4/2024

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1 Background and Scope

ES&D are assisting their client with the planning aspects for a development at the subject site. The development will be within the theoretical buffer zone of the Westbury Sewage Treatment Plant (STP) which is owned and operated by TasWater.

As part of their assessment, Meander Valley Council (Council) requires a site-specific environmental assessment from a suitably qualified person addressing the relevant environmental emissions associated with the attenuation area. This assessment has been undertaken by ES&D to meet Council's requirements.

1.1 Scope of assessment

The scope of the assessment will include the following:

- Review of site-specific odour related permit conditions for the STP.
- Review of odour complaints history relating to the STP.
- Assessment of meteorological conditions for the locality, including wind rose information.
- Obtain and review and odour assessments undertaken by TasWater including odour modelling, surveying, and field assessments.
- Risk assessment relating to the likelihood of odour related nuisance within the development.



1.2 Planning Scheme Requirements

The relevant section of the Tasmanian Planning Scheme – State Planning Provisions is:

• C9.0 Attenuation Code: C9.5.2 Sensitive use within an attenuation area,

with the objective "That sensitive use located within an attenuation area does not interfere with or constrain the operation of an existing activity"

There being no acceptable solutions, Performance Criteria P1 applies, with relevant details as follows:

"Sensitive use within an attenuation area, must not interfere with or constrain an existing activity listed in Tables C9.1 or C9.2, having regard to:

- (a) the nature of the activity with potential to cause emissions including:
 - (i) operational characteristics of the activity;
 - (ii) scale and intensity of the activity; and
 - (iii) degree of hazard or pollution that may be emitted from the activity;
- (b) the nature of the sensitive use;
- (c) the extent of encroachment by the sensitive use into the attenuation area;
- (d) measures in the design, layout and construction of the development for the sensitive use to eliminate, mitigate or manage effects of emissions of the activity;
- (e) any advice from the Director, Environment Protection Authority."





Figure 1: Buffer distance – Westbury STP (TasWater GIS system)

Odour Risk Assessment



Figure 2: Distance to development from STP



1.3 Basic Information – Westbury STP

The nature of the activity being protected by the attenuation area or buffer area is sewage treatment. Table 1 provides further details about the STP.

Item	Details
Odour Modelling or Survey done?	No
EPN Condition Letter	Supplied (PCE 7018 r3)
Treatment Type	Facultative lagoon
ADWF (KL/d) (average dry weather flow)	600
Design Flow (KL/d)	1,375
Average daily flow (KL/d)	996
Attenuation distance (m)	550
Sensitive receptors (based on	latest data)
- Residents	133
- Public Service	3
- Commercial	10
- Sporting facility	2

The degree of encroachment of the development on the 550m theoretical buffer zone is significant, with the development being wholly within the buffer distance. However, as per the information provided by TasWater, there are already at least 148 sensitive receptors within the buffer distance.



1.4 Permit odour conditions for the STP

The Westbury STP is permitted by the EPA under Permit Conditions – Environmental (PCE) 7018 r3, issued on 2 June 2009. The relevant odour related conditions of the Permit are as follows:

Atmospheric (A1) – Odorous gases

Odorous gases arising from the activity must be managed so that they do not cause environmental nuisance beyond the boundary of The Land, which is defined in the Permit as follows:

"The Land means the land on which the activity to which this document relates may be carried out, and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The land falls within the area defined by: 1 Certificate of Title 8622/1"

An approximate outline of the Land is provided in Figure 3 below.



Figure 3: Approximate outline of The Land as per the Permit

Odour Risk Assessment



EPA Tasmania has also released the *Environment Protection Policy (Air Quality) 2004*, also known as the Air Quality EPP, which provides a framework for the management of odour and other air emissions with the potential to cause environmental nuisance or harm.

Section 13 of the Air Quality EPP states the following:

Odour

13. (1) If a regulatory authority is satisfied that an odour from an activity is causing or is likely to cause an environmental nuisance or environmental harm, the authority should require that the odour emission from the source not exceed the odour criteria specified in Schedule 3, at or beyond the boundary of the land on which the source is located.

(2) If the activity that is the source of the odour is being carried out at the time that this Policy is made, the time frame for compliance with sub-clause (1) should be determined on a case-specific basis having regard to:

- (a) the environmental impact associated with the pollutant being emitted;
- (b) the economic cost of upgrading and the capacity of the relevant activity to support this cost; and
- (c) the practicability of reducing emissions.

Contemporary requirements usually refer to ensuring that odour at either the boundary or the nearest sensitive receptor is reduced to less than 2 odour units, which applies to mixed gases of unknown make-up. As per the Air Quality SPP, "Odour unit" has the same meaning as in Australian Standard AS/NZS 4323.3 *Stationary source emissions – Determination of odour concentration by dynamic olfactometry.*

The potential to cause nuisance already exists and may need future management by TasWater, due to there being several sensitive receptors already within the buffer distance. The Permit also requires there to be no nuisance caused by odour beyond the boundary of the Land as defined in the Permit.



1.5 Review of odour complaints history relating to the STP

Odour complaints history has been provided by TasWater for the area surrounding the STP. The complaints system is listed against the address of the complainant, and then linked to the relevant sewerage catchment. From the 29-month period March 2021 to August 2023, there were 44 complaints recorded in TasWater's records relating to odour from the STP.

The complaints seem to come in defined periods, for instance:

- There were 8 complaints in December 2021,
- There were 19 complaints between 31 January 2022 and 2 March 2022, and
- There were 13 complaints between 13 February 2023 and 30 March 2023.

So, 40 of the 44 complaints (91%) happened in three different periods of about one month to six weeks. This may correlate to upset process conditions at the STP. There appears to be one month per year in summer when complaints are made. Complaints appear to have started in 2021 - TasWater advised that there are only three odour related complaints on record for 2016, 2017 & 2020 which did not include details on the source of the odour.

The bulk of residents are to the south and east of the STP, to the west and north there is mainly cleared land, presumed to be farmland.

1.6 Assessment of meteorological conditions for the locality, including wind rose information

Wind rose information has been obtained from the Bureau of Meteorology website (<u>http://www.bom.gov.au/clim_data/cdio/tables/pdf/windrose</u>), and is included in Figure 4 and Figure 5.



At 9am, the annual wind rose indicates that:

- Prevailing winds are from the north and northwest about 40% of the time.
- Winds from the southeast occur about 15% of the time.
- Still conditions occur for about 19% of the time.

At 3pm, the annual wind rose indicates that:

- Prevailing winds are from the north and northwest almost 70% of the time.
- Still conditions occur for about 3% of the time.

Weather conditions that might lead to odour nuisance in the direction of the proposed development occur about two thirds of the time in the mornings and about 70% of the time in the afternoon.



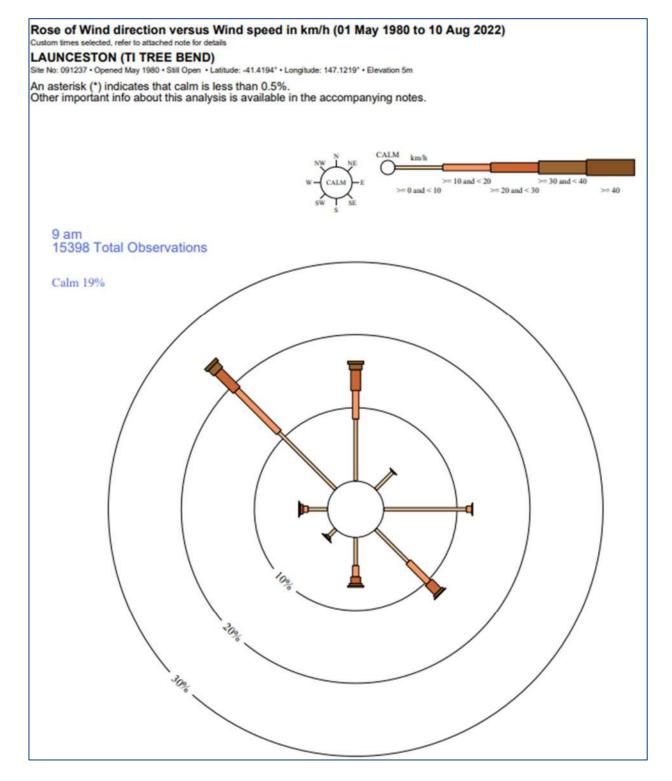
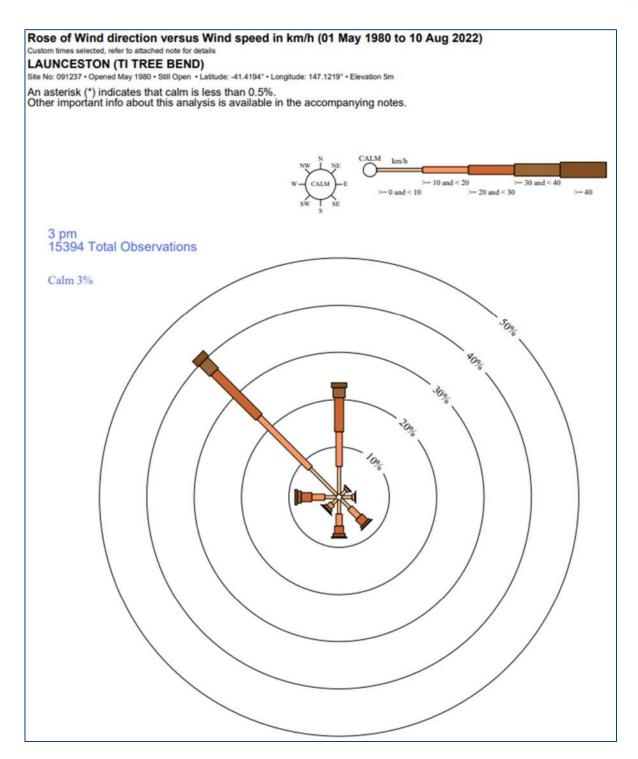


Figure 4: Annual Windrose for Ti Tree Bend weather station (Site No: 091237) – 9am





1.7 Review of site and surrounding conditions

A review of the development site and surrounding conditions demonstrates the following:



- The TasWater GIS data showing the attenuation distance appears to be indicative only, as the formal attenuation distance should be 550 metres from the title boundary, as required under the code.
- It would then follow that the TasWater data on sensitive use within the buffer may also be incorrect.
- The attenuation area already contains extensive land zoned for residential, commercial and other uses, that provide opportunity for conflict and establishment of sensitive use (see Figure 6 below).
- The proposed site is located within the footprint of sensitive use, established by both zoning and existing sensitive use.

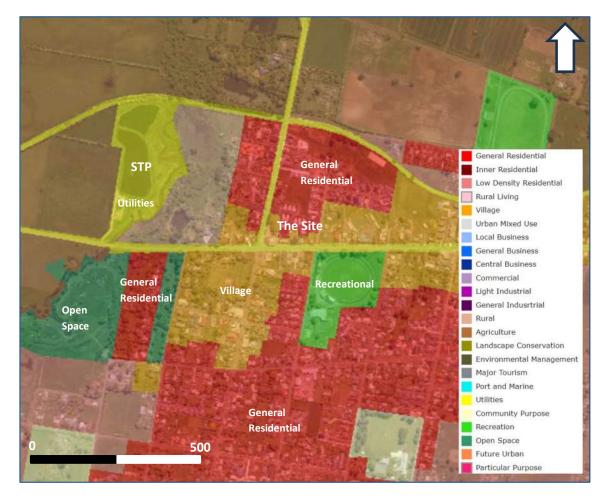


Figure 6: Zoning around the development site and STP

1.8 Review of any odour assessments

TasWater has indicated that they have not undertaken odour modelling, surveying, and field assessments in relation to the STP.



1.9 Risk assessment relating to the likelihood of odour related nuisance within the development

A qualitative risk assessment has been undertaken based on the site-specific information contained in the above, shown in Table 2.

Element	Comment	Value
Distance to source	Distance is 370 m versus buffer distance of 550m, and the proposal is within the recommended buffer distance	Moderate
Likely source strength	Medium sized STP with limited trade waste, and moderate size catchment	Low
Meteorological conditions	Conditions are such that odour dispersion could be towards the development most of the time	High
Evidence of complaints	Complaints appear to be bunched in events, and only for 3 months out of 29 in recent history. This may be caused by upset STP process conditions.	Moderate
Likelihood of nuisance	Due to distance and mostly favourable conditions	Moderate
Severity	Due to distance, odour is likely to be diluted at receptors	Moderate
Overall risk of nuisance		Moderate

Table 2: Risk assessment

2 Conclusion

The relevant section of the *Tasmanian Planning Scheme – State Planning Provisions* is:

• C9.0 Attenuation Code: C9.5.2 Sensitive use within an attenuation area,

with the objective "That sensitive use located within an attenuation area does not interfere with or constrain the operation of an existing activity"

There being no acceptable solutions, Performance Criteria P1 applies, with relevant details as follows:

"Sensitive use within an attenuation area, must not interfere with or constrain an existing activity listed in Tables C9.1 or C9.2, having regard to:

- (a) the nature of the activity with potential to cause emissions including:
 - (i) operational characteristics of the activity;



- (ii) scale and intensity of the activity; and
- (iii) degree of hazard or pollution that may be emitted from the activity;
- (b) the nature of the sensitive use;
- (c) the extent of encroachment by the sensitive use into the attenuation area;
- (d) measures in the design, layout and construction of the development for the sensitive use to eliminate, mitigate or manage effects of emissions of the activity;
- (e) any advice from the Director, Environment Protection Authority."

With reference to a i), ii) and iii) above it is imposed on the operator of the STP (TasWater) that the emissions from the activity be managed to avoid periods of complaints as noted in Section 1.5 above. The permit condition must be met so that they "do not cause environmental nuisance beyond the boundary of The Land". This is also required so that they meet their obligations under the *Environment Protection Policy (Air Quality) 2004* which is a policy made under the *Environmental Management and Pollution Control Act 1994*. The addition of sensitive receptors does not further constrain the activity, because if the operator meets their permit condition as outlined, the risk of complaints will be mitigated. The operator can meet the condition by reducing the "degree of hazard or pollution that may be emitted from the activity" as mentioned in a iii) above and in the planning scheme.

Given there are already approximately 150 sensitive receptors within the theoretical buffer distance, as well as extensive areas of land zoned *General Residential* and *Village*, the development does not increase the risk of complaints and will not further constrain the STP. Thus, the development should be allowed to proceed.



References

Tasmanian Planning Scheme – State Planning Provisions

Permit Conditions – Environmental (PCE) 7018 r3, issued on 2 June 2009

https://epa.tas.gov.au/Documents/EPP_Air_Quality_2004.pdf

http://www.bom.gov.au/clim_data/cdio/tables/pdf/windrose/IDCJCM0021.091237.3pm.pd f

Australian Standard AS/NZS 4323.3 *Stationary source emissions – Determination of odour concentration by dynamic olfactometry*

https://maps.thelist.tas.gov.au/listmap/app/list/map

Environment Protection Authority

GPO Box 1550 HOBART TAS 7001 Australia

Enquiries: Callum Lanagan-Jonas Phone: +61 3 6777 2063 Email: <u>Callum.Lanagan-Jonas@epa.tas.gov.au</u> Web: www.epa.tas.gov.au Our Ref: D23-272880

20 September 2023

Mick Purves Town Planning Solutions Pty Ltd

Email: purvesmick |@gmail.com

Dear Mick Purves

REQUEST FOR DIRECTOR'S ADVICE REGARDING PROPOSED DEVELOPMENT AT IIIA MEANDER VALLEY ROAD, WESTBURY

I acknowledge receipt of Town Planning Solutions Pty Ltd's email dated 18 September 2023 requesting comment from the Director of the Environment Protection Authority (EPA) about a planning application for the establishment of 10 units at 111a Meander Valley Road, Westbury. I also acknowledge receipt of the following documents:

- Odour Risk Assessment by ES&D Consulting; and
- Site and folio plan.

The Tasmanian Water and Sewerage Corporation ('TasWater') is authorised to operate a Wastewater Treatment Plant (WWTP) off Meander Valley Road, Westbury. It is noted that the proposed units at 111a Meander Valley Road, depending on site plans and layout, may be approximately 270 metres from the lagoons of the WWTP (despite the Odour Risk Assessment stating the distance to the WWTP as 370 metres), which is less than the attenuation distance for a WWTP of this type and capacity.

While environmental conditions for the WWTP require that odorous gases arising from the activity must be managed so that they do not cause environmental nuisance beyond the boundary of The Land, odour issues that negatively impact sensitive uses within the attenuation zone can, and do, occur. The Odour Risk Assessment states that between March 2021 and August 2023, 44 odour complaints associated with this WWTP were received by TasWater. Odours can occur due to various factors including essential maintenance activities at the WWTP, unforeseen equipment failures, and process upsets due to unapproved liquid waste types being deposited into the sewer system. Due consideration should also be given to local conditions like terrain and meteorology, including the direction and strength of prevailing winds between the treatment lagoons and the proposed development, and potential for odours to occur during warm and humid weather.

Given these factors, the EPA considers that there is potential for land use conflict to occur, and therefore does not recommend that sensitive land use developments occur within the attenuation distances for WWTPs, particularly due to the risk of nuisance odour being experienced at the sensitive land uses. Where new sensitive uses are developed within these attenuation distances, pre-existing permit conditions for the WWTP are not likely to be enforceable. It will be up to Council to consider existing uses and rights associated with those uses.

Yours sincerely

Winted

Wes Ford DIRECTOR ENVIRONMENT PROTECTION AUTHORITY



D1 Consulting Engineers



STORM WATER MANAGEMENT REPORT

STORMWATER DESIGN

In accordance with AS3500.3-2021 Plumbing and Drainage Part 3: Stormwater Drainage and Australian Rainfall and Runoff 2019

Project Address:	111a Meander Valley Road, Westbury
Document Title:	STORMWATER MANAGEMENT REPORT
Reference Number:	21924
Date of Report:	12 th March 2024
Client:	Wykeham Developments Pty Ltd
Report Author:	Marcus Salonen, MIEAust CPEng NER CC7347 REPQ
Version:	Rev 0

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1. INTRODUCTION AND SCOPE OF ENGAGEMENT

D1 Consulting Engineers have been engaged to design a storm water system for the proposed unit development at 111a Meander Valley Road, Westbury. It has been indicated that the Local Authority will require that the site's post-development peak discharge does not exceed the pre-development peak discharge for storm water in the case of a 1% Annual Exceedance Probability (AEP) storm event of 60mins durations with a 50% impervious rate. This discharge rate is to not exceed 18.13% AEP as stated above. The detention system will require enough storage volume to meet these requirements and prevent any downstream worsening in such an event will be significant because of this.

The following report outlines the methodology and assumptions used to ensure the proposed development complies with this condition.

This document has been prepared in accordance with the scope of services agreed upon between D1 Consulting Engineers (D1CE) and the Client. To the best of D1CE understanding, this document represents the Client's intentions at the time of printing of the document. In preparing this document D1CE has relied upon data, surveys, analysis, designs, plans and other information provided by the client, and other individuals and organisations referenced herein. Except as otherwise stated in this document, D1CE has not verified the accuracy or completeness of such data, surveys, analysis, designs, plans and other information.

No responsibility is accepted for use of any part of this document in any other context or for any other purpose by third parties.

2. Existing Site

111a Meander Valley Road is located at the western end of Westbury close to the outer limits of the township. Currently, the site has one shed and two glass house buildings with driveway access, the rest of the site is grassed with some established trees to the east side of the property, shown below in Figure 1.



Figure 1: 111a Meander Valley Road Locality Plan (https://maps.thelist.tas.gov.au, 2024)

The development site falls gently to the North and features an existing 150mm diameter storm water discharge point located behind the unit 5 of the unit proposal situated along this downhill boundary of the property where it enters an underground public drainage system.

The existing council infrastructure that running along the northern property boundary has been identified as the following:

- The storm water line running along the northern property boundary from William Street to 111a Meander Valley Road is a 450mm diameter Black max which stops approximately 25-30 from the western property boundary.
- The storm water water line from the western property boundary to the end of the 450mm diameter black max line to a 300mm diameter concrete line.

3. Proposed Development

The proposal features a 10 unit development and a large driveway from Meander Valley Road to the north end of the block. The layout is shown below in Figure 2.



Figure 2: Unit Development Plan

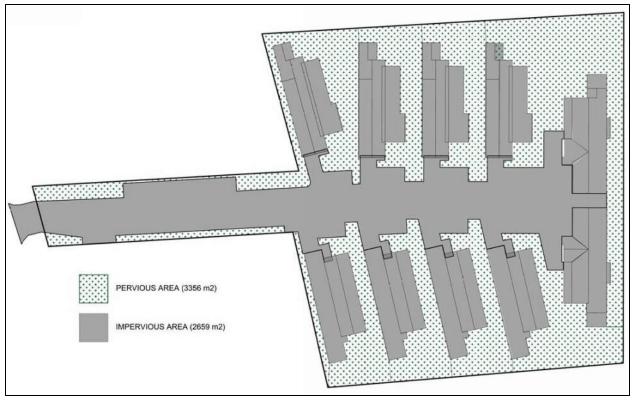


Figure 3: Pervious/Impervious Mapping

4. STORMWATER DISCHARGE MODEL

DRAINS Model Parameters

DRAINS software was utilised to run an IL-CL model of the development site before the proposed development. Ensembles of storms were modelled as per ARR 2019 procedures.

Design rainfall and losses were imported from ARR 2019 data hub and BOM 2016 IFD design rainfalls for Westbury. The losses used for the IL-CL model are summarised in Table 1.

Table 1: Initial and continuing losses for IL-CL model

		Data Source
Impervious Area Initial Loss (mm)	1	ARR 2019 Book 5 Chapter 3 Section 3.5.3.1.2
Impervious Area Continuing Loss (mm/h)	0	ARR 2019 Book 5 Chapter 3 Section 3.5.3.1.2
Pervious Area Initial Loss (mm)	18.0	Storm initial losses from ARR 2019 data hub for Westbury, as per ARR 2019 Book 5 Chapter 3 Section 3.5.3.2.1
Pervious Area Continuing Loss (mm/h)	4.5	Storm continuing losses from ARR 2019 data hub for Westbury, as per ARR 2019 Book 5 Chapter 3 Section 3.5.3.2.2

DRAINS Ensemble Storm Method

Ensembles of storms are modelled in DRAINS, as recommended in ARR 2019, to model the runoff from a catchment.

An ensemble of 10 temporal patterns for each storm event is modelled, with the results based on the median of the outputs. This accounts for the hydrologic variability of the temporal patterns (e.g. a storm may be front, middle, or back loaded).

The inundation rates are imported to DRAINS from Bureau of Meteorology (BOM) 2016 Intensity Frequency-Duration (IFD) data. Temporal patterns, storm losses and pre-burst rainfall depths are imported from ARR data hub.

System Configuration

• Interim Climate Change Factor (CC RCP8.5 2090) 1.163x;

Assumptions of the development

- The development is assumed to be above the 1% AEP CC events;
- The development maximum discharge rate is to not exceed 18.13% for a 1% AEP

DRAINS Model Site Pre-development Conditions

Sub-catchment name	Pre-dev Catchment	Sub-cate	chment area (ha) 0.6	015
Hydrological Model C Default model C You specify	Use abbreviated of more detailed			
Percentage of area Time of concentration	EIA 50 (mins) 5	RIA 0 2	PA 50 15	
where EIA = Effective RIA = Remainin PA = Pervious /	g Impervious Area		ОК	
Eiguro A	DRAINS pro dovo	lonmont m	adal conditions	

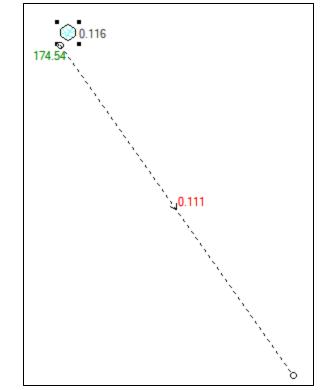


Figure 5: DRAINS pre-development 1% AEP model catchment rates

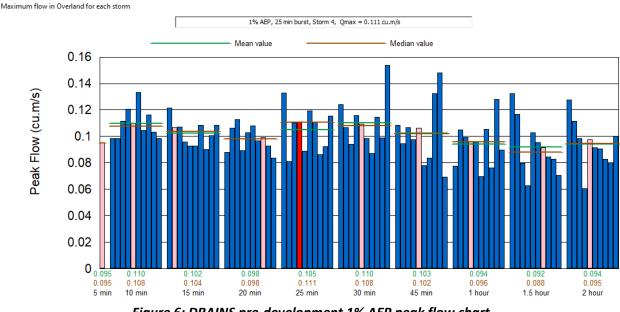


Figure 6: DRAINS pre-development 1% AEP peak flow chart

Summary of peak flows from post-development catchment in 1% AEP. Pink bars represent the flow closest to the median for each burst duration group. The red bar represents the critical burst duration for this catchment, and per ARR2019 procedures becomes the basis for the design.

The maximum peak discharge from the pre-developed model for a 1% AEP storm event using the conditions in Figure 3 is **0.111cu.m/s** or **111L/s**.

5. Storm water Design Criteria

To meet the criteria set by the Meander Valley Council, it is necessary to restrict the post-development storm water flow rate to match the pre-development flow rate during the highest 1% AEP event (18.13%). As outlined the storm water discharge is planned to discharge at the existing storm water outlet of the within the northern boundary of the site via a detention system.

The maximum 1% AEP flow from the pre-developed site is 111L/s which need to be reduced to 18.13% to meet the design criteria set by the Meander Valley Council.

Maximum Flow (1% AEP) 111L/s x 18.13% ≈ 20.12L/s maximum discharge for post development.

Doing this will remove any impacts that may worsen the downstream storm water network's ability to convey flows.

6. Detention Model

The following areas were determined from the supplied architectural drawings on the new development outlines and hardstands areas:

Post-development

Detention model site area:	≈ 6015 m ²
Post-developed Impervious areas (Units):	≈ 1840 m²
Post-development Impervious areas (Driveway, roof and footpaths):	≈ 1516 m ²
Post-developed pervious areas (lawn/gardens):	≈ 2659 m²

Coefficients of run-off adopted for design are as follows:

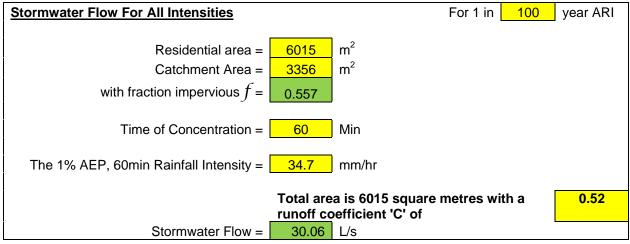
Roofed areas:	C = 1.00
Impervious areas:	C = 0.90
Pervious areas:	C = 0.11

Where: ${}^{100}I_{60}$ = Rainfall intensity for a 60-minute duration storm with a 1% AEP (if less than 25 adopt 25, if greater than 85 adopt 85).

Design Rainfall Intensities:

60-minute duration – 1:100 year storm event, (Westbury): I = 34.7 mm/hr (BOM IFD)

This 1% AEP 1 hour 'permissible flow' is calculated as using the Rational Method as follows:



Boy'd Formula has been used to determine the detention volume:

 $S_{\text{max}} = V_1 \left(1 - Q_p / I_p \right)$, where

 S_{max} = Maximum Volume of temporary Storage (m³)

 V_1 = Volume of inflow flood (m³)

 I_p = Peak discharge of inflow hydrograph (m³/s)

 Q_p = Peak discharge of outflow hydrograph (m³/s)

The peak outflow has been set to 20.12 L/s as per the pre-development assessment above.

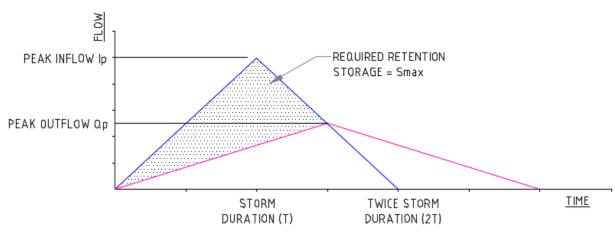


Figure 7: Boyd's Formula Hydrographs and Storage Diagram

Table 2: Boyd's Formula inputs

Catchment Area =	0.6015	ha
Volumetric Runoff Coefficient (100 Yrs) =	0.85	
Frequency Factor (100 Yrs) =	1.2	AR&R
100 Yrs Effective Catchment Area (Total CA) =	0.0445	ha
Restricted Outflow Requirements =	0.02012	m³/s
Restricted Outflow Requirements =	20.12	L/s

The 100 year runoff coefficient (C_{100}) is calculated using the AR&R formula $C_{10} = 0.7+0.8f$ where 'f' is the fraction impervious 85% (required by TasWater)

Formula storage calculations						
20 Years	l _p	Q_{p}	V ₁	S _{max}		
(mm/hr)	(m ³ /s)	(m ³ /s)	(m ³)	(m ³)		
0	0	0	0	0		
215	0.2658	0.02	15.950	14.743		
166	0.2052	0.02	24.629	22.215		
151	0.1867	0.02	33.606	29.984		
140	0.1731	0.02	41.544	36.715		
131	0.1620	0.02	48.591	42.555		
101	0.1249	0.02	74.927	62.855		
82.9	0.1025	0.02	92.249	74.141		
70.5	0.0872	0.02	104.601	80.457		
61.6	0.0762	0.02	114.245	84.065		
54.9	0.0679	0.02	122.183	85.967		
	20 Years (mm/hr) 0 215 166 151 140 131 101 82.9 70.5 61.6	20 Years Ip (mm/hr) (m³/s) 0 0 215 0.2658 166 0.2052 151 0.1867 140 0.1731 131 0.1620 101 0.1249 82.9 0.1025 70.5 0.0872 61.6 0.0762	20 Years Ip Qp (mm/hr) (m³/s) (m³/s) 0 0 0 215 0.2658 0.02 166 0.2052 0.02 151 0.1867 0.02 140 0.1731 0.02 131 0.1620 0.02 101 0.1249 0.02 82.9 0.1025 0.02 70.5 0.0872 0.02	20 Years Ip Qp V1 (mm/hr) (m³/s) (m³/s) (m³) 0 0 0 0 215 0.2658 0.02 15.950 166 0.2052 0.02 24.629 151 0.1867 0.02 33.606 140 0.1731 0.02 41.544 131 0.1620 0.02 74.927 82.9 0.1025 0.02 92.249 70.5 0.0872 0.02 104.601 61.6 0.0762 0.02 114.245		

0.02

0.02

140.543

154.453

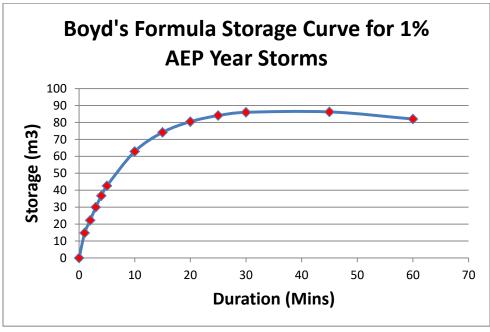
86.219

82.021

Table 3: Boyd's Formula storage calculations

45

60



0.0521

0.0429

42.1

34.7

Figure 8: Boyd's Formula storage curve for 1% AEP storms of varying durations

As seen in Table 3 and Figure 8 that the peak storage of **86.22cu.m** occurs during the 45mins storm event.

This volume can be achieved through the installation of a 4x600diameter pipes 20m long located under the proposed driveway or behind unit 5 & unit 6 with a 100mm diameter flow restrictor installed 100mm from the base of the storm water detention system or equivalent system.

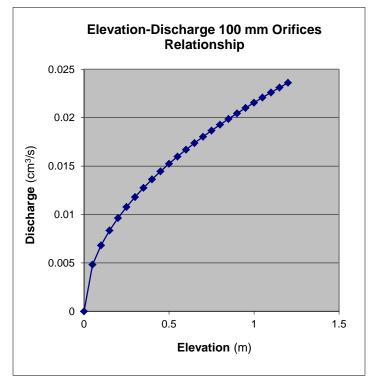


Figure 9: Elevation/Discharge Relationship for 100mm orifice with a 900mm storage head

7. CONCLUSION

As demonstrated in this report, the proposed unit development at 111a Meander Valley Road, Westbury is able to fully detain the peak 1% AEP storm event on-site, without exceeding the permissible site discharge. We trust that the above letter provides the information you require.

Note:

- No assessment has been undertaken of the storm water infrastructure within the Local Authority Road Reservation and its capacity.
- This report assumes the Road Reservation storm water infrastructure has capacity for the predevelopment peak discharge.
- It is the responsibility of the Local Authorities to assess their infrastructure and determine the impact (if any) of altered inflows into their storm water network.

8. **RECOMMENDATION**

The existing 300mm diameter concrete storm water main line on the northern property is currently undersized, damaged from root intrusion. It would be recommended that the existing 300mm diameter concrete storm water main line on the northern property boundary be upgraded to a 450mm diameter storm water line and a new reinforced concrete headwall with scour protection be installed.

If you require any further information or clarification on any aspect of the above, please don't hesitate to contact me 0400 347,100.

Isl

Marcus Salonen B.E. (Civil/Structural), MIE Aust, CP Eng, NER. Accreditation No. CC7347, RPEQ. No 20174



BUSHFIRE SITE ASSESSMENTS

BUSHFIRE REPORTS

HAZARD MANAGEMENT PLANS

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VZ Designs Pty Ltd ABN 50 110 377 421 e: info@reddogbushfire.com.au PO Box 7647, Launceston

BUSHFIRE ASSESSMENT

Client	Wykeham Development Pty Ltd	Volume/Folio Number	184301/1
Site	111a Meander Valley Road Westbury, Tas, 7303	PID	2137481
Report By	Jason Van Zetten	Accreditation	BFP113
Date	6 th September, 2023	Job Reference	7896



Page 1 of 13

Proposal

This report is for a ten-unit development to be constructed on a lot known as 111a Meander Valley Road at Westbury.

Site Description

The lot itself is an internal lot located at the north west end of Westbury around 300m north of the Westbury council chambers. At the time of inspection, the site itself was in a managed state. The lot is predominantly surrounded by residential uses with larger grass and scrub lots to the north west, extending down to Quamby Brook.

To the north of the site are neighbouring sites, varying from smaller managed unit sites through to the immediate neighbour at 6 Quamby Street, which is a larger managed 0.6ha lot with manicured gardens. Predominantly managed uses extend past Quamby Street around 120m from the site through to the train line to the north, around 300m from the site.

To the east of the site are residential uses that are predominantly managed and associated with William Street, extending through to the Westbury Hotel rear yard/parking area around 60m from the site. Predominantly managed commercial and residential uses extend along each side of Meander Valley Road as predominantly managed for around 1.2km from the site.

To the south of the building area/site is the driveway to the site itself and neighbouring dwellings which extend around 60m through to Meander Valley Road. Beyond Meander Valley Road is the Holy Trinity Church and associated buildings which is located on a larger managed lot of approx. 1.6ha. Beyond this is a mix of residential and commercial uses associated with William Street, Londsdale Promenade and Lyall Street which extend as managed through to King Street, around 450m from the site.

To the west of the site are 2 neighbouring lots known as 115 Meander Valley Road and 12 Quamby Street. Number 115 Meander Valley Road was predominantly managed with manicured gardens. Number 12 Quamby Street had a mix of managed areas surrounding the existing buildings, unmanaged grassland extending to around 110m from the works. Beyond this was scrub associated with the banks of Quamby Brook with Quamby Brook itself around 200m from the site. Beyond Quamby Brook was the Tas Water treatment plant with grassland paddocks associated with farmland extending to the west to around 200m from the site, for at least several kilometres.



Access

Access is via an existing wide crossover and 13m wide accessway. As the access is greater than 30 metres in length it will need to comply with the following;

The following design and construction requirements apply to property access greater than 30m in length or for access to a fire appliance to a firefighting water point as per Directors Determination - Bushfire Hazard Areas.:

- (a) All-weather construction;
- (b) Load capacity of at least 20 tonnes, including for bridges and culverts;
- (c) Minimum carriageway width of 4 metres;
- (d) Minimum vertical clearance of 4 metres;
- (e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
- (f) Cross falls of less than 3° (1:20 or 5%);
- (g) Dips less than 7° (1:8 or 12.5%) entry and exit angle;
- (h) Curves with a minimum inner radius of 10 metres;

(i) Maximum gradient of 15° (1:3.5 or 28%) for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads; and

(j) Terminate with a turning area for fire appliances provided by one of the following: (i) A turning circle with a minimum outer radius of 10 metres; (ii) A property access encircling the building; or (iii) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.

Water Supply

The building area on the site itself is not within 120m hose lay from nearby fire hydrants. The owner has indicated that as part of the design for this number of units, a fire hydrant is required to be installed centrally on the site. This fire hydrant is to be installed in a location that allows a hose lay of less than 100m to the rear of the furthest unit.

Bushfire Hazard Management Plan

The attached Bushfire Hazard Management Plan must be implemented prior to occupation of the new works.

Failure to meet the requirements of this report may invalidate your insurance policy in the event of a bushfire.

The entire site is required to be maintained as per the plan and in line with AS3959/2018.



Opportunities & Constraints

- 1. It is likely that the units that are in the BAL Low area are managed anyway due to the small nature of the units. Therefore the hazard management area is recommended for the entire site.
- 2. The slopes are undulating and have been based on a 0-5 degree downslope in all directions, this does not affect the overall outcome.
- 3. It is deemed a distance of 18 metres be adopted for the grassland to the north west, from the north western corner of the site. This results in a triangular corner of the site with a minimal distance of 40x40m, based on Table 2.6 Determination of BAL FDI 50 being the extent of the BAL 12.5 area, where classifiable grassland within 16-50m is deemed BAL 12.5
- 4. Number 6 Quamby Street is a managed garden associated with collectors vehicles and machinery and it is believed the owner has regular open gardens.
- 5. residential dwellings and roads in all directions other than the north west have been deemed excluded to AS3959/2018 2.2.3.2 (e) and (f) based on minimal fuel load.
- 6. The BAL Low result for part of the site does not delete the requirements for access and water supply, these must be adopted when a site is mapped as being in a bushfire prone area, based on the Directors Determination.
- 7. The water supply shown on the hazard management plan is based on the requirements setout in the Directors Determination. It is believe that the fire hydrant associated with the development will meet this determination, however this is required to be approved by the building surveyor.

Conclusion

As the site is within 100m of bushfire prone vegetation and is mapped as being in a bushfire prone area, a BAL assessment is required for the purpose of these works.

After consideration of the vegetations to the north, east and south of the proposed unit development, it is deemed that most of the gardens and yards of adjacent dwellings are in a managed state and therefore a BAL Low can be adopted in these directions. An area of grassland exists on the neighbouring lot known as 12 Quamby Street to the north west of the north western side corner at a distance of 18m from the site. A clear line of managed and unmanaged vegetation exists across the neighbouring site and based on this the following classifications can be adopted; BAL 12.5 for a distance of 40 metres across both the north and west boundaries from the north western site corner and a BAL Low classification can be adopted for the remainder of the site where unmanaged vegetations are greater than 50 metres from the site. This calculation of BAL is based on AS3959/2018 2.2.3.2 (e) and (f), tables 2.3 and 2.6.

Note the 40m distance shown on the plan is a rounded up arbitrary figure based on the distances shown on the plan provided. It is recommended that once the final unit design is available that the author or this report is provided with a copy to check the outcome.

Important, each units within the BAL 12.5 area must be wholly constructed on this basis. Units outside of this defined area can be deemed BAL Low.

BAL LOW & BAL 12.5 (north western portion) to AS3959-2018

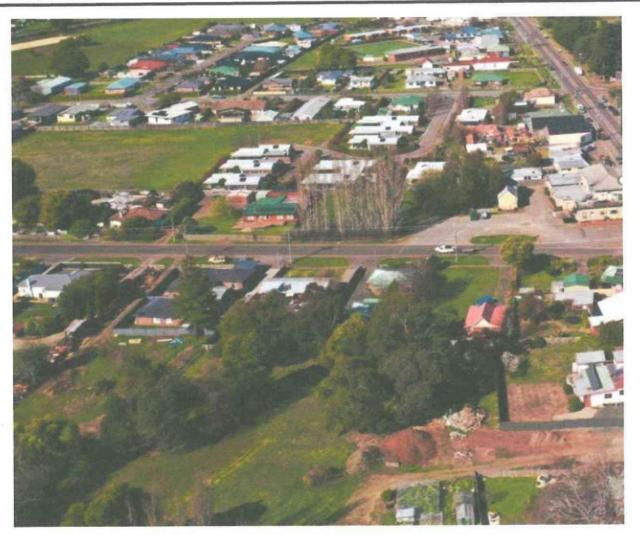
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Limitations

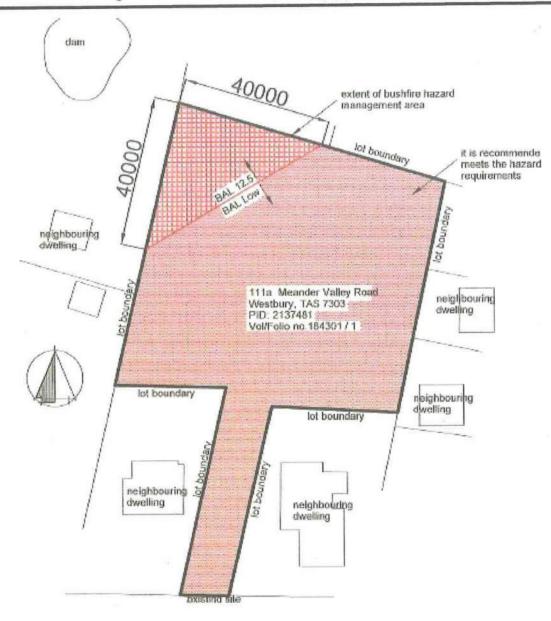
This report only deals with potential bushfire risk and all other statutory assessments are outside this report. All information provided was as at the time of inspection of the site, and this report is not to be used for further or future development of the site other than what has been provided by the plans attached. This report and/or management plan does not guarantee that the building will survive a bushfire.

Arial Photo





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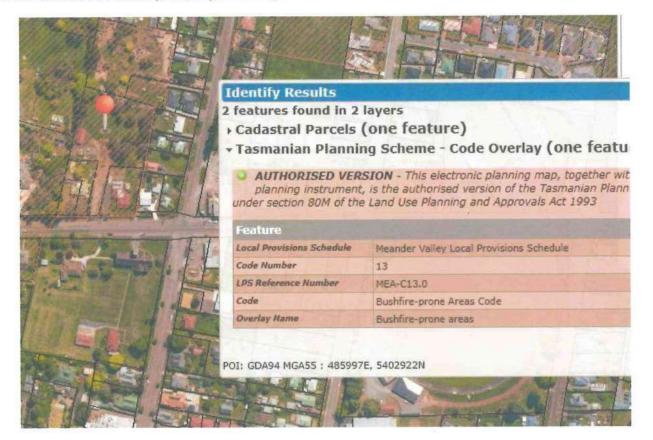
Hazard Management Plan Extract (full copy provided)

 $\tilde{K}^{(1)}$



Bushfire Mapping

This site is considered bushfire prone as per LISTmap.



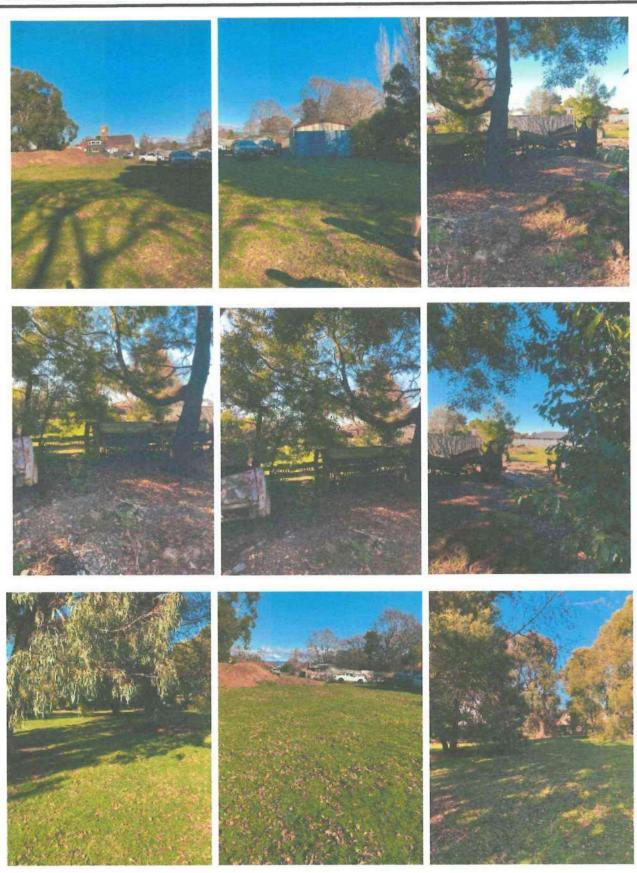


Photos



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Photos



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Photos



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Bushfire Site Assessment

Vegetation classification AS3959	North	East	South	West
Group A	Forest	Forest	Forest	Forest
Group B	Woodland	Woodland	Woodland	Woodland
Group C	Shrub-land	Shrub-land	Shrub-land	Shrub-land
Group D	Scrub	Scrub	Scrub	Scrub
Group E	Mallee-Mulga	Mallee-Mulga	Mallee-Mulga	Mallee-Mulga
Group F	Rainforest	Rainforest	Rainforest	Rainforest
Group G	Grassland	Grassland	Grassland	Grassland
Predominant Feature	Managed residential	Managed residential	Managed residential	Grassland
Excluded	Neighbouring residential dwellings with predominantly managed gardens	Neighbouring residential dwellings with predominantly managed gardens	Neighbouring residential dwellings with predominantly managed gardens	
Effective slope	Up/0 ⁰	Up/0º	Up/0 ⁰	Up/0º
(degrees)	>0-50	>0-50	>0-5°	>0-50
	>5-10 ⁰	>5-10 ⁰	>5-100	>5-100
	>10-150	>10-15 ⁰	>10-15°	>10-150
	>15-20°	>15-200	>15-20°	>15-200
Distance to classified vegetation	18 metres (north west)	>100 metres	>100 metres	18 metres (north west)
Distance Required for Onsite Bushfire Hazard Management	Entire Site	Entire Site	Entire Site	Entire Site
Likely direction of bushfire attack	North	East	South	West
Prevailing winds	North	East	South	West
BAL Value (FDI 50)	BAL – 12.5	BAL – LOW	BAL – LOW	BAL - 12.5

The values have been achieved from the location proposed, within the constraints of the site. If the location or nature of the proposal is to be altered for any reason this report will need to be amended to suit

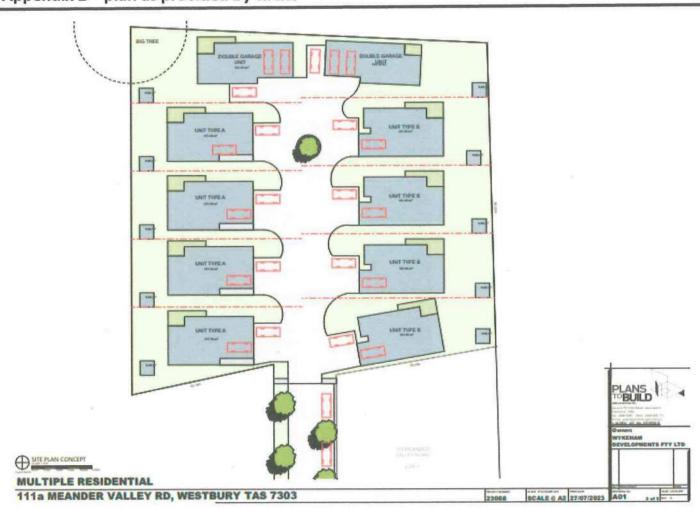


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Appendix 1: General Overview of Bushfire Attack Level Classifications

BAL – LOW	The risk is considered to be VERY LOW. There is insufficient risk to warrant any specific construction requirements but there is still some risk.
BAL – 12.5	The risk is considered to be LOW. There is a risk of ember attack. The construction elements are expected to be exposed to a heat flux not greater than 12.5 kW/m ² .
BAL - 19	The risk is considered to be MODERATE. There is a risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to radiant heat. The construction elements are expected to be exposed to a heat flux not greater than 19 kW/m ² .
BAL – 29	The risk is considered to be HIGH. There is an increased risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to an increased level of radiant heat. The construction elements are expected to be exposed to a heat flux not greater than 29 kW/m ² .
BAL – 40	The risk is considered to be VERY HIGH. There is a much increased risk of ember attack and burning debris ignited by windborne embers, a likelihood of exposure to a high level of radiant heat and some likelihood of direct exposure to flames from the fire front. The construction elements are expected to be exposed to a heat flux not greater than 40 kW/m ² .
BAL – FZ	The risk is considered to be EXTREME. There is an extremely high risk of ember attack and burning debris ignited by windborne embers, and a likelihood of exposure to an extreme level of radiant heat and direct exposure to flames from the fire front. The construction elements are expected to be exposed to a heat flux greater than 40 kW/m ² .





Appendix 2 – plan as provided by client



111 Meander Valley Road Westbury TAS 7303

Site Classification

Project No: 8939

Date: 21/08/2023



environmental service & design

ABN: 97 107 517 144 74 Minna Road Heybridge TAS 7316 Ph: (03) 6431 2999 ACN: 107 517 144 PO Box 651 Burnie TAS 7320 www.esandd.com.au

1 Introduction

Environmental Services and Design Pty Ltd were commissioned to conduct a site classification under AS2870-2011 and wind loading assessment under AS4055-2012 for the subject property based on construction of multiple new units.

All field work, calculations, the soil profile logs and site classification have been completed by Reuben McCormack from Environmental Services and Design Pty Ltd.

1.1 Site Location

Table 1: Site details

Property Address	111 Meander Valley Road Westbury TAS 7303
Property ID	2137481
Title Reference	184301/1
Client	Wykeham Developments Pty Ltd
Postal Address	58 Five Acre Row Westbury TAS 7303



Figure 1: Site location (blue)

2 Field Investigation

A site visit was conducted on the 8th of August 2023 which included the advancing of seven bore holes (BH1 – BH7) to between 1.55 m and 1.8 m using a Christie Engineering 50mm core sampler. DCP measurements were taken at all bore hole locations to a depth of 1 m. Bore logs and DCP graphs are included as an appendix.



Figure 2: Looking northeast across the site.

3 Site Conditions

The site is currently a mostly vacant block with a shed and garden beds. There are trees and large piles of fill on the site. The block is predominantly flat with minor undulations only.

The Mineral Resources Tasmania Digital Geological Atlas, 1:25,000 Series, Westbury sheet, shows the site to be located on Tertiary aged sediments described as "Poorly consolidated clay, silt and clayey labile sand with rare gravel and lignite..."

Review of the List; landslide planning map-hazard bands shows that the site is not located on or near a known landslide.

The test holes encountered the following subsurface conditions:

- 0.2 0.3 m of clayey silt topsoil, overlying
- 0.35 0.8 m of saturated, silty gravel, overlying
- Dense clay to at least 1.8 m below the surface

The bore holes were terminated in clay at 1.8 m below ground level except for BH6 which was terminated at 1.55 m due to refusal, likely on a boulder.

Groundwater inflow was encountered in all bore holes, rising to between 0.35 and 0.5 m below ground level. Groundwater is assessed as a perched water table, confined to the silty gravel layer by the dense clay underneath. Groundwater is likely only present in the wetter months and after heavy rainfall. The saturated layer also reduces the bearing pressure of the soil. Development of the site will include the removal of trees, the existing shed and garden beds. With the building of units, the site drainage will be improved with runoff from houses connected to town stormwater. It is recommended that particular attention be given to Appendix B of AS2870-2011 regarding foundation design to ensure water drains away from the footings and does not pool around the foundations. The low reactivity of the silt and gravel soil the water collects in means that the large, seasonal, moisture change in the permeable layer will have a minimal effect on foundation movement.

No fill was encountered within the bore holes.

Laboratory testing by Environmental Service and Design found that the clay soil from BH1 and BH2 had the following properties:

Property\Depth	BH1 0.3-0.8 m	BH2 0.6-1.8 m
Liquid Limit	16%	63%
Plastic Limit	15%	19%
Plasticity Index	1%	44%
Linear Shrinkage	1%	17%

These results are considered very low to high.

4 Classification

After considering the site geology, drainage and soil conditions, the site has been classified as follows:

CLASS M (AS2870-2011) Characteristic surface movement Y₅ < 40 mm

Foundation designs in accordance with this classification are subject to the conditions of section 5.

This Classification is applicable only for ground conditions encountered at the time of this investigation. If cut or fill earthworks in excess of 0.5m are carried out, then the Site Classification will need to be reassessed, and possibly changed.

5 Discussion

Particular attention should be paid to the design of footings as required by AS 2870 - 2011. In addition to normal founding requirements arising from the above classification, particular conditions at this site dictate that the founding medium for all footings should be:

CLAY (CH), mottled fat clay

An allowable bearing pressure of 100 kPa is available for edge beams, strip and pad footings founded as above.

If the site is filled, it is recommended that no structure be founded across cut and fill without the footings extending through the fill to the natural soils, allowance made in the structural design for differential settlements or engineer designed pier or pile foundations adopted.

The site classification presented in Section 4 assumes that the current natural drainage and infiltration conditions at the site will be improved by the proposed site development work to prevent water pooling around foundations. Care should be taken to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal soil moisture equilibria do not develop as a result of service trench construction or tree root action.

Attention is drawn to Appendix B of AS 2870 and CSIRO Building Technical File BTF18 "Foundation Maintenance and Footing Performance: A Homeowner's Guide" as a guide to maintenance requirements for the proposed structure.

Variations in soil conditions may occur in areas of the site not specifically covered by the field investigation. The base of all footing or beam excavations should therefore be inspected to ensure that the founding medium meets the requirements discussed above.

6 Wind Classification

The wind classification for the site is as follows:

N2 (AS 4055 - 2012)

Based on region, terrain, shielding and topography as follows:

Region	Terrain Category	Topography	Shielding
A	TC2	то	PS

Should you require clarification of any aspect of this report, please contact undersigned.

For and on behalf of Environmental Service and Design Pty Ltd

Kland

Reuben McCormack BSc (Hons) Environmental Consultant

References

AS 2870 - 2011 Residential Slabs and Footings

AS 4055 - 2012 Wind Loads for Housing

Land Information System Tasmania (the List): www.thelist.tas.gov.au

VICARY, M. (Compiler) 2004. Digital Geological Atlas 1:25 000 Scale Series. Sheet 4640 Westbury. Mineral Resources Tasmania.

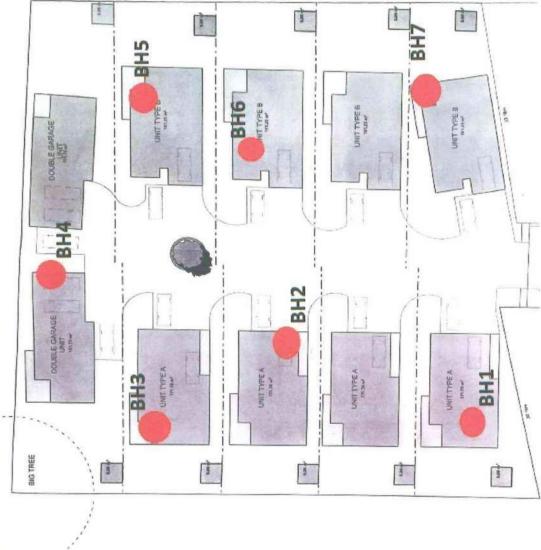
This report has been prepared, based on information generated by Environmental Service and Design Pty Ltd from a wide range of sources. If you believe that Environmental Service and Design Pty Ltd has misrepresented or overlooked any relevant information, it is your responsibility to bring this to the attention of Environmental Service and Design Pty Ltd before implementing any of the report's recommendations. Similarly, if there are subsequent changes to the proposed project Environmental Service and Design should be consulted to assess how the changes impact on the report's recommendations. In preparing this report, we have relied on information supplied to Environmental Service and Design Pty Ltd, which, where reasonable, Environmental Service and Design Pty Ltd has assumed to be correct. Whilst all reasonable efforts have been made to substantiate such information, no responsibility will be accepted if the information is incorrect or inaccurate.

A site assessment identifies the subsurface conditions at discrete locations. The actual conditions at other points may differ from those inferred to exist. Should these unexpected conditions be found the services of Environmental Service and Design should be retained throughout the project, to identify these variable conditions, conduct additional investigation and/or testing should it be required and recommend solutions to the problems encountered onsite.

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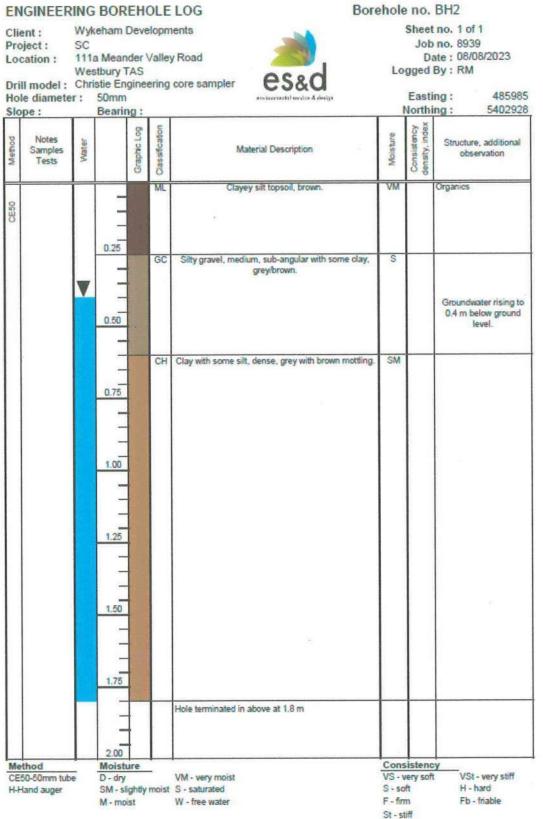






Appendix 2 – Soil Profile Log

ENGINEE	RING	BOREH	OLE	LOG Bor	ehole	e no.	BH1
Client : Project : Location : Drill model : Hole diamet Slope :	SC 1114 Wes : Chri	eham Dev a Meander stbury TAS stie Engine 50mm Bearing :	Valley			Job Da gged Easti Northi	
Notes Samples Tests	Water	Graphic Log	Classification	Material Description	Moisture	Consistency density, index	Structure, additional observation
CESO		0.25	ML	Clayey silt topsoil with traces of gravel, coarse, rounded, brown.	S		Organics
	V	0.50	ML	Clayey silt with traces of sand, fine-grained, light grey/brown.	VM		Groundwater rising to 0.4 m below ground level
		0.75	СН	Clay with some silt, dense, grey with brown mottling	. SM		
		1.00					
		1.50					
		1.75		Hole terminated in above at 1.8 m			
Method CE50-60mm tu H-Hand auger		2.00 D - dry SM - slightly M - moist	y moist	VM - very moist S - saturated W - free water		m	



1

SC

Client :

Project :

Location :

Borehole no. BH3

Sheet no. 1 of 1 Job no. 8939 Date : 08/08/2023 Logged By : RM

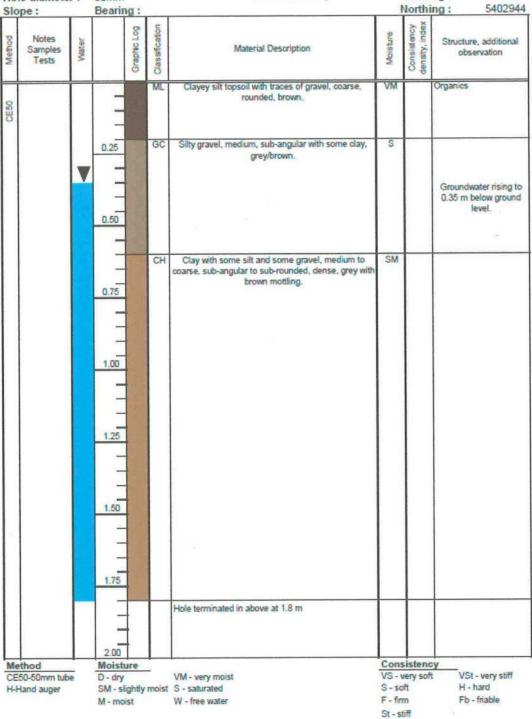
Easting :

485979

Westbury TAS Drill model : Christie Engineering core sampler Hole diameter : 50mm

Wykeham Developments

111a Meander Valley Road



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SC

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Client :

Project :

Location :

Borehole no. BH4

Sheet no. 1 of 1 Job no. 8939 Date: 08/08/2023 Logged By : RM

Westbury TAS Drill model : Christie Engineering core sampler Hole diameter : 50mm Sione : Bearing .

Wykeham Developments

111a Meander Valley Road

lole diameter : lope :	50mm Bearing :	enviruerisedul service & design	N	Easting : 48600 orthing : 540294
Notes Samples Tests	Graphic Log	Material Description	Moisture	Structure, additional observation
Acces.	0.25	Clayey silt topsoil with traces of gravel, coarse, rounded, brown.	VM	Organics
	M	Clay with some silt and some gravel, fine, brown.	M	-
	0.50			Groundwater rising t 0.5 m below ground level.
	0.75	C Clayey gravel, medium, sub-rounded, brown.	VM	
		H Clay, dense with some gravel, fine to medium, grey with brown mottling.	SM	
	1.25			
	1.75			
	2.00	Hole terminated in above at 1.8 m		
Method CE50-50mm tube H-Hand auger	Moisture D - dry SM - slightly mo M - moist	VM - very moist st S - saturated W - free water	Consis VS - ve S - soft F - firm	H - hard

SC

Client :

Method

CESO

Project :

Location :

Borehole no. BH5

Sheet no. 1 of 1 Job no. 8939 Date : 08/08/2023 Logged By : RM

486027

5402939

Easting :

Northing :

Consistency

VSt - very stiff

H - hard

Fb - friable

VS - very soft

S-soft

F - firm

St - stiff

Westbury TAS Drill model : Christie Engineering core sampler Hole diameter : 50mm Bearing : Slope :

Wykeham Developments

111a Meander Valley Road

Consistency density, index 8 Classification Notes Moisture Structure, additional Water Graphic Samples Tests Material Description observation M CL Silty clay topsoil, grey/brown. Organics 0.25 V Gravelly clay, fine to medium, light grey/brown. GC S Groundwater rising to 0.35 m below ground level. 0.50 M CH Clay, moderately dense, grey with brown mottling. 0.75 1.00 1.25 1.50 Grading to M

28&C

etal service & design

CL Clay with extremely weathered rock; silt and clay with some gravel, medium, brown. 1.75 Hole terminated in above at 1.8 m .

2.00 Moisture Method CE50-50mm tube D - dry VM - very moist SM - slightly moist S - saturated

W - free water

H-Hand auger

111 Meander Valley Road Westbury TAS 7303

M - moist

Borehole no. BH6

St - stiff

Sheet no. 1 of 1 Wykeham Developments Client : SC Job no. 8939 Project : Date : 08/08/2023 111a Meander Valley Road Location : Logged By : RM Westbury TAS ?S&C Drill model : Christie Engineering core sampler Easting : 486022 Hole diameter : 50mm relation & mairing faith 5402927 Northing : Bearing : Slope : Consistency density, index 5 Classification Notes Moisture Method Structure, additional Water Graphic Samples Tests Material Description observation M CL Silty clay topsoil, grey/brown. Organics CESO 0.25 Silty clay with some sand, fine-grained with traces of gravel, medium, brown. VM CL Organics V -Groundwater rising to 0.4 m below ground 0.50 level. GC Gravelly clay, fine to medium, light grey/brown. S 0.75 -Clay, dense with some silt and and gravel, fine to SM CH medium, light grey with brown mottling. 1.00 --.25 1.50 Hole terminated in above at 1.55 m due to refusal 1.75 2.00 Consistency Method Moisture VSt - very stiff CE50-50mm tube D - dry VM - very moist VS - very soft SM - slightly moist S - saturated S - soft H - hard H-Hand auger F - firm Fb - friable W - free water M - moist

Borehole no. BH7 Sheet no. 1 of 1 Wykeham Developments Client : Job no. 8939 Project : SC Date : 08/08/2023 111a Meander Valley Road Location : Logged By : RM Westbury TAS Drill model : Christie Engineering core sampler 58 486033 Easting : Hole diameter : 50mm Northing : 5402899 Slope : Bearing : Consistency density, index xebui Classifcaton Graphic Log Notes Method Moisture Structure, additional Water Samples Material Description observation Tests ML VM Clayey silt topsoil, brown. Organcis CESO . ML Clayey silt with some gravel, fine, brown. S 0.25 -W Groundwater rising to 0.50 0.45 m below ground level. --0.75 Grading to gravelly silt with some clay. 1.00 Clay, dense with traces of gravel, fine, grey with SM CH brown mottling. 1.25 1.50 Gravel broken by tube. 1.75 GC Weathered rock gravel with traces of clay, orange/brown. Hole terminated in above at 1.8 m 2.00 Consistency Method Moisture VSt - very stiff VS - very soft CE50-50mm tube D - dry VM - very moist

S - soft

F - firm

St - stiff

H - hard

Fb - friable

H-Hand auger

111 Meander Valley Road Westbury TAS 7303

M - moist

SM - slightly moist S - saturated

W - free water

Appendix 3 – DCP Results

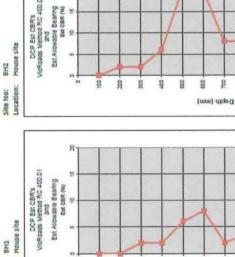
DYNAMIC CONE PENETROMETER - RESULT SHEET AST209.632

client	Wykeham Developments	6
Project:	New Residence	
Location:	111a Meander Valley Road Westbury TAS	
Operator:	RM	
Date:	08/08/2023	
Job No:	0939	

THE

Site No: Location:





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Caution: Noter

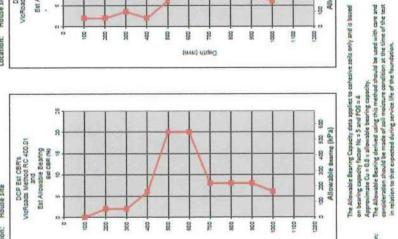
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Allowable seams (kPa)

4.

1100

Using DCP sects for determining soil strength and allowable bearing capacity is generally considered to be of limited applicability (Ref Campanelia & Robertson, 1983).

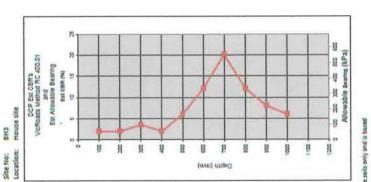


83 100

Depth (mm)

100 B 1000

8





DYNAMIC CONE PENETROMETER - RESULT SHEET AS289.632

Job No: 8939	Client: Project: Location: Operator: Date:	Wrykeham Developments New Residence 111a Mreander Valley Road Westbury TAS RM 08/06/2023	
	Job No:	6262	





BH7

Site No:

BH6 House site

Location: Site No:

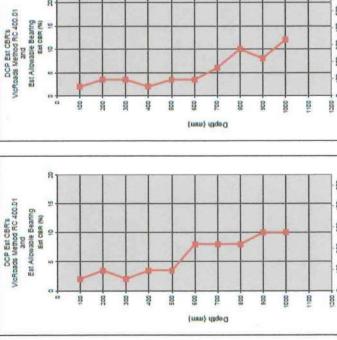
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penetration reuku obtained using the dynamic core penetremeter described in KS 1289.6.3.2 Clucion: The CBN data envel units method should be used with care and due consideration should be made of soil medicure condition at the time of the test in relation to that expected during service life of the Besing Ratio Using Dynamic Cone Penetrometer Texts This method covers the calculation of the estimated California Bearing Ratio (CBR) of cohesive soils from the VicRoads Test Method 402.01 - Estimated California Davement



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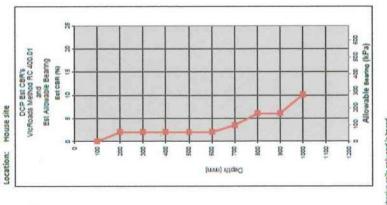
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Allowable Bearing (kPa)

Allowable Bearing (kPa)

Using DCP texts for determining soil strength and allowable bearing capacity is generally considered to be of limited applicability (Ref Campanella & Robertson, 1983).



Appendix 4 – Soil Description Explanation Sheet



SOIL DESCRIPTION EXPLANATION SHEET

Soils are described in accordance with the Unified Soil Classification System (USCS), as shown in the following table. FIELD IDENTIFICATION

	s	/ELS	GW	Well graded gravels and gravel sand mixtures, little or no fines
	ED SOILS less than 63mm 75mm	GRAVELS	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
GRAINED SOILS		ELLY	GM	Sity gravels, gravel sand silt mixtures, non plastic fines
VINED		GRAVELL	GC	Clayey gravels, gravel-sand-clay mixtures, plastic lines
-	of material er than 0.0	SO	SW	Well graded sands and gravelly sands, little or no fines
CCARSE	1 65% of larger	SANDS	SP	Poorly graded sands and gravelly sands, little or no fines
0	ncre than	ILS I	SM	Silty sand, sand-silt mixtures, non-plastic fines
	SANDY SOILS	SO	SC	Clayey sands, sand-clay mixtures, plastic fines

					DRY STRENGTH	DI ATANCY	TOUGHNESS
	than	AY.	ML	Inorganic silts, very fine sands or clayey fine sands	None to low	Quick to slow	None
SIIC	al less t 075mm	R CL	CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays and silty clays	Medium to high	None to very slow	Medium
IED SI	that 0.07	SILT licuic tha	OL	Organic silts and organic silty clays of low plasticity	Low to medium	Slow	Low
FINE GRAINED SOILS	35% of is less t	AY. eater	мн	Inorganic silts, micacecus or diatomaceous fine sands or silts	Low to medium	Slow to none	Low to medium
FINE	than 3mm	c limt gree then 50%	СН	Inorganic clays of high plasticity, fat clays	l ligh	None	High
	a.om	SIL SIL	он	Organic clays of medium to high plasticity	Medium to high	None to very slow	Low to medium
	PEA	т	Pt	Peat muck and other highly organic soils			

Particle size descriptive terms

Name Boulders Cobbles	Subdivision	Size >200mm 63mm to 200mm
Gravel	coarse medium finc	20mm to 63mm 6mm to 20mm 2.36mm to 6mm
Sand	coarse medium fine	800μm to 2.38mm 200μm to 800μm 75μm to 200μm

Moisture Condition

Diy (D)	Looks and feels dry. Cohesive soils are hard, friable or powdery. Granular sols run freely through fingers
Mcist (M)	Soil teels cool, darkened in colour. Concsive soils are usually weakened by moisture presence, granular soils tend to cohere.
Wet (W)	As for moist soils, but free water forms on hands when sample is handled

Consistency of cohesive soils

Size	Tcm		Undrained strength	Field guide
to 200mm	Very soft	VS	<12kPa	A finger can be pushed well into soil with little effort
to 63mm	Soft	S	12 25kPa	Easily penetrated several cm by fist
20mm	Firm	F	25 50kPa	Soil can be indented about 5mm by thumb
n to 6mm	Stiff	St	50-100kPa	Surface can be indented but not penetrated by thumb
to 2.36mm	Very stiff	VSt	100-200kPa	Surface can be marked but not indented by thumb
to SUUµm	Hard	н	>200kPa	Indented with difficulty by thumb nail
o 200µm	Fnable	Fb		Crumbles or powders when scraped by thumb nail

Density of granular soils

Tenn	Density index
Very loose	<35%
Loose	15 to 35%
medium dense	35 to 65%
Dense	65 to 85%
Very dense	>85%

Cohesive soils can also be described relative to their Mino

plastic limit, ie: <Wp, =Wp, >Wp

The plastic limit is defined as the minimum water content at which the soil can be rolled into a thread 3mm thick.

Minor Components Term Proportions Observed properties Trace of Coarse grained: <5%</td> Presence just detectable by feel or eye. Soil properties little or no different to general properties of primary component.

Fine grained: <1.5%	properties little or no different to general properties of primary component.
Coarse grained: 5-12% Fine grained: 15 30%	Presence easily detected by teel or eye. Soil properties little different to general properties of primary component.