
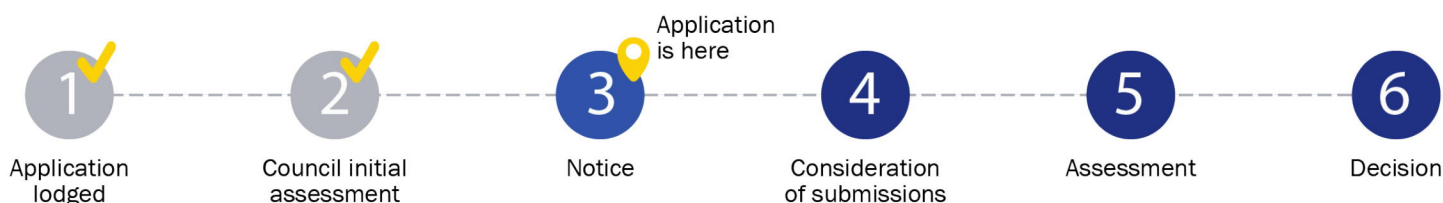


Notice of Application for a Planning Permit

The land affected by the application is located at:	L1 TP710711 V9231 F862 25 View Street, Tynong VIC 3813
The application is for a permit to:	Buildings and Works (Dwelling Additions and Alterations)
A permit is required under the following clauses of the planning scheme:	
Clause 35.05-5	Green Wedge A Zone a planning permit is required for buildings and works
Clause 42.01-2	Environmental Significance Overlay a planning permit is required for buildings and works
APPLICATION DETAILS	
The applicant for the permit is:	[REDACTED]
Application number:	T240539
<p>You may look at the application and any documents that support the application at the office of the responsible authority:</p> <p>Cardinia Shire Council, 20 Siding Avenue, Officer 3809.</p> <p>This can be done during office hours and is free of charge.</p> <p>Documents can also be viewed on Council's website at cardinia.vic.gov.au/advertisedplans or by scanning the QR code.</p>	
	
HOW CAN I MAKE A SUBMISSION?	
This application has not been decided. You can still make a submission before a decision has been made. The Responsible Authority will not decide on the application before:	
25 April 2025	
WHAT ARE MY OPTIONS? Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority. If you object, the Responsible Authority will notify you of the decision when it is issued.	<p>An objection must:</p> <ul style="list-style-type: none">• be made to the Responsible Authority in writing;• include the reasons for the objection; and• state how the objector would be affected. <p>The Responsible Authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.</p>



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ePlanning

Application Summary

Portal Reference A42419HN

Basic Information

Proposed Use	House addition/ renovation
Current Use	Occupied residential dwelling
Cost of Works	\$400,000
Site Address	25 View Street Tynong 3813

Covenant Disclaimer

Does the proposal breach, in any way, an encumbrance on title such as restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope? No such encumbrances are breached

☐ Note: During the application process you may be required to provide more information in relation to any encumbrances.

Contacts

Type	Name	Address	Contact Details
------	------	---------	-----------------

A			
O			
P			

Fees

Regulation	Fee Condition	Amount	Modifier	Payable
9 - Class 4	More than \$100,000 but not more than \$500,000	\$1,420.70	100%	\$1,420.70
Total				\$1,420.70

Documents Uploaded

Date	Type	Filename
15-10-2024	A Copy of Title	00732187740012024061705560001.pdf
15-10-2024	Site plans	AC24317 25 VIEW STREET-A.pdf



Civic Centre
20 Siding Avenue, Officer, Victoria

Council's Operations Centre (Depot)
Purton Road, Pakenham, Victoria

Postal Address
Cardinia Shire Council
P.O. Box 7, Pakenham VIC, 3810

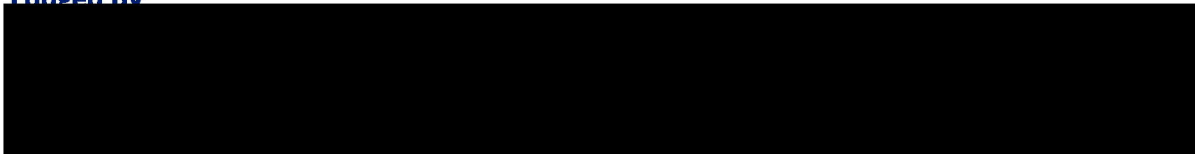
Email: mail@cardinia.vic.gov.au

Monday to Friday 8.30am–5pm
Phone: 1300 787 624
After Hours: 1300 787 624
Fax: 03 5941 3784

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☐ Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit

Lodged By



Declaration

☒ By ticking this checkbox, I, Daniel Hessey, declare that all the information in this application is true and correct; and the Applicant and/or Owner (if not myself) has been notified of the application.



Civic Centre
20 Siding Avenue, Officer, Victoria

Council's Operations Centre (Depot)
Purton Road, Pakenham, Victoria



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

Page 1 of 1

VOLUME 09231 FOLIO 862

Security no : 124122680233Y

Produced 10/03/2025 06:54 AM

LAND DESCRIPTION

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Lot 1 on Title Plan 710711T.
PARENT TITLE Volume 07922 Folio 192
Created by instrument G783612 13/09/1977

REGISTERED PROPRIETOR

Estate Fee Simple

J

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AV717658Q 08/06/2022
BENDIGO AND ADELAIDE BANK LTD

COVENANT as to part D527021

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

DIAGRAM LOCATION

SEE TP710711T FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

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

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

Street Address: 25 VIEW STREET TYNONG VIC 3813

ADMINISTRATIVE NOTICES

NIL

eCT Control 19018X ADELAIDE BANK
Effective from 09/06/2022

DOCUMENT END

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

Page 1 of 1

VOLUME 09231 FOLIO 862

Security no : 124123212763M

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Lot 1 on Title Plan 710711T.
PARENT TITLE Volume 07922 Folio 192
Created by instrument G783612 13/09/1977

REGISTERED PROPRIETOR

Estate Fee Simple

John

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AV717658Q 08/06/2022
BENDIGO AND ADELAIDE BANK LTD

COVENANT as to part D527021

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DIAGRAM LOCATION

SEE TP710711T FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

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

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

Street Address: 25 VIEW STREET TYNONG VIC 3813

ADMINISTRATIVE NOTICES

NIL

eCT Control 19018X ADELAIDE BANK
Effective from 09/06/2022

DOCUMENT END

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Document Type	Plan
Document Identification	TP710711T
Number of Pages (excluding this cover sheet)	1
Document Assembled	27/03/2025 16:39

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TITLE PLAN	EDITION 1 TP 710711T						
Location of Land Parish: BUNYIP Township: Section: Crown Allotment: 6(PT) Crown Portion: Last Plan Reference: LP6711 Derived From: VOL 9231 FOL 862 Depth Limitation: NIL	Notations ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN						
<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> Description of Land / Easement Information <p><u>ALL THAT</u> piece of land delineated and coloured - red and blue on the map hereon being part of Lot 8 on Plan of - - - - Subdivision No.6711 and being part of Crown Allotment 6 Parish of - -- Bunyip County of Mornington Together with a right of carriage way over the roads coloured brown on the said map - - - - -</p> </div> <div style="width: 25%; border: 1px solid black; padding: 5px;"> THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT COMPILED: 06/12/2000 VERIFIED: SO'C </div> </div> <div style="margin-top: 10px;"> ENCUMBRANCES REFERRED TO As to the land coloured blue - - - - THE EASEMENT to Victorian Pipelines Commission created by - - - - - Instrument D527021 - - - - - </div> <div style="margin-top: 10px; text-align: right;"> COLOUR CODE R = RED BR = BROWN BL = BLUE </div>							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">TABLE OF PARCEL IDENTIFIERS</th> </tr> <tr> <td colspan="2" style="font-size: small;">WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962</td> </tr> <tr> <td colspan="2" style="font-size: small;">PARCEL 1 = LOT 8 (PT) ON LP6711</td> </tr> </table>		TABLE OF PARCEL IDENTIFIERS		WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962		PARCEL 1 = LOT 8 (PT) ON LP6711	
TABLE OF PARCEL IDENTIFIERS							
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962							
PARCEL 1 = LOT 8 (PT) ON LP6711							
LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links						
Sheet 1 of 1 sheets							

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Document Type	Instrument
Document Identification	D527021
Number of Pages (excluding this cover sheet)	6
Document Assembled	10/03/2025 06:58

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WEICALL & CROWTHER

*****0.00 A RT T

10-19 570082 OCT-89 VICTORIA

REG

into E S & A Bank

CREATION OF EASEMENT

Railway Employee and MOLLIE CATCHPOLE

of View Street, TYNONG

(hereinafter called "the Owner") being registered or entitled to be registered as the proprietor of an estate in fee simple in the land secondly hereinafter described subject to the encumbrances notified hereunder in consideration of the sum of ONE DOLLAR (\$1.00)

paid to us by the VICTORIAN PIPELINES COMMISSION (hereinafter called "the Commission") Do HEREBY TRANSFER AND GRANT unto the Commission and its successors and transferees registered proprietor or proprietors for the time being of ALL THAT piece of land being part of Crown Portion 95 Parish of Eumemmerring and being the whole of

C/E.
of 7922-192 (A)
to
of 8727-144 (W/H)
NP 7/4/70



the land comprised in Certificate of Title entered in the Register Book Volume 8727 Folio 144 FULL AND FREE RIGHT AND LIBERTY to and for it and them and its and their contractors servants agents and workmen at all times hereafter for the purposes of the Victorian Pipelines Commission Act 1966 :—

To ENTER AND RE-ENTER in and upon ALL THAT piece of land delineated and colored red on the plan drawn hereon or annexed hereto and marked "A" and being part of Lot 8 on Plan of Subdivision 6711 Parish of Bunyip and being part of the land more particularly described in Certificate of Title Volume 7922 Folio 192.

(which land is hereinafter referred to as "the servient tenement") and to bring on or remove therefrom any plant equipment or materials and to construct re-construct or demolish any works and to excavate trenches and for footings or foundations and to lay or erect or place in on under over along or across the servient tenement and from time to time to repair remove renew re-lay or re-erect any pipes or systems of pipes for the conveyance of hydrocarbons in a gaseous state and any ancillary equipment and works associated with any such pipes or systems of pipes at any place or places and in any position or positions PROVIDED ALWAYS that the upper surface of any such pipes or systems of pipes when laid shall be approximately three feet below the surface of the servient tenement but any ancillary equipment and works associated therewith may extend up to or be upon or above the surface.

- (b) To erect and maintain any gates upon the servient tenement and any temporary fences during any period of construction or maintenance of works.
- (c) To fell and remove any tree or any limb or limbs of any tree and remove any obstructions upon the servient tenement and to carry out thereon any digging cutting excavating grading and re-grading.

- (d) To go pass and repass for all of the purposes aforesaid either with or without vehicles machines plant and equipment through over and along the servient tenement.
- (e) To use the servient tenement for all purposes of and incidental to the transmission of hydrocarbons in gaseous state.
- (f) To keep the servient tenement free of any buildings whatsoever and free from any obstructions above the surface.
- (g) To maintain inspect alter repair duplicate add to renew use take up remove and replace all works and installations.
- (h) To enter re-enter and pass on foot or on horseback or in any vehicle or machine over and along the servient tenement as often as the Commission or its officers may desire for the purpose of ~~protecting inspecting maintaining altering repairing duplicating adding to renewing using~~ taking up removing or replacing all works and installations.

PROVIDED ALWAYS that nothing herein contained shall be deemed in any way to restrict limit or detract from any right power authority or immunity of the Commission or its successors under or by virtue of the Victorian Pipelines Commission Act 1966 or any amendment thereof or any other statute or regulation which now or hereafter may confer any rights powers authorities or immunities on the Commission.

AND PROVIDED FURTHER that the Commission will at all times fill in any excavations made in the exercise of the powers and rights hereby granted and leave the servient tenement reasonably level and free from rubbish and debris and will pay to the Owner reasonable compensation for disturbance caused by the execution by the Commission of any works on or in the servient tenement which may be carried out after completion of the initial works to be performed and constructed thereon or therein.

AND the Owner for himself his heirs executors and administrators and transferees registered proprietor or proprietors for the time being of the servient tenement HEREBY COVENANTS with the Commission and its successors and transferees registered proprietor or proprietors for the time being of the land firstly hereinbefore described not to erect on any part of the servient tenement any building or ~~other structure or place thereon any obstruction or to cultivate or dig or excavate any part of the surface~~ of the servient tenement to a depth greater than one foot without the previous consent in writing of the Commission first had and obtained.

AND IT IS HEREBY AGREED AND DECLARED that in the interpretation of this Instrument the singular number shall include the plural number and vice versa and the masculine gender shall include the feminine and neuter genders.

DATED the 14th day of September One thousand nine hundred and sixty-nine.

VICTORIAN PIPELINES COMMISSION "A"

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Easement required for DUTSON-DANDENONG NATURAL GAS PIPELINE

Owner **RONALD HARRY CATCHPOLE**
& **MOLLIE CATCHPOLE**

ADDRESS **TYNONG**

Part of Allotment **6**

Section

Parish of **BUNYIP**

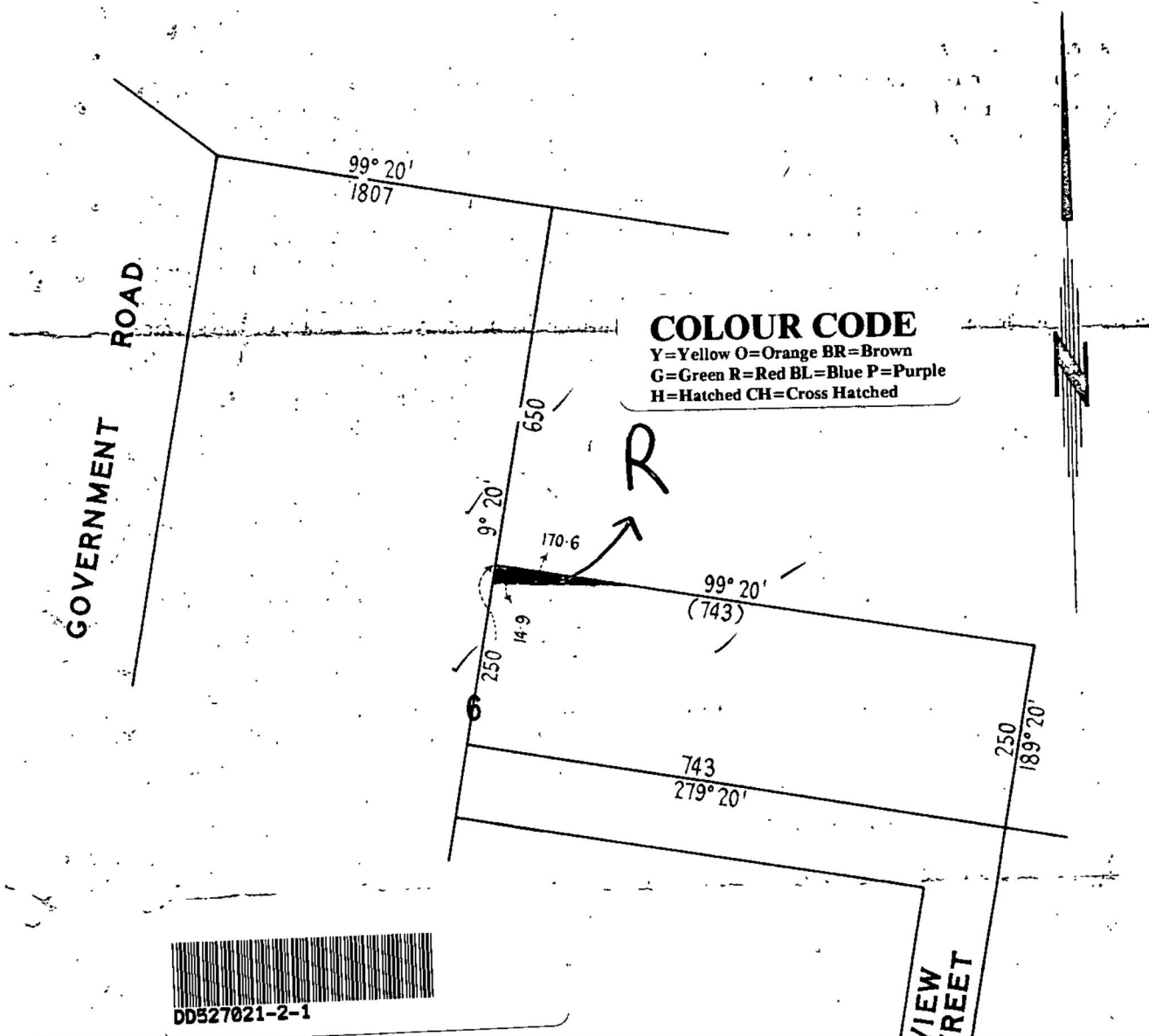
County of **MORNINGTON**

Area $0^a - 0^r - 20^{\frac{2}{10}}p$

Certificate { Vol. **7922**
Fol. **192**

Scale:- **2 CHAINS**

to an Inch.



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Natural Resources and Environment
CULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT
**INTENTIONALLY
BLANK**

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THE COMMON SEAL of VICTORIAN PIPELINES
COMMISSION was hereunto affixed by the authority
of the Commission and is hereby attested by :—



ENCUMBRANCES REFERRED TO



DD527021-3-7

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A memorandum of the within instrument
has been entered in the Register Book.



VICTORIAN PIPELINES COMMISSION

WITH

CREATION OF EASEMENT

WEIGALL & CROWTHER

SOLICITORS

83 WILLIAM STREET
MELBOURNE, 3000.

DFB

626121

Hartson, Perridge & Co. Pty. Ltd., Printers, Melbourne.

GENERAL NOTES

TO READ INCONJUNCTION WITH THE NCC 2022 INTELLECTUAL PROPERTY AND USE OF THIS DOCUMENT

THIS DOCUMENT HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT OF AC DESIGN & DRAFTING (THE DESIGNER), FOR THE PURPOSE EXPRESSLY NOTIFIED TO THE DESIGNER. ANY OTHER PERSON WHO USES OR RELIES ON THESE PLANS WITHOUT THE DESIGNERS WRITTENCONSENT DOES SO AT THEIR OWN RISK AND NO RESPONSIBILITY ISACCEPTED BY THE DESIGNER FOR SUCH USE AND/OR RELIANCE.

THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH ALL DRAWINGS, DETAILS AND INFORMATION PROVIDED BY THE CONSULTANTS NAMED HEREIN, AND WITH ANY OTHER WRITTEN INSTRUCTIONS ISSUED IN THE COURSE OF THE CONTRACT.

A BUILDING PERMIT IS REQUIRED PRIOR TO THE COMMENCEMENT OF THESE WORKS. THE RELEASE OF THIS DOCUMENT IS CONDITIONAL ON THE CLIENT OBTAINING THE REQUIRED BUILDING PERMIT.

MATERIALS AND TRADE PRACTICES

ALL MATERIALS, CONSTRUCTION AND WORK PRACTICES SHALL COMPLY WITH BUT NOT BE LIMITED TO THE CURRENT ISSUE OF NATIONAL CONSTRUCTION CODE 2022 BUILDING CODE OF AUSTRALIA VOL. 2 (HEREAFTER REFERRED TO AS BCA), AND ALL RELEVANT CURRENT AUSTRALIAN STANDARDS REFERRED TO THEREIN.

WORK AND SITE MANAGEMENT PRACTICES SHALL COMPLY WITH ALL RELEVANT LAWS AND BY-LAWS.

IF ANY PERFORMANCE SOLUTION IS PROPOSED, IT SHALL BE ASSESSED AND APPROVED BY THE [RELEVANT BUILDING SURVEYOR/BUILDING CERTIFIER] AS MEETING BCA PERFORMANCE REQUIREMENTS PRIOR TO IMPLEMENTATION OR INSTALLATION.

INSTALLATION OF ALL SERVICES SHALL COMPLY WITH THE RESPECTIVE SUPPLY AUTHORITY'S REQUIREMENTS.

VARIATIONS

SHOULD ANY CONFLICT ARISE BETWEEN THESE PLANS AND BCA, AUSTRALIAN STANDARDS OR A MANUFACTURER'S INSTRUCTIONS, THIS DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE DESIGNER, BEFORE ANY OTHER ACTION IS TAKEN.

THE CLIENT AND/OR THE CLIENTS BUILDER SHALL NOT MODIFY OR AMEND THE PLANS WITHOUT THE KNOWLEDGE AND CONSENT OF THE DESIGNER, EXCEPT WHERE THE [RELEVANT BUILDING SURVEYOR/BUILDING CERTIFIER] MAKES MINOR NECESSARY CHANGES TO FACILITATE THE BUILDING PERMIT APPLICATION

THE APPROVAL BY THE DESIGNER OF A SUBSTITUTE MATERIAL, WORK PRACTICE OR THE LIKE IS NOT AN AUTHORISATION FOR ITS USE OR A CONTRACT VARIATION. ANY VARIATIONS AND/OR SUBSTITUTIONS TO MATERIALS OR WORK PRACTICES SHALL BE ACCEPTED BY ALL PARTIES TO THE BUILDING CONTRACT AND, WHERE APPLICABLE, THE [RELEVANT BUILDING SURVEYOR/BUILDING CERTIFIER], PRIOR TO IMPLEMENTATION.

MEASUREMENTS

FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

SITE PLAN MEASUREMENTS ARE IN METRES. ALL OTHER MEASUREMENTS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE.

UNLESS NOTED OTHERWISE, DIMENSIONS ON FLOOR PLANS, SECTIONS AND EXTERNAL ELEVATIONS REPRESENT TIMBER FRAME AND STRUCTURAL MEMBERS, NOT FINISHED LININGS/CLADDING.

WINDOW SIZES ARE NOMINAL ONLY. ACTUAL SIZE MAY VARY ACCORDING TO MANUFACTURER.

THE BUILDER AND SUBCONTRACTORS SHALL CHECK AND VERIFY ALL DIMENSIONS, SETBACKS, LEVELS, SPECIFICATIONS, AND ALL OTHER RELEVANT DOCUMENTATION PRIOR TO THE COMMENCEMENT OF ANY works.REPORT ALL DISCREPANCIES TO THE DESIGNER FOR CLARIFICATION.

SUPPLEMENTARY NOTES

SITE PROTECTION DURING THE CONSTRUCTION PERIOD

PROTECTIVE OUTRIGGERS, FENCES, AWNINGS, HOARDING, BARRICADES AND THE LIKE SHALL BE INSTALLED WHERE NECESSARY TO GUARD AGAINST DANGER TO LIFE OR PROPERTY OR WHEN REQUIRED BY THE RELEVANT BUILDING SURVEYOR AND/OR COUNCIL.

WHERE REQUIRED BY COUNCIL, THE BUILDER SHALL CONSTRUCT A TEMPORARY CROSSING PLACED OVER THE FOOTPATH.

ALL PRACTICABLE MEASURES SHALL BE IMPLEMENTED TO MINIMISE WASTE TO LANDFILL. THE BUILDER MAY USE A CONSTRUCTION WASTE RECOVERY SERVICE. OR SORT AND TRANSPORT RECYCLABLE MATERIALS TO THE APPROPRIATE REGISTERED RECYCLER. MATERIALS SHALL NOT BE BURNED ON SITE.

A SITE MANAGEMENT PLAN SHALL BE IMPLEMENTED FROM THE COMMENCEMENT OF WORKS, TO CONTROL SEDIMENT RUN-OFF IN ACCORDANCE WITH [INSERT RELEVANT STATE/COUNCIL GUIDELINES OR REGULATION]. SILT FENCES SHALL BE PROVIDED TO THE LOW SIDE OF THE ALLOTMENT AND AROUND ALL SOIL STOCKPILES AND STORM WATER INLET PITS/SUMPS AND 'SILT STOP' FILTER BAGS OR EQUIVALENT SHALL BE PLACED OVER ALL STORM WATER ENTRY PITS. EROSION CONTROL FABRIC SHALL BE PLACED OVER GARDEN BEDS TO PREVENT SURFACE EROSION.

DUST-CREATING MATERIAL SHALL BE KEPT SPRAYED WITH WATER SO AS TO PREVENT ANY NUISANCE FROM DUST.

WASTE MATERIALS SHALL NOT BE PLACED IN ANY STREET, ROAD OR RIGHT OF WAY.

EARTHWORKS (UNRETAINED) SHALL NOT EXCEED 2M.

CUT AND FILL BATTERS SHALL COMPLY WITH BCA TABLE 3.2.1.

PROTECTION OF THE BUILDING FABRIC

THE BUILDER SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE STABILITY AND GENERAL WATER TIGHTNESS OF ALL NEW AND/OR EXISTING STRUCTURES DURING ALL WORKS.

WINDOWS, DOORS AND SERVICE PENETRATIONS SHALL BE FLASHED ALL AROUND.

ALL PLIABLE MEMBRANES SHALL BE INSTALLED TO COMPLY AND BE IN ACCORDANCE WITH BCA 10.8.1

GUTTERS AND DRAINAGE SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH AS3500.3.

ANTI-PONDING DEVICES/BOARDS SHALL BE INSTALLED ACCORDING TO BCA 7.3.5.

DAMPCOURSES WITH WEEPHOLES AND CAVITY FLASHINGS SHALL BE INSTALLED IN ACCORDANCE WITH AS4773.2.

SURFACES AROUND THE PERIMETER OF A RESIDENTIAL SLAB SHALL FALL AWAY FROM THAT SLAB BY NOT LESS THAN 50MM OVER THE FIRST 1M. WHERE NOT STIPULATED IN THE GEOTECHNICAL REPORT, FREEBOARD SHALL BE NOT LESS THAN 50MM FROM AN IMPERMEABLE SURFACE OR 150MM FROM A PERMEABLE SURFACE.

SUBFLOOR VENTS SHALL BE LOCATED >600MM FROM CORNERS AND BE INSTALLED BELOW BEARERS. SUCH VENTS SHALL PROVIDE A RATE PER 1000MM RUN OF EXTERNAL OR INTERNAL CROSS WALLS OF:

- 7,500MM 2 CLEAR VENTILATION WHERE PARTICLE BOARD FLOORING IS USED; OR
- 6,000MM 2 FOR OTHER SUBFLOOR TYPES.

[WHERE A BUILDING OTHER THAN DETACHED CLASS 10 IS LOCATED IN A TERMITE-PRONE AREA] THE BUILDING SHALL BE PROVIDED WITH A TERMITE MANAGEMENT SYSTEM COMPLIANT WITH AS3660.1 OR AS3660.2.

IN SALINE OR INDUSTRIAL ENVIRONMENTS, MASONRY UNITS, MORTAR, AND ALL BUILT-IN COMPONENTS SHALL COMPLY WITH THE DURABILITY REQUIREMENTS OF TABLE 4.1 OF AS4773.1, PART 1: DESIGN.

ARTICULATION JOINTS SHALL COMPLY WITH THE REQUIREMENTS OF AS/NZS 4473 PARTS 1&2 & TECHNICAL NOTE TN61 ARTICULATED WALLING BY THE CEMENT CONCRETES & AGGREGATES AUSTRALIA.

BUSHFIRE ATTACK LEVEL	
B.A.L.-N/A	
	NO SPECIAL CONSTRUCTION REQUIREMENTS
B.A.L.-12.5	
SUBFLOOR SUPPORTS	NO SPECIAL CONSTRUCTION REQUIREMENTS
FLOORS	NO SPECIAL CONSTRUCTION REQUIREMENTS
EXTERNAL WALLS	EXTERNAL WALLS - PARTS LESS THAN 400mm ABOVE GROUND OR DECKS ECT. TO BE OF NON-COMBUSTABLE MATERIAL, 6mm FIBRE CEMENT CLAD OR BUSHFIRE RESISTANT / NATURALLY FIRE RESISTANT TIMBER
EXTERNAL WINDOWS	PROTECTED BY BUSHFIRE SHUTTER, COMPLETELY SCREENED WITH STEEL, BRONZE OR ALUMINIUM MESH OR 4mm GRADE A SAFETY GLASS OR GLASS BLOCKS WITHIN 400mm OF GROUND, DECK ECT. OPENABLE PORTION METAL SCREENED WITH FRAME OF METAL OR METAL REINFORECED PVC-U OR BUSHFIRE RESISTANT TIMBER
EXTERNAL DOORS	PROTECTED BY BUSHFIRE SHUTTER, OR SCREENED WITH STEEL, BRONZE OR ALUMINIUM MESH OR GLAZED WITH 5mm TOUGHENED GLASS, NON-COMBUSTABLE OR 35mm SOLID TIMBER FOR 400mm ABOVE THRESHOLD, METAL OR NATURALLY FIRE RESISTANT (HIGH DENSITY) TIMBER FRAMED FOR 400mm ABOVE GROUND, DECKING, ECT. TIGHT FITTING WITH WEATHER STRIP AT BASE. NYLON SEALS TO GARAGE DOORS MAX. 3mm GAP
ROOFS	NON-COMBUSTABLE COVERING. ROOF / WALL JUNCTION SEALED. OPENING FITTED WITH NON-COMBUSTABLE EMBER GUARDS. ROOF TO BE FULLY SARKED
VERANDAS, DECKS ECT.	ENCLOSED SUB FLOOR SPACE - NO SPECIAL REQUIREMENTS FOR MATERIALS EXCEPT WITHIN 400mm OF GROUND. NO SPECIAL REQUIREMENTS FOR SUPPRTS OR FRAMING. DECKING TO BE NON-COMBUSTABLE OR BUSHFIRE RESISTANT WITHING 300mm HORIZONTALLY AND 400mm VERTICALLY FROM GLAZED ELEMENT.

29.

WIND SPEED - N2

BUSHFIRE ATTACK LEVEL:- 12.5

AMENDMENTS

ISSUE	DATE	DESCRIPTION
B	14/1/24	PLANNING PERMIT UPDATES
C	20/2/24	ADD TREE SPECIES
D	7/3/25	ADDITIONAL TOWN PLANNING

AC DESIGN & DRAFTING

alan@acdesigndrafting.com.au
PHONE: (03) 9770 9600
MOBILE: 0419 895 507
31 LEISURELAND DRV LANGWARRIN 3910

SIGNED BUILDER:

SIGNED OWNER:

ISSUE:- D	DRAWN:- GS
B.P. No.:- DP-1316	
DRG: AC-24317	
DATE: 29/07/2024	
SHEET No.: 1	

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BUILDING TIE-DOWNS SHALL BE APPROPRIATE FOR THE SITE WIND CLASSIFICATION AND PROVIDED IN ACCORDANCE WITH BCA 5.6.6.

CORROSION PROTECTION SHALL BE SUITED TO THE SITE CONTEXT AND PROVIDED FOR BUILT-IN STRUCTURAL STEEL MEMBERS SUCH AS STEEL LINTELS, SHELF ANGLES, CONNECTORS, ACCESSORIES (OTHER THAN WALL TIES) IN ACCORDANCE WITH TABLE 4.1 OF AS4773.1 MASONRY IN SMALL BUILDINGS, PART 1: DESIGN.

SHEET ROOFING SHALL BE PROTECTED FROM CORROSION IN A MANNER APPROPRIATE TO THE SITE CONTEXT, IN ACCORDANCE WITH BCA TABLE 7.2.2A.

SINGLE LEAF MASONRY WALLS SHALL BE WEATHERPROOFED PER BCA 5.7.6.

[IN CLIMATE ZONES 6, 7 AND 8] UNLESS EXCLUDED BY BCA 10.8.3(2) ROOFS SHALL BE PROVIDED WITH VENTILATION OPENINGS PER BCA 10.8.3.

EXTERNAL WATERPROOFING FOR ON FLAT ROOFS, ROOF TERRACES, BALCONIES AND TERRACES AND OTHER SIMILAR HORIZONTAL SURFACES LOCATED ABOVE INTERNAL SPACES OF A BUILDING SHALL COMPLY WITH BCA H2D8.

WATERPROOFING OF WET AREAS - BEING BATHROOMS, SHOWERS, SHOWER ROOMS, LAUNDRIES, SANITARY COMPARTMENTS AND THE LIKE - SHALL BE PROVIDED IN ACCORDANCE WITH BCA 10.2.

BALCONY WATERPROOFING SHALL BE INSTALLED IN ACCORDANCE WITH AS4654.1 & AS4654.2.

GLAZING

GLAZED UNITS SHALL BE INSTALLED IN ACCORDANCE WITH BCA8.3.2.

FULLY FRAMED GLAZING INSTALLED IN THE PERIMETER OF BUILDINGS SHALL COMPLY WITH BCA 8.3.3.

GLASS – INCLUDING, BUT NOT LIMITED TO, WINDOWS, DOORS, SCREENS, PANELS, SPLASHBACKS AND BARRIERS – SHALL COMPLY WITH BCA 3.3.3.

GLAZING SUBJECT TO HUMAN IMPACT SHALL COMPLY WITH BCA 8.4.

FOOTINGS

FOOTINGS SHALL NOT, UNDER ANY CIRCUMSTANCE, ENCROACH OVER TITLE BOUNDARIES OR EASEMENT LINES.

WHERE CONCRETE STUMPS ARE TO BE USED, THESE SHALL BE:

- 100 X 100MM (1X 5MM HD WIRE) IF UP TO 1400MM LONG
- 100 X 100MM (2X 5MM HD WIRES) IF 1401MM TO 1800MM LONG
- 125 X 125MM (2X 5MM HD WIRES) IF 1801MM TO 3000MM LONG.

100MM X 100MM STUMPS THAT EXCEED 1200MM ABOVE GROUND LEVEL SHALL BE BRACED WHERE NO PERIMETER BASE BRICKWORK IS PROVIDED.

ALL CONCRETE FOOTINGS SHALL BE FOUNDED AT A DEPTH TO A MINIMUM REQUIRED BEARING CAPACITY AND/OR IN ACCORDANCE WITH RECOMMENDATIONS CONTAINED IN SOIL REPORT (OR OTHERWISE AT ENGINEER'S DISCRETION).

STORMWATER AND SEWERS

[INSERT] MM DIA. CLASS 6 UPVC STORMWATER LINE MIN GRADE 1:100 SHALL BE CONNECTED TO THE LEGAL POINT OF DISCHARGE TO THE RELEVANT AUTHORITY'S APPROVAL. PROVIDE INSPECTION OPENINGS AT 9M CENTRES AND AT EACH CHANGE OF DIRECTION.

COVERS TO UNDERGROUND STORMWATER DRAINS SHALL BE NOT LESS THAN:

- 100MM UNDER SOIL
- 50MM UNDER PAVED OR CONCRETE AREAS
- 100MM UNDER UNREINFORCED CONCRETE OR PAVED DRIVEWAYS
- 75MM UNDER REINFORCED CONCRETE DRIVEWAYS

THE BUILDER AND SUBCONTRACTOR SHALL ENSURE THAT ALL STORMWATER DRAINS, SEWER PIPES AND THE LIKE ARE LOCATED AT A SUFFICIENT DISTANCE FROM ANY BUILDINGS, FOOTING AND/OR SLAB EDGE BEAMS SO AS TO PREVENT GENERAL MOISTURE PENETRATION, DAMPNESS, WEAKENING AND UNDERMINING OF ANY BUILDING AND ITS FOOTING SYSTEM.

SAFETY OF BUILDING USERS

WHERE STAIRS, RAMPS AND BALUSTRADES ARE TO BE CONSTRUCTED, THESE SHALL COMPLY WITH ALL PROVISIONS OF BCA 11.2.

OTHER THAN SPIRAL STAIRS:

- RISERS SHALL BE 190MM MAX AND 115MM MIN
- GOINGS SHALL BE 355MM MAX AND 240MM MIN
- 2R+G SHALL BE 700MM MAX AND 550MM MIN
- THERE SHALL BE LESS THAN 125MM GAP BETWEEN OPEN TREADS.

ALL TREADS, LANDINGS AND THE LIKE SHALL HAVE A SLIP RESISTANCE CLASSIFICATION OF P3 OR R10 FOR DRY SURFACE CONDITIONS AND P4 OR R11 FOR WET SURFACE CONDITIONS, OR A NOSING STRIP WITH A SLIP-RESISTANCE CLASSIFICATION OF P3 FOR DRY SURFACE CONDITIONS AND P4 FOR WET SURFACE CONDITIONS.

BARRIERS SHALL BE PROVIDED WHERE IT IS POSSIBLE TO FALL 1M OR MORE FROM THE LEVEL OF THE TRAFFICABLE SURFACE TO THE SURFACE BENEATH. SUCH BARRIERS (OTHER THAN TENSIONED WIRE BARRIERS) SHALL BE:

- 1000MM MIN ABOVE FINISHED STAIR LEVEL (FSL) OF BALCONIES, LANDINGS ETC; AND
- 865MM MIN ABOVE FSL OF STAIR NOSING OR RAMP; AND
- VERTICAL, WITH GAPS OF NO MORE THAN 125MM.

WHERE THE FLOOR BELOW A BEDROOM WINDOW IS 2M OR MORE ABOVE THE SURFACE BENEATH, THE WINDOW SHALL COMPLY WITH BCA CLAUSE 11.3.7.

WHERE THE FLOOR BELOW A WINDOW OTHER THAN IN A BEDROOM IS 4M OR MORE ABOVE THE SURFACE BENEATH, THE WINDOW SHALL COMPLY WITH BCA CLAUSE 11.3.8.

WHERE A BEDROOM WINDOW IS 2M OR MORE ABOVE THE SURFACE BENEATH, OR IT IS POSSIBLE TO FALL 4M OR MORE FROM THE LEVEL OF ANY TRAFFICABLE SURFACE TO THE SURFACE BENEATH, ANY HORIZONTAL ELEMENT WITHIN A BARRIER BETWEEN 150MM AND 760MM ABOVE THE FLOOR SHALL NOT FACILITATE CLIMBING.

HANDRAILS SHALL BE CONTINUOUS, WITH TOPS SET >865MM VERTICALLY ABOVE STAIR NOSING AND FLOOR SURFACE OF RAMPS.

WIRE BARRIERS SHALL COMPLY WITH BCA 11.3.4 AND 11.3.6.

A GLASS BARRIER OR WINDOW SERVING AS A BARRIER SHALL COMPLY WITH BCA H1D8.

CLASS 1 BUILDINGS WITH AIR PERMEABILITY OF NOT MORE THAN 5 M 3 /HR.M 2 AT 50 PA SHALL BE PROVIDED WITH A MECHANICAL VENTILATION SYSTEM COMPLYING WITH H6V3.INWARD-OPENING SWING DOORS TO FULLY ENCLOSED SANITARY COMPARTMENTS SHALL COMPLY WITH BCA CLAUSE 10.4.2.

ALL SHOWER WALLS AND WALLS ADJACENT TO TOILET SHALL BE BRACED WITH 12MM PLY FOR FUTURE GRAB RAILS OR SUPPLY NOGGINGS WITH A THICKNESS OF AT LEAST 25MM IN ACCORDANCE WITH RECOMMENDATIONS OF LIVEABLE HOUSING DESIGN GUIDELINES.

FLOORING IN WET AREAS, LAUNDRY AND KITCHEN SHALL BE SLIP RESISTANT.

DOOR HARDWARE SHALL BE INSTALLED 900MM – 1100MM ABOVE THE FINISHED FLOOR.

THERE SHALL BE A LEVEL TRANSITION BETWEEN ABUTTING INTERNAL SURFACES (A MAXIMUM VERTICAL TOLERANCE OF 5MM BETWEEN ABUTTING SURFACES IS ALLOWABLE PROVIDED THE LIP IS ROUNDED OR BEVELLED).

SERVICES

SOLAR COLLECTOR PANEL LOCATIONS ARE INDICATIVE ONLY. LOCATION AND SIZE ARE DEPENDENT ON MANUFACTURER'S/INSTALLER'S RECOMMENDATION.

DUCTWORK FOR HEATING AND COOLING SYSTEMS SHALL COMPLY WITH AS4254 & AS/NZS 4859.1 IN ACCORDANCE WITH CLIMATE ZONE REQUIREMENTS SET DOWN IN BCA TABLE 3. TIMBER FRAMING

STANDARD TIMBER ROOFING AND WALL FRAMING SHALL BE PROVIDED IN ACCORDANCE WITH AS1684 (RESIDENTIAL TIMBER-FRAMED CONSTRUCTION) AND ALL RELEVANT SUPPLEMENTS. ELECTRICAL

SMOKE DETECTORS SHALL BE FITTED WHERE NONE ARE PRESENT, OR WHERE EXISTING ARE NON-COMPLIANT WITH AS3786.

NEW SMOKE DETECTORS SHALL BE INTERCONNECTED; MAINS-POWERED; AND LOCATED AND INSTALLED PER BCA 9.5.2 AND 9.5.4.

IN A CLASS 10A PRIVATE GARAGE, AN ALTERNATIVE ALARM MAY BE INSTALLED PER BCA 9.5.1(B).

LIGHT SWITCHES SHALL BE POSITIONED IN A CONSISTENT LOCATION 900MM – 1100MM ABOVE THE FINISHED FLOOR LEVEL; HORIZONTALLY ALIGNED WITH THE DOOR HANDLE AT THE ENTRANCE TO A ROOM.

POWER POINTS SHALL NOT BE INSTALLED LOWER THAN 300MM ABOVE FINISHED FLOOR LEVEL.

ALL ELECTRICAL PENETRATIONS SHALL BE SEALED USING MATERIAL APPROPRIATE TO THE RATING OF THE CABLE AND/OR DEVICE.

ONLY STAMPED IC4-RATED DOWNLIGHTS SHALL BE INSTALLED AND INSULATION SHALL NOT BE PENETRATED FOR DOWNLIGHTS.

DUCTWORK FOR EXHAUST FANS AND HEATING AND COOLING SYSTEMS SHALL COMPLY WITH AS4254 & AS/NZS 4859.1 IN ACCORDANCE WITH CLIMATE ZONE REQUIREMENTS SET DOWN IN BCA 13.7.4.

EXHAUST FROM A BATHROOM, SANITARY COMPARTMENT OR LAUNDRY SHALL BE DISCHARGED DIRECTLY VIA AN INSULATED SHAFT OR R1 INSULATED DUCTING TO OUTDOOR AIR. MINIMUM FLOW RATES SHALL BE:

- 40 L/S FOR KITCHEN & LAUNDRY
- 25 L/S FOR BATHROOM OR SANITARY COMPARTMENT.

AN EXHAUST SYSTEM THAT IS NOT RUN CONTINUOUSLY AND IS SERVING A BATHROOM OR SANITARY COMPARTMENT THAT IS NOT VENTILATED IN ACCORDANCE WITH BCA 10.6.2(A) SHALL BE INTERLOCKED WITH THE ROOM'S LIGHT SWITCH; AND INCLUDE A 10 MINUTE RUN-ON TIMER.

EXHAUST FANS, RANGEHOODS AND THE LIKE SHALL BE INSTALLED WITH SELF-CLOSING DAMPERS.

BUILDING THERMAL PERFORMANCE

WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STAMPED PLANS ENDORSED BY XXX, ACCREDITED THERMAL PERFORMANCE ASSESSOR DMNXXX, WITHOUT ALTERATION.

THE NATHERS ENERGY RATING CONTAINS INBUILT ASSUMPTIONS ABOUT THE INTEGRITY OF THE BUILDING FABRIC WITH REGARDS INSULATION, DRAUGHTPROOFING AND GLAZING. WORKS SHALL COMPLY WITH THE FOLLOWING MEASURES, TO ENSURE THAT THE AS-BUILT PERFORMANCE CORRESPONDS TO THAT MODELLED IN THE ENERGY RATING.

INSULATION AS FOLLOWS SHALL BE INSTALLED IN ACCORDANCE WITH BCA 13.2.2:

- EXTERNAL WALLS R[INSERT VALUE]
- ROOF R[INSERT VALUE]
- CEILING R[INSERT VALUE]
- UNDER FLOOR R[INSERT VALUE]
- UNDER SLAB R[INSERT VALUE]
- SIDE SLAB R[INSERT VALUE]

INSULATION SHALL BE INSTALLED TIGHT AND CONTINUOUS, WITHOUT GAPS AND CRACKS, HARD UP AGAINST INTERNAL LININGS (INCLUDING SUBFLOOR). THERE SHALL BE NO AIR GAP BETWEEN AN INTERNAL LINING AND INSULATION. JUNCTIONS BETWEEN INTERNAL AND EXTERNAL WALLS SHALL BE INSULATED.

INSULATION SHALL NOT BE CRUSHED OR COMPRESSED.

BOX GUTTERS AND MANHOLE COVERS SHALL BE INSULATED TO THE SAME R-VALUE AS THE ROOF, USING INSULATION BATTS OR BLANKET OR CLOSED-CELL FOAM.

DOWNLIGHTS SHALL BE STAMPED AS IC4 RATED, AIRTIGHT AND COVERED BY INSULATION.

[IN CLIMATE ZONES 6, 7 AND 8] A VAPOUR PERMEABLE LAYER SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS IN ALL NEW EXTERNAL WALLS. THE MATERIAL SHALL BE OVERLAPPED AND FULLY TAPED ON THE EXTERNAL SIDE TO ENSURE A TIGHT SEAL. ALL PENETRATIONS IN THE MEMBRANE SHALL BE SEALED, ENSURING THAT THE MATERIAL COVERS GAPS BETWEEN STUDS AND DOORS AND WINDOW FRAMES. ANY FLASHING AROUND WINDOWS SHALL BE TAPED OVER THE BUILDING WRAP.

WHERE A FOIL-BACKED MEMBRANE IS USED, TIMBER BATTENS SHALL BE USED TO MINIMISE THERMAL CONDUCTION.

ALL TRADES SHALL BE INSTRUCTED TO REPLACE ANY INSULATION THEY HAVE REMOVED IN THE COURSE OF THEIR WORK AND TO TAPE ANY CUTS/PENETRATIONS IN BUILDING WRAP. ALL PENETRATIONS SHALL BE CAULKED USING A FIT-FOR-PURPOSE FLEXIBLE SEALANT.

ALL REDUNDANT OPENINGS SUCH AS DECOMMISSIONED CHIMNEYS AND WALL VENTS SHALL BE SEALED OFF AT TOP AND BOTTOM, UNLESS AN UNFLUED GAS HEATER IS PRESENT.

CAULKING PRODUCTS SHALL BE APPROPRIATE FOR THE INTENDED APPLICATION.

BEFORE INSTALLING MOULDINGS, A FIT-FOR-PURPOSE, LONG-LASTING PROPRIETARY TAPE OR FLEXIBLE CAULKING PRODUCT SHALL BE USED TO SEAL JUNCTIONS OF:

- PLASTERBOARD AND FLOOR
- PLASTERBOARD AND TOP PLATE (FOR SQUARE SET CORNICES)
- VERTICAL AND HORIZONTAL PLASTERBOARD
- TOPS, BOTTOMS AND SIDES OF ARCHITRAVES AND PLASTERBOARD.
- ALL EXHAUST FANS AND DUCTS, INCLUDING RANGEHOODS, SHALL BE FITTED WITH SELF-CLOSING MECHANISMS.

WHERE IT IS NOT POSSIBLE TO INSULATE UNDER AN EXISTING TIMBER FLOOR, GAPS BETWEEN FLOORBOARDS SHALL BE SEALED BEFORE APPLYING FINISHES OR COVERINGS.

EXTERNAL DOORS AND WINDOWS SHALL BE DRAUGHTPROOFED PER BCA 13.4.4 USING A DURABLE, FIT-FOR-PURPOSE SEAL.

CAVITY SLIDER POCKETS SHALL BE SEALED BEFORE INSTALLATION, EITHER BY WRAPPING WITH VAPOUR PERMEABLE MEMBRANE, OR BY SCREWING PLASTER SECURELY TO THE FRAME AND APPLYING A SILICON BEAD.

CONDITIONED CLASS 1 AND UNCONDITIONED CLASS 10A SPACES SHALL BE SEPARATED BY INSULATION. ANY OPENINGS BETWEEN SUCH SPACES SHALL BE WEATHER-STRIPPED.

THE CLIENT RETAINS THE RIGHT TO IMPLEMENT A BLOWER DOOR TEST TO TEST FOR AIR TIGHTNESS PRIOR TO PAINTING. TARGET AIR PERMEABILITY IS NOT MORE THAN [INSERT] M 3 /HR.M 2 AT 50 PA.

WINDOW SIZES NOMINATED ARE NOMINAL. ACTUAL SIZE MAY VARY MINIMALLY ACCORDING TO MANUFACTURER; HOWEVER, OPENING STYLES, OVERALL SIZE, U-VALUE AND SHGC VALUES ARE INBUILT INTO THE ENERGY RATING AND MAY NOT BE ALTERED WITHOUT THE EXPRESS APPROVAL OF THE PROJECT'S ENERGY RATER.

GLAZED DOORS AND WINDOWS SHALL BE [INSERT] WIND RATED, DOUBLE-GLAZED, WEATHER-STRIPPED AND FLASHED ALL AROUND.

OPENABLE WINDOWS SHALL BE PROVIDED WITH FLYSCREENS.

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AC DESIGN & DRAFTING

alan@acdesigndrafting.com.au

PHONE: (03) 9770 9600

MOBILE: 0419 895 507

31 LEISURELAND DRV LANGWARRIN 3910

SIGNED BUILDER:

SIGNED OWNER:

ISSUE:- D DRAWN:- GS

B.P. No.:- DP-1316

DRG: AC-24317

DATE: 29/07/2024

SHEET No.: 2

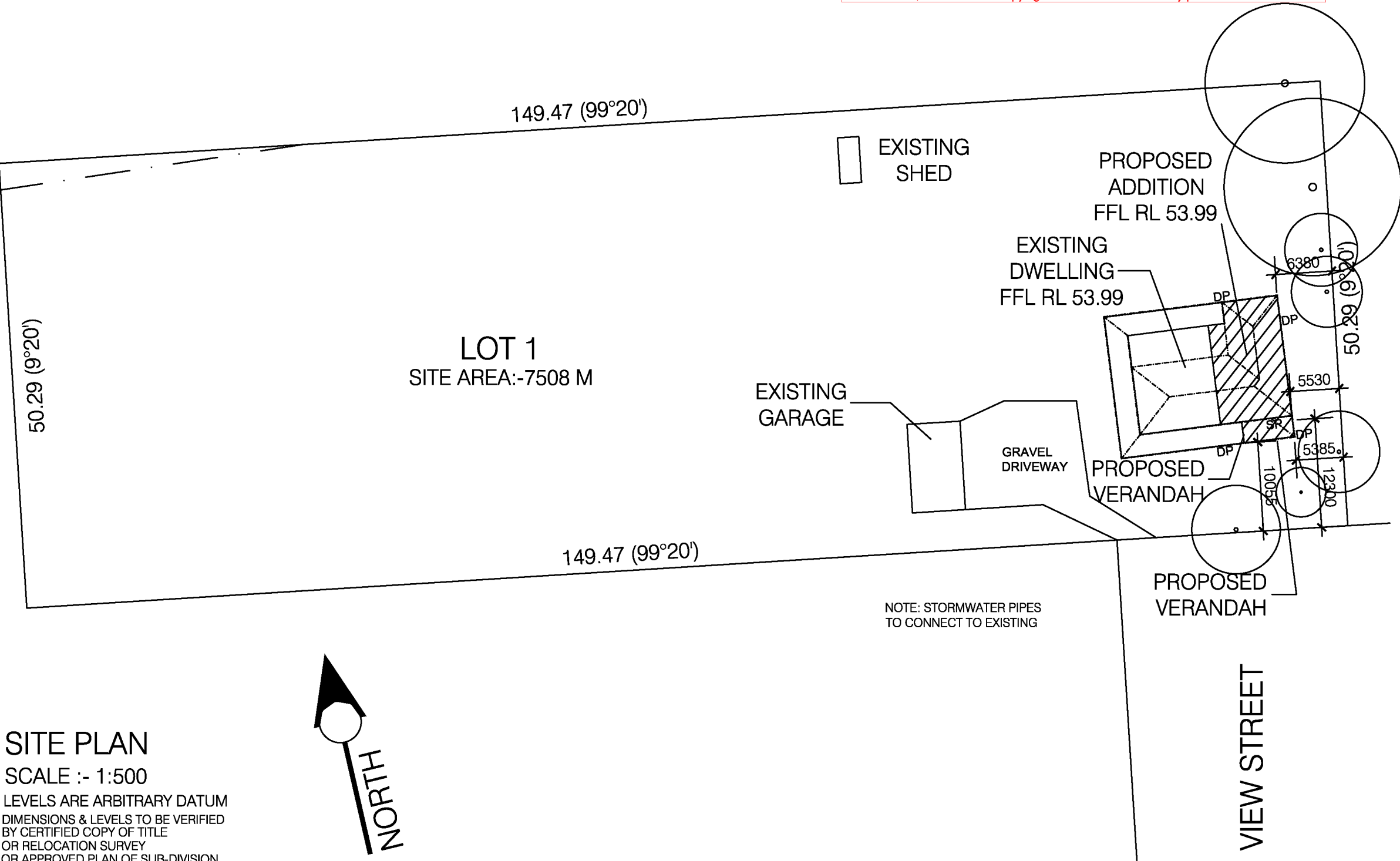
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CONSTRUCTION NOTES

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A5. RESCODE	
SITE COVERAGE STATISTICS	
SITE AREA	7508.0 M
EXISTING COVERAGE	296.4 M
PROPOSED ADDITIONS	77.94 M
PROPOSED VERANDAH	13.71 M
TOTAL SITE COVER	388.05 M
SITE COVER RATIO	5% (0.051)
DRIVE WAY (gravel)	220 M
OTHER PAVED AREAS	0.0 M
TOTAL HARD COVER	388.05 M
HARD COVER RATIO	05% (0.051)
TOTAL GARDEN AREA	6899.95 M
GARDEN RATIO	92% (0.919)
NOTE: 20 % TO BE PERMEABLE ie NOT COVERED	

NOTES
LEVELS TO AN ARBITRARY DATUM CONTOURS SHOWN AT 200mm INTERVALS
CONNECT ALL 100 x 50 G.I. DOWNPIPES TO 90mm DIA. UPVC S.W.D. SYSTEM AND DISCHARGE TO LEGAL POINT IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS. 1:80 MIN. FALL
INSPECTION OPENINGS TO BE PROVIDED AT CHANGES IN DIRECTION AND LENGTHS GREATER THAN 20.0 M
PROPOSED RESIDENCE FINISHED FLOOR LEVEL TO BE 150mm MIN. ABOVE FINISHED GROUND LEVELS REFER TO SITE PLAN
TOP OF CUT TO BE MIN. 600mm ADJACENT TO PROPERTY TITLE BOUNDARIES AND PROVIDE AGGY DRAIN TO BASE OF CUT. CONNECT AGGY DRAINS TO S.W.D. SYSTEM VIA SILT PITS.

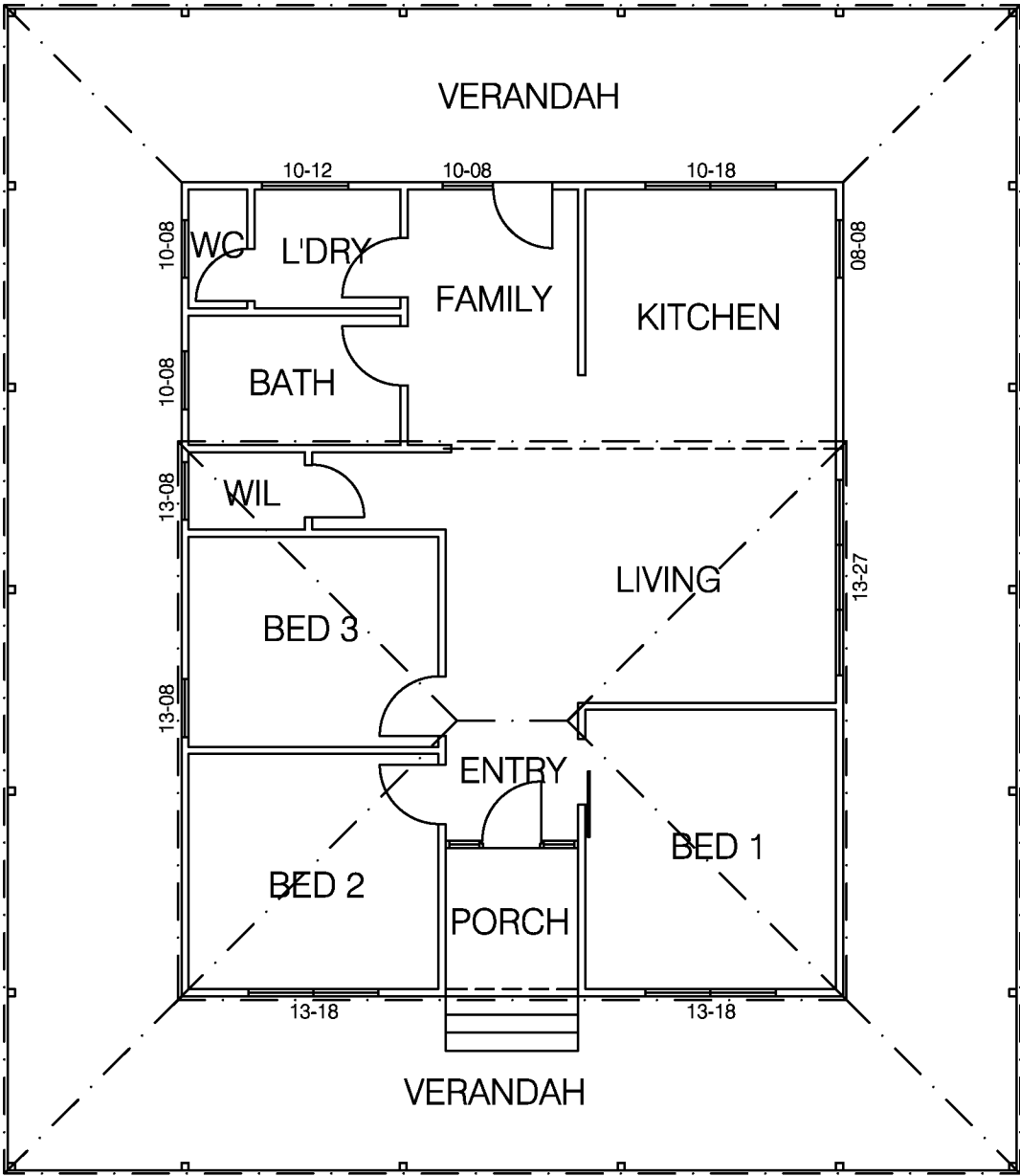
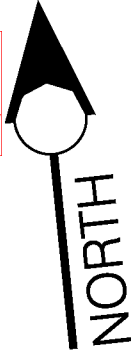


SITE PLAN
SCALE :- 1:500
LEVELS ARE ARBITRARY DATUM
DIMENSIONS & LEVELS TO BE VERIFIED
BY CERTIFIED COPY OF TITLE
OR RELOCATION SURVEY
OR APPROVED PLAN OF SUB-DIVISION

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	<u>AC DESIGN & DRAFTING</u> alan@acdesigndrafting.com.au PHONE: (03) 9770 9600 MOBILE: 0419 895 507 31 LEISURELAND DRV LANGWARRIN 3910	SIGNED BUILDER:	B.P. No.:- DP-1316		
			DRG: AC-24317		
			DATE: 29/07/2024		
			SHEET No.: 3		
	SIGNED OWNER:				

EXISTING HOUSE:-
EXTERNAL WALLS: WEATHERBOARD CLADDING TIMBER STUDS
INTERNAL WALLS: PLASTER LINED TIMBER STUDS
WINDOWS: ALUMINIUM SLIDING
ROOF: CORRUGATED IRON
SUB FLOOR: BEARERS & JOISTS

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FLOOR PLAN

SCALE :- 1:100

AREA STATISTICS

EXISTING DWELLING	99.12 SQM
EXISTING VERANDAH	124.70 SQM

AC DESIGN & DRAFTING

alan@acdesigndrafting.com.au
PHONE: (03) 9770 9600
MOBILE: 0419 895 507
31 LEISURELAND DRV LANGWARRIN 3910

SIGNED BUILDER:

SIGNED OWNER:

ISSUE:- D DRAWN:- GS

B.P. No.:- DP-1316

DRG: AC-24317

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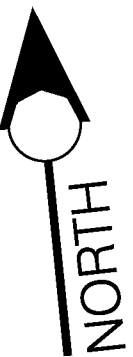
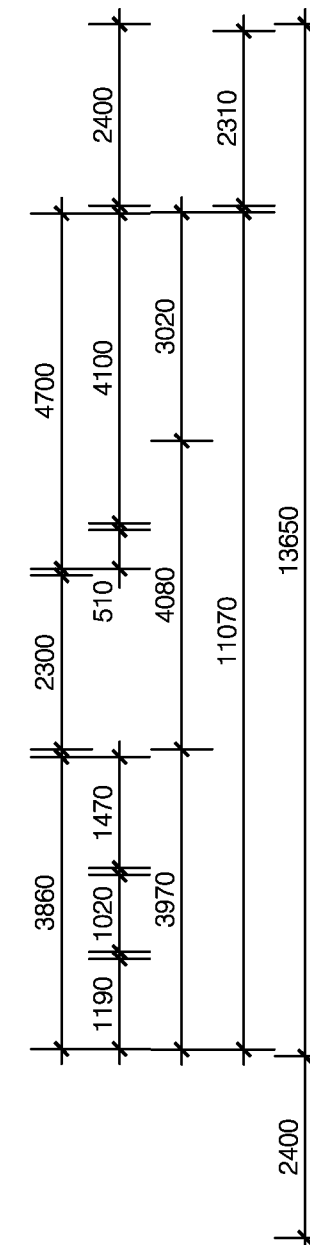
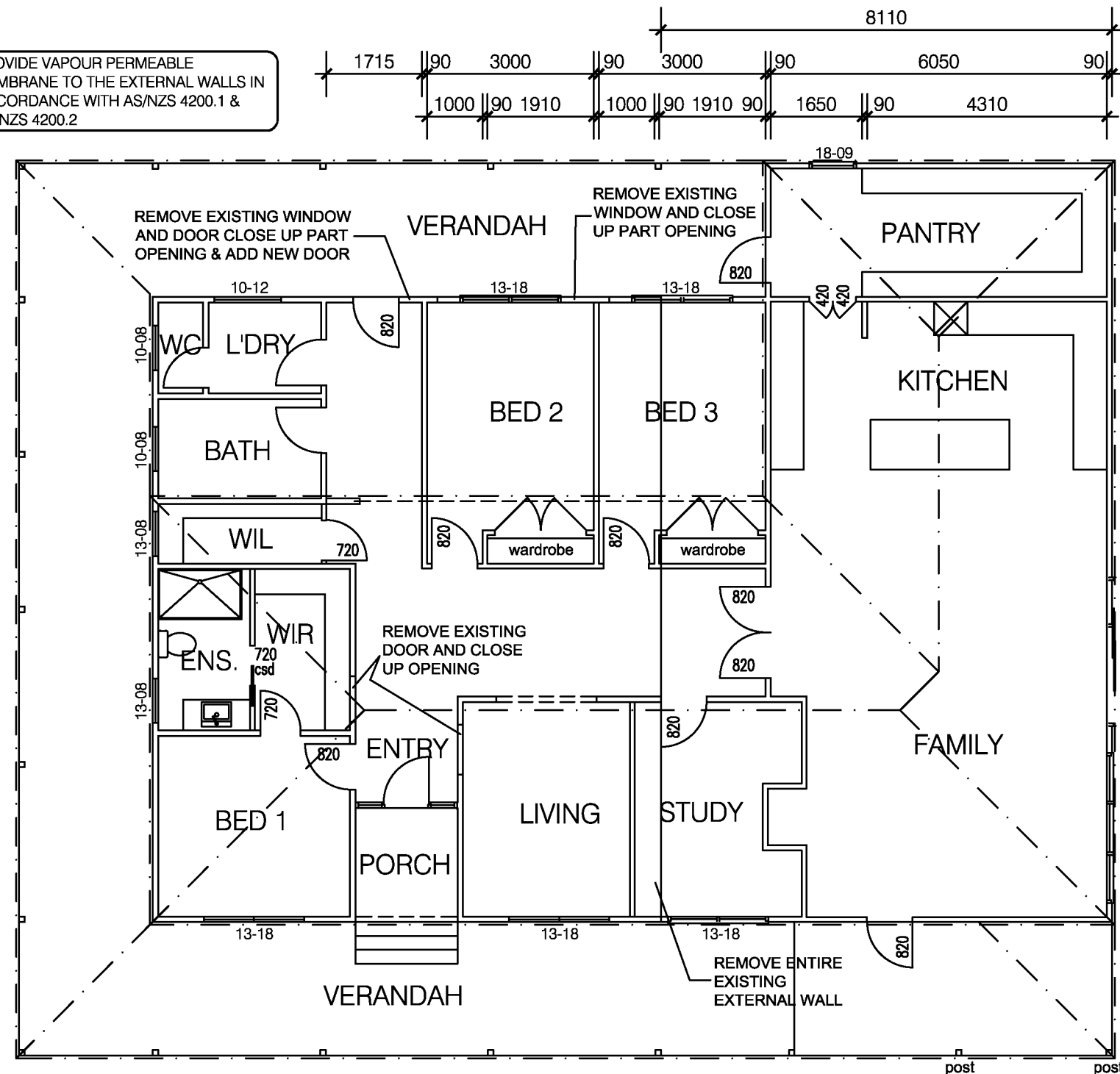
NOTE:- DIMENSIONS ARE APPROX.
ONLY. ALL DIMENSIONS TO BE CONFIRMED
ON SITE PRIOR TO CONSTRUCTION

PROVIDE VAPOUR PERMEABLE
MEMBRANE TO THE EXTERNAL WALLS IN
ACCORDANCE WITH AS/NZS 4200.1 &
AS/NZS 4200.2

TERMITE TREATMENT REQUIRED TO
AS3660.1-2014. BUILDER TO SUBMIT
CERTIFICATE OF COMPLIANCE AT FINAL
INSPECTION

ALL WINDOWS, DOORS & GLAZING SHALL
BE MANUFACTURED & INSTALLED IN
ACCORDANCE WITH AS2047 & AS 1288
GRADE A SAFETY GLAZING TO BE PROVIDED
FOR ALL KITCHEN, BATHROOMS & ENSUITES
WINDOWS & DOORS (INCLUDING CABINET
DOORS) WITHIN 2M OF THE FFL, BATH BASE
OR SHOWER BASE)

NOTE:- ALL EXPOSED TIMBERS TO BE H3
GRADE OR EQUIVALENT



FLOOR PLAN

SCALE :- 1:100

AREA STATISTICS

EXISTING DWELLING	99.12 SQM
EXISTING VERANDAH	124.70 SQM
CONVERT VERANDAH TO DWELLING	28.25 SQM
PROPOSED DWELLING	77.94 SQM
PROPOSED VERANDAH	13.71 SQM

NOTE:- 2100mm MIN HEAD HEIGHT
CLEARANCE TO UNDERSIDE OF BEAMS
FROM FINISHED SURFACE LEVEL

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AC DESIGN & DRAFTING

alan@acdesigndrafting.com.au

PHONE: (03) 9770 9600

MOBILE: 0419 895 507

31 LEISURELAND DRV LANGWARRIN 3910

SIGNED BUILDER:

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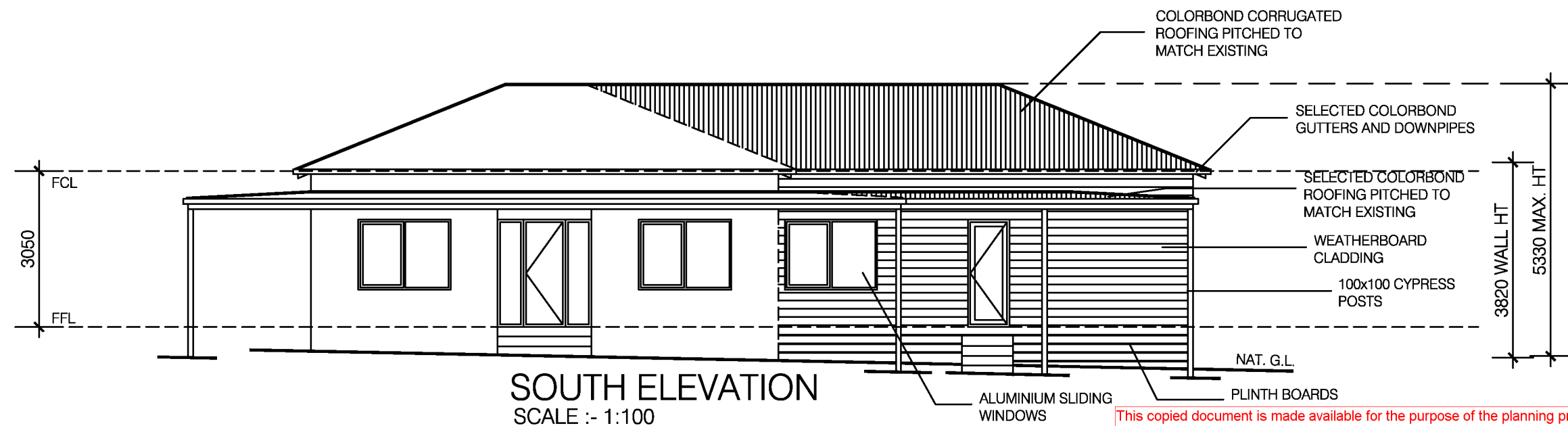
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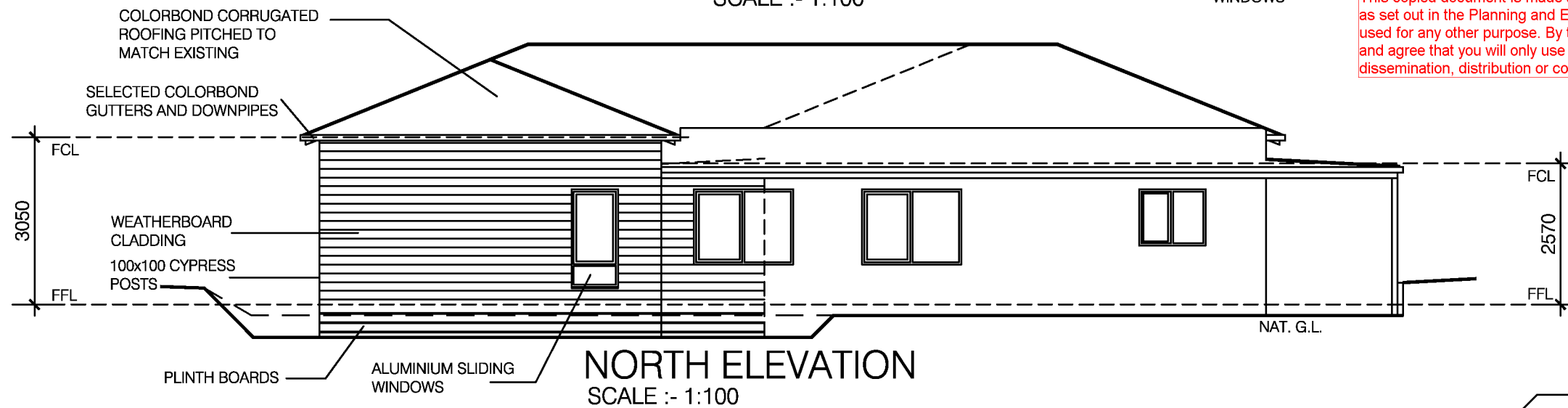
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COLOUR SCHEDULE: -

ROOF : COLORBOND - PALE EUCALYPT
WALLS : WEATHERBOARDS - PAINTED WHITE/GREY
GUTTERS : COLORBOND - PALE EUCALYPT
WINDOWS : ALUMINIUM DOVE WHITE



AC DESIGN & DRAFTING

alan@acdesigndrafting.com.au

PHONE: (03) 9770 9600

MOBILE: 0419 895 507

31 LEISURELAND DRV LANGWARRIN 3910

SIGNED BUILDER:

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SCALE :- 1:250

LEVELS ARE AUSTRALIAN HEIGHT DATUM
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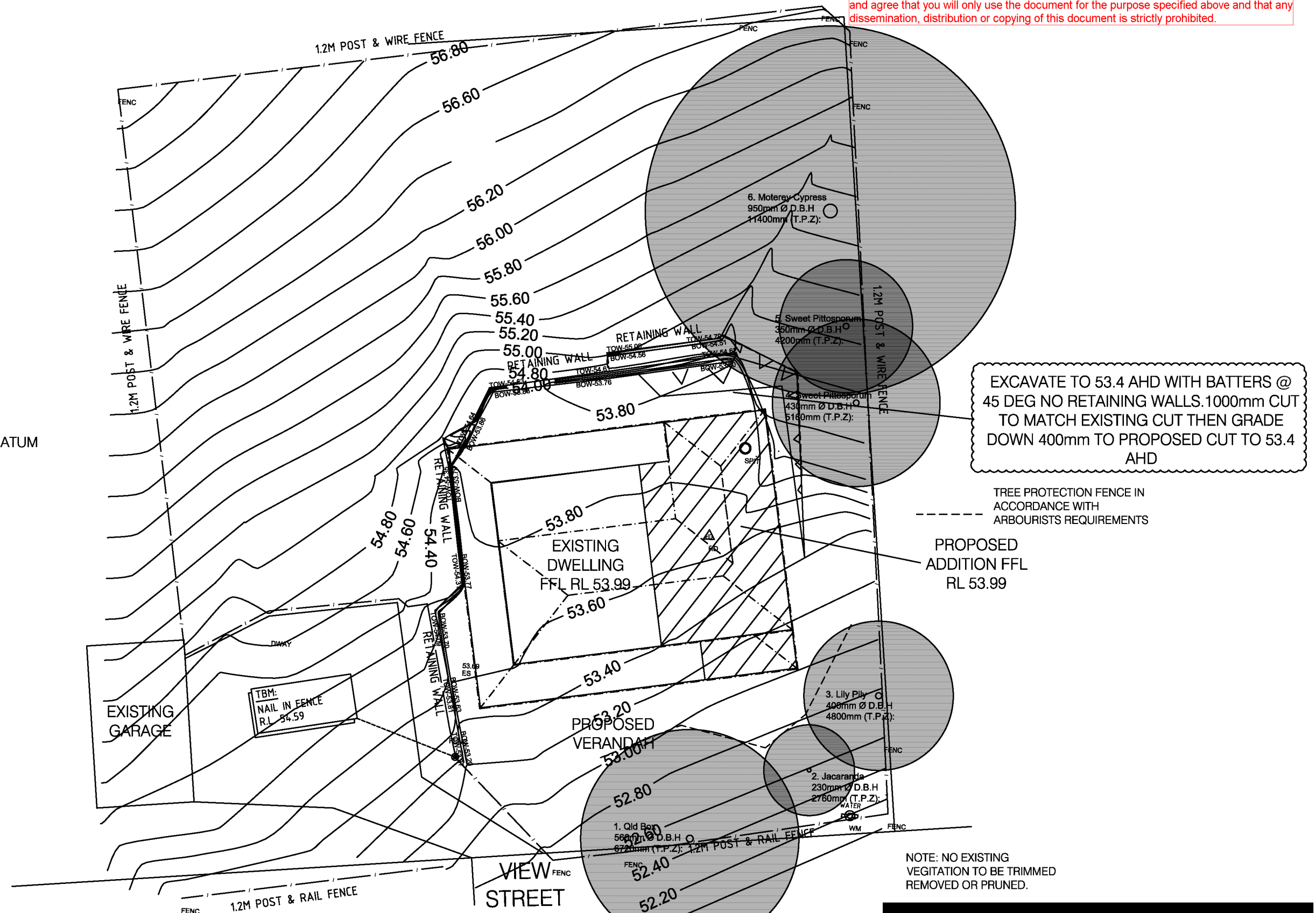
LEVELS TO AUSTRALIAN HEIGHT DATUM
CONTOURS SHOWN AT 200mm INTERVALS

CONNECT ALL 100 x 50 G.I. DOWNPIPES TO 90mm DIA. UPVC S.W.D. SYSTEM AND DISCHARGE TO LEGAL POINT IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS. 1:80 MIN. FALL

INSPECTION OPENINGS TO BE PROVIDED AT
CHANGES IN DIRECTION AND LENGTHS
GREATER THAN 20.0 M

PROPOSED RESIDENCE FINISHED FLOOR
LEVEL TO BE 150mm MIN. ABOVE FINISHED
GROUND LEVELS REFER TO SITE PLAN

TOP OF CUT TO BE MIN. 600mm ADJACENT
TO PROPERTY TITLE BOUNDARIES AND
PROVIDE AGGY DRAIN TO BASE OF CUT.
CONNECT AGGY DRAINS TO S.W.D. SYSTEM
VIA SILT PITS.



NOTE: NO EXISTING
VEGETATION TO BE TRIMMED
REMOVED OR PRUNED.

AC DESIGN & DRAFTING

alan@acdesigndrafting.com.au

PHONE: (03) 9770 9600

MOBILE: 0419 895 507

31 LEISURELAND DRV LANGWARRIN 3910

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Land Capability Assessment

25 View Street, Tynong



Report Number: 24320

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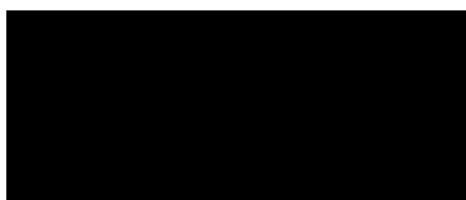
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Land Capability Assessment

25 View Street, Tynong

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Andrew Wong
BE (Civil) hon
Registered engineer 3574616
Registration of Professional Engineers (VIC) - PE0001410
Email: andrew@acgeotech.com – Phone 0422 097 205

For and on behalf of
A.C. Geotechnical Pty Ltd

ABN: 74 624 767 700
P.O Box 539
Beaconsfield Vic 3807

Accreditation	Land Capability Assessment for On-site Wastewater Management Certificate CET, 2015
Experience	10 years' experience in geotechnical engineering and environmental assessments, with a focus on wastewater management across all states of Australia.

Edition	Description	Date
001	First Edition	24/09/2024

1. SUMMARY:

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The following summary table should be read in conjunction with the entire report.

<u>Designs wastewater load</u>	3 Bedroom dwelling	600 L/day
<u>Soils characteristics</u>	<u>Horizon A</u>	<u>Horizon B</u>
Soil category	3b Loam	5b Light clay
Indicative permeability	0.5-1.5 m/d	0.06-0.12 m/d
<u>Critical site features</u>	<ul style="list-style-type: none"> • Low permeable clay soils. • High annual rainfall. • Small lot. 	
<u>Minimum treatment requirements</u>	Secondary	
<u>Disposal system</u>	<u>Suitability</u>	<u>Area required</u>
Absorption trenches	Not suitable	N/A
Wick trench (Secondary treated wastewater	Suitable	45 m (1.6 m wide trenches)
Subsurface irrigation	Suitable	350 m ²
ETA Beds	Suitable	70 m ²
Mound	Suitable	170 m ²
<u>Wastewater can be sustainably disposed to land</u>	Yes	

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2. INTRODUCTION:

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A.C. Geotechnical Pty Ltd (AC) have been engaged to undertake a Land Capability Assessment (LCA) for 25 View Street, Tynong.

The objectives of the assessment was to determine the following:

- Sub-surface ground profile and geological setting.
- The depth to groundwater (if encountered).
- The permeability of the soil profile.
- The capability of the site to sustainably manage wastewater within the allotment boundaries.
- A management program that should be put into place to minimise health and environmental impacts of on-site wastewater management, including the impact on surface water and groundwater.

2.1 Proposed Development:

It is proposed to extend the existing three bedroom dwelling and install a new septic system.

3. SITE DESCRIPTION:

3.1 Site Location:

The subject site is located on the west side of View Street, approximately 350 m north of Railway Avenue. The site is surrounded by similar size properties, the assumed land use of these properties is summarised in **Table 3.1**.

Table 3.1 -Surrounding land use

North	Low density residential
South	Low density residential
East	Low density residential
West	Low density residential

3.2 Site Topography and Condition:

The site contains a weatherboard clad dwelling and multiple outbuildings. The site has a gentle slope down to the south.

Vegetation on the site comprises open turf and scattered trees.

Site photographs are included in **Appendix B**.

3.3 Key Site Information:

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A summary of site characteristic and wastewater loading are included in **Table 3.3**.

Table 3.3 -Key site features

Site Address	25 View Street, Tynong
Owner/Applicant	MSP Plumbing & Drainage
Local Council	Cardinia
Zoning	Green Wedge (GWZ)
Total Land Area	Approximately 7,508 m ²
Domestic Water Supply	Reticulated/Tank
Design Wastewater Load (Litres/Day)	<u>EPA Guideline for onsite wastewater management, May 2024.</u> Household with full water reduction fixtures: 150 L / person / day. Persons = no. bedrooms + 1 (3 + 1 = 4 persons) Design wastewater load 4 x 150 = 600 L / day
Design Organic Material Load	<u>EPA Guideline for onsite wastewater management, May 2024.</u> 60 g per person per day (4 x 60) = 240 g/day
Availability of sewer	Sewer is not likely to become available to this area in the near future
Groundwater Quality	Groundwater is classified as Brackish (1000 - 3500 mg/L TDS) www.vvg.org.au
Water Table	Local registered bores in the area suggest the ground water is held approximately 50 m below the surface
Climate	Average annual rainfall 871.2 mm
Flood Potential	Outside a 1 in 100-year flood event
Water Catchment Area	N/A
Proximity to Waterways	None
Vegetation	Turf and scattered trees
Exposure	Generally open
Slope	Gentle slope down to the south
Landform	Hills
Erosion Potential	Negligible
Surface Drainage	Good
Rocks and Rock Outcrop	None

3.4 Site Geology:

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According to the Geological Survey of Victoria, the site is in an area of Devonian aged intrusion belonging to Tynong Granite. An extract from GeoVic 3 is included in **Figure 3.4**.

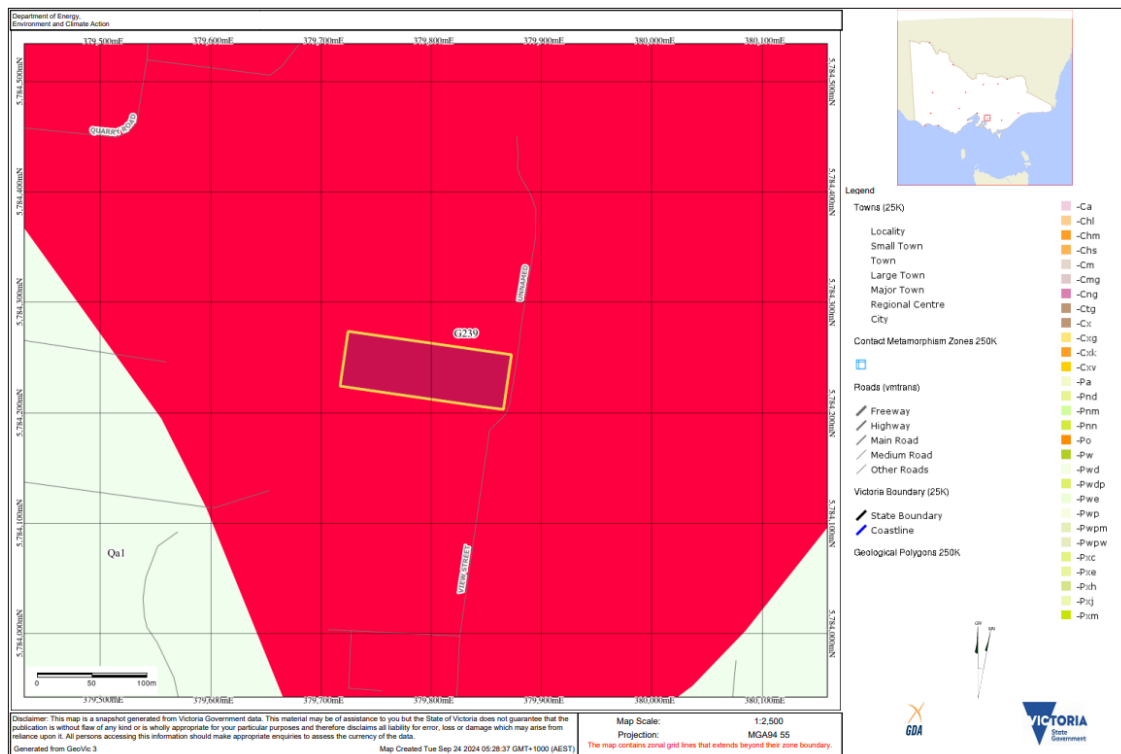


Figure 3.4 Extract of Geological from GeoVic 3

4. SOIL ASSESSMENT AND CONSTRAINTS:

4.1 Soil Profile:

The soil profile encountered during the investigation consisted of dark brown silty sand overlying brown, medium plasticity, clayey sand.

No groundwater was encountered during this investigation. No abnormal moisture conditions were identified through this assessment.

Borelogs are included in **Appendix C**.

4.2 Site Exposure:

A general assessment of the site exposure is as follows:

The site is exposed to the prevailing winds. The proposed effluent disposal area is generally exposed to sun and wind all year round.

4.3 Soil Assessment:

Laboratory analysis on each sample collected included the following:

- Texture Analysis using ribboning technique.
- Modified Emerson Analysis.
- Electrical Conductivity.
- pH analysis.

A summary of the analysis is included in **Table 4.3**.

Table 4.3 -Summary of soil assessment

BORE HOLE 1	SAMPLE DEPTH: 200mm	SAMPLE DEPTH: 600mm
<u>SOIL ASSESSMENT</u> <u>(AS1547-2012)</u>	<u>SOIL HORIZON: A</u>	<u>SOIL HORIZON: B</u>
Soil Colour	Dark brown	Brown
Soil Texture	Loam	Light clay
Coarse Fragments (%)	<10%	<10%
Soil Structure	Weak	Moderate
Soil Dispersion	Non-dispersive	Non-dispersive
Soil Permeability	0.5-1.5 mm/d	0.06-0.12 mm/d
Soil Category	3b	5b
pH 1:5 Ratio Electronic Method	6.32	6.52
Electrical Conductivity	0.050 dS/m	0.080 dS/m
Salinity Hazard	Non-saline	Non-saline

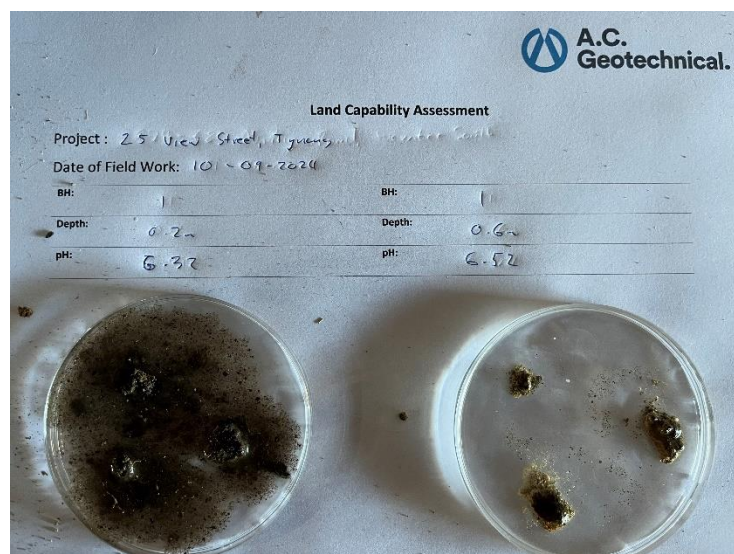


Figure 4.3 Laboratory Analysis

4.4 Field Assessed Permeability:

Insitu permeability testing with a constant head permeameter were undertaken in multiple locations across the site, see site plan for locations in **Attachment A**, in accordance with AS 1547-2012 using the constant-head test method. The field assessed permeability was calculated using the Talsma-Hallam constantly maintained head of water equation identified in AS 1547-2012.

$$K_{sat} = \frac{4.4 Q [0.5 \sinh^{-1}(H/2r) - \sqrt{\{(r/H)^2 + 0.25\}} + r/H]}{2\pi H^2}$$

Where:

K_{sat} = saturated hydraulic conductivity of the soil in cm/min.

4.4 = correction factor for a systematic under-estimate of soil permeability in the mathematical derivation of the equation.

Q = rate of loss of water from the reservoir in cm³/min.

H = depth of water in the test hole in cm.

r = radius of the test hole in cm.

A summary of permeability results are included in **Table 4.4**. Permeability Calculations are included in **Appendix D**.

Table 4.4 -Summary of insitu permeability

Constant Head Permeability	
Indicative permeability (K_{sat})	0.09 m/day

Note: The results in the table above are based on average readings taken from the test holes.

The corresponding K_{sat} value of 0.09 m/day in EPA Onsite Wastewater Management – Code of Practice Publication No. 891.4 July 2016 Appendix A Table 9 is category 5 (light clay soil).

4.5 Critical site Features:

The critical site features are:

- Low permeable clay soils.
- High annual rainfall.
- Small lot.

5. LAND CAPABILITY ASSESSMENT MATRIX:

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Table 5.1 and **Table 5.2** includes a Land Capability Assessment (LCA) matrix in accordance with EPA Publication 746.1. The LCA has been developed for the whole site however soils information relates to soils within the vicinity of the proposed Land Application Area (LAA).

Table 5.1 -Land capability assessment matrix - Site

Land Features	Land Capability Class Rating					Site Rating	Comments	Mitigation
	Very Good (1)	Good (2)	Fair (3)	Poor (4)	Very Poor (5)			
General Characteristics								
Site drainage	No visible signs of dampness	Moist soil but no standing water		Visible signs of dampness i.e. water tolerant plants	Water ponding on surface	1	No abnormal moisture conditions	N/A
Runoff	None	Low	Moderate	High	Very High	2	Low runoff potential	Minimum setback distances can be achieved
Flood / inundation potential (yearly return exceedance)	Never		< 1 in 100	>1 in 100 to < 1 in 20	> 1 in 20	1	No floor risk	N/A
Proximity to water courses	> 60 metres				< 60 metres	1	>60 m	N/A
Slope (%)	0 - 2	2 - 8	8 – 12	12 – 20	> 20	2	Gentle slope down to the south	N/A

Landslip	No potential for failure		Low potential for failure	High potential for failure	Present or Past Failure	1	No landslip potential	N/A
Groundwater table (m) seasonal watertable depth	>5.0	2.5 – 5.0	2.0 – 2.5	1.5 – 2.0	<1.5	1	Groundwater held at approximately 50 m below the surface	N/A
Rock Outcrops (% of land surface containing rocks >200mm)	0%	<10%	10-20%	20-50%	>50%	1	None	N/A
Erosion Potential	No erosion potential	Minor	Moderate	High	Severe erosion potential	1	Minor erosion potential	Maintain current level of surface cover where practical
Exposure	High sun and wind exposure		Moderate	Low sun and wind exposure		1	High exposure to sun and wind	N/A
Landform	Hill crests, convex side slopes and plains		Concave side slopes and foot slopes		Floodplains and incised channels	1	Hills	N/A
Vegetation Type (land application area)	Turf or pasture				Dense Forest	1	Turf	N/A
Fill	No Fill present		Fill Present			1	No fill encountered	N/A
Rainfall (mm/yr)²	<450	450 - 650	650 – 750	750 - 1000	>1000	4	Average annual rainfall of 871.2 mm	LAA size to be determined by water balance calculations
Pan evaporation (mm/yr)³	>1500	1250 - 1500	1000 – 1250	-	<1000	3	Annual evaporation of 1071.4 mm	LAA size to be determined by water balance calculations

Table 5.2 -Land capability assessment matrix - Soils

Soil Profile Characteristics								
Profile depth	>2.0m	1.5–2.0m	-	1.0–1.5m	<1.0m	1	Deep soil profile	N/A
Shrinkage* (%)	Low <4%	Moderate 4-12%	High 12-20%	Very High >20%		2	Medium plasticity clayey sand	N/A
Permeability* (m/d)	0.15–0.30	0.08–0.15 0.30-0.60	0.06-0.08 0.60-1.50	- 1.50-2.00	<0.06 >2.00	2	Light clay	LAA size to be determined by water balance calculations
Soil Permeability Category ¹	2 and 3	4		5	1 and 6	4	Light clay	LAA size to be determined by water balance calculations
Coarse fragments* (%)	<10	10-20	20-40		>40	1	<10%	N/A
Emerson Test* (dispersion / slaking)	4,6,8	5	7	2,3	1	1	Non-dispersive	N/A
Electrical Conductivity (Ece) (dS/m)	<0.3	0.3-0.8	0.8-2.0	2.0-4.0	>4.0	1	Non-saline	N/A
pH	6-8		4.5-6		<4.5, >8	1	Neutral soils	N/A

¹ Source: AS1547-2012

² Source BOM station – Longwarry (085208)

³ Source BOM station – Cerberus (086361) 2019

* Relevant to soil layer(s) associated with wastewater application

6. MANAGEMENT PROGRAM:

The onsite wastewater system design and management program must suit the capability of the site and will consider the proposed development. The following sections discuss the inputs used to assess the suitability and requirements of EPA approved land based systems. Detailed design for the system is beyond the scope of this assessment.

Septic systems with a valid EPA certificate can be found on the EPA website:

<https://www.epa.vic.gov.au/for-community/environmental-information/water/about-wastewater/onsite-wastewater-systems>

6.1 Treatment System:

Based on site conditions and constraints outlined in the previous sections, secondary treatment of effluent is considered necessary for sustainable management of wastewater.

Untreated domestic wastewater typically has values of 200-300mg/L biochemical oxygen demand (BOD5) and 200-300mg/L total suspended solids (TSS). Indicative target effluent quality for secondary treatment systems are < 20mg/L BOD5, < 30mg/L TSS and <10cfu/100mL E.Coli.

The two most common options capable of achieving the desired performance are, aerated wastewater treatment systems (AWTS) and single pass sand filters. A summary of these systems is outlined below.

6.1.1 Aerated Wastewater Treatment System (AWTS):

AWTS are pre-fabricated or pre-engineered treatment systems designed to treat small wastewater flows. They are tank-based systems that typically employ the following processes:

- Settling of solids and flotation of scum in an anaerobic primary chamber.
- Oxidation and consumption of organic matter through aerobic biological processes.
- Clarification – secondary settling of solids; and
- Disinfection prior to disposal.

Good maintenance of AWTS (e.g. removal of sludge) is essential to ensure a consistently high level of performance. By law, AWTS are required to be serviced quarterly by an approved maintenance contractor.

6.1.2 Sand Filters:

Sand filters provide advanced secondary treatment to water that has already undergone primary treatment in a septic tank or similar device. They contain approximately 600mm depth of filter media (usually medium to coarse sand, but other media can be incorporated) within a lined excavation containing an underdrain system. Selection of the filter media is critical, and a carefully designed distribution network is necessary. A dosing well and pump is normally used to allow periodic dosing. Depending on the desired level of treatment, sand filters can be single pass or may incorporate partial recirculation.

6.2 Treatment System Location:

Based on requirements of EPA 891.4, above-ground and in-ground treatment systems must comply with the same setback distances to building footings and boundary fences as land application systems.

6.2.1 Septic Tank Sizing:

The minimum septic tank size should be 3,000 L.

6.3 Land Application:

A range of possible land application systems have been considered, such as absorption trenches/beds, evapotranspiration/absorption (ETA) beds, mound systems and sub-surface irrigation. AS1547:2012 outlines factors affecting the construction and operation of common land application systems and a guide to selecting a system taking into consideration site features, subsurface soil conditions and identified constraints. The suitability of EPA approved land based systems are discussed in **Table 6.3**.

Table 6.3 Land Application System

Land Application	Description	Site Suitability
Absorption Trenches	Trenches are the most common type of land application system and are generally used on lots which are reasonably flat and where water soaks into the soil readily in all weather conditions. Commonly, distribution pipes, self-supporting arch trenching or box trenching are laid in trenches filled with aggregate/rock. Effluent then soaks into the surrounding soil.	Not considered suitable, due to low permeable clays, small lot size and high annual rainfall.
ETA Beds	Beds are shallower forms of trenches. Because beds have smaller sidewall area compared with trenches, the absorption provided by sidewall loading is reduced. This is compensated for by reducing the design loading rate.	Suitable
Wick trench	Wick trenches consists of an absorption trench with an adjoining shallow wicking bed. This system promotes high evaporation and transpiration by having a larger surface area than other trench / bed systems.	Suitable
Mound System	A mound system permits the absorption area to be sited in a location where the natural water table or impermeable rock approaches the ground surface. The mound is filled with medium-grade sand to provide suitable filtering before intercepting the natural soils. A pump/siphon dosing system distributes effluent uniformly through a bed of aggregate placed at the top of the mound. The sand media in the mound system acts as a secondary treatment system, removing the need for a separate sand filter or AWTS	Suitable
Sub-surface Irrigation	Subsurface drip irrigation requires secondary treated effluent dosing lines buried in the topsoil at shallow depth. Irrigation systems operate by both soil absorption and evapotranspiration from plants/trees	Suitable

6.3.1 Disposal systems:

Water balance modelling has been undertaken to calculate the minimum size of the LAA. The water balance takes into account the average annual rainfall, evaporation data, the daily effluent load, the design irrigation/loading rates for secondary treated effluent, the seasonal crop factor and the retained rainfall. The water balance model is designed so that the land application area is based upon a depth of saturated soil (i.e. water stored within indicative soil porosity) that meets the upper limits of acceptance for each land application method. The water balance must ensure that the soil can sustain growth during the summer months. The design system parameters used for the water balance calculations are summarised in **Table 6.3.1**.

Table 6.3.1 Design System Parameter

Treatment system	Application System	DIR / DLR	Runoff coefficient	Maximum storage depth
Primary treatment	Absorption trenches		<u>Not suitable</u>	
	Wick trench		<u>Not suitable</u>	
Secondary treatment	ETA Beds	10	25%	0 mm
	Wick trench	10	-	-
	Mound System	8	25%	0 mm
	Sub-surface irrigation	3	25%	0 mm

6.4 Land Application Outputs:

Minimum Land Application Area (LAA) sizing for each application method was calculated using water balance calculations. LAA sizing calculations are included in **Appendix D**. The minimum required disposal area for each system is summarised in **Table 6.4**.

Table 6.4 Required Land Application Area (LAA)

Dwelling Size	3 Bedroom Dwelling
Wastewater output	600 L / day
Disposal System	Minimum LAA required
Wick trench (Secondary treated wastewater)	45 m (1.6 m wide trenches)
Subsurface irrigation	350 m ²
ETA Beds	70 m ²
Mound	170 m ²

6.5 Preferred System:

The preferred system for this site included a secondary treatment of all wastewater through an AWTS or similar with disposal via subsurface irrigation.

6.6 Designated Area:

The Land Application Area (LAA) shall be located in a designated area to enhance evapotranspiration and shall:

- Not be used for purposes that compromise the effectiveness of the system or access for maintenance.
- Be used only for effluent application.
- Have boundaries clearly delineated by appropriate vegetation or other type of border.
- Have no run-off seepage or effluent beyond the designated area.

The site plan in **Appendix A** presents several potential areas suitable for LAA placement as well as setback areas from site features which must be maintained. Please note that the final LAA placement is the responsibility of the owner and should be included in a detailed design providing the minimum LAA and setback distances are maintained.

The required LAA will be smaller than that marked on the site plan. An appropriately sized LAA, as discussed in **Section 6.4**, must be located entirely within the area nominated on the site plan.

Setback distances for secondary treated wastewater disposal are included in **Section 6.6.1**.

6.6.1 Setback Distances:

The minimum setback distances for secondary treated wastewater are summarised in **Table 6.6.1**. The proposed LAA must adhere to these minimum setback distances.

Table 6.6.1 Minimum Setback Distances

Landscape feature or structure	Setback distance (m) (secondary treated wastewater)
<u>Building</u>	
Wastewater field up-slope of building	3
Wastewater field down-slope of building	1.5
Wastewater field up-slope of cutting/escarpment	15
<u>Allotment boundary</u>	
Wastewater field up-slope of Allotment boundary	3
Wastewater field down-slope of Allotment boundary	1.5
<u>Services</u>	
Water supply pipe	1.5
Wastewater field up-slope of potable supply channel	150
Wastewater field down-slope of potable supply channel	10
Gas supply pipe	1.5
In-ground water tank	7.5
Stormwater drain	3
<u>Recreational areas</u>	
Children's grassed playground	3
In-ground swimming pool	3
<u>Surface water – up-slope of</u>	
Waterway, non-potable creeks, dams, channels	30
<u>Groundwater bores</u>	
Category 2b to 6 soils	20

6.7 Monitoring, Operation and Maintenance:

The septic tank should be de-sludged every 3 years; however, this frequency may vary depending on the following conditions.

- whether the tank is an adequate size for the daily wastewater flow
- the composition of the household and personal care products
- the amount of organic matter, fat, oil and grease washed down the sinks
- the use of harsh chemicals such as degreasers
- overuse of disinfectants and bleaches
- the use of antibiotics and other drugs, especially dialysis and chemotherapy drugs
- whether any plastic or other non-organic items are flushed into the tank.

After pump-out, tanks must not be washed out or disinfected. They should be refilled with water to reduce odours and ensure stability of plumbing fixtures. A small residue of sludge will always remain and will assist in the immediate re-establishment of bacterial action in the tank.

To ensure the treatment systems function adequately, residents must:

- Use soapy water (made from natural unscented soap), vinegar and water or bi-carbonate of soda and water to clean toilets and other water fixtures and fittings.
- Read labels to learn which bathroom and laundry products are suitable for septic tanks. Generally plain, noncoloured, unscented and unbleached products will contribute to a well-functioning septic tank.
- Use detergents with low levels of salts (e.g. liquid detergents), sodium absorption ratio, phosphorus and chlorine (see www.lanfaxlabs.com.au).
- Wipe oils and fats off plates and saucepans with a paper towel and dispose of in the kitchen compost bin.
- Use a sink strainer to restrict food scraps entering the septic system.
- Ensure no structures such as pavements, driveways, patios, sheds or playgrounds are constructed over the tank or absorption trench area.
- Ensure the absorption trench area is not disturbed by vehicles or machinery.
- Engage a service technician to check the sludge and scum levels, pumps and alarms annually.
- Keep a record of the location of the tank and the trenches and all maintenance reports (including the dates of tank pump-outs, tank inspections and access openings) and ensure the service technician sends a copy of the maintenance report to the local Council.
- Have the tank desludged when the combined depth of the scum and sludge is equal to the depth of the middle-clarified layer.

Indications of failing septic tanks and soil absorption trenches

- Seepage along effluent absorption trench lines in the soil.
- Lush green growth down-slope of the soil absorption trench lines.
- Lush green growth down-slope of the septic tank.
- Inspection pits and/or the soil absorption trenches consistently exhibiting high water levels.
- Soil absorption trench lines become waterlogged after storms.

- General waterlogging around the land disposal area.
- Presence of dead and dying vegetation (often native vegetation) around and down-slope of the land disposal areas.
- A noxious odour near the tank and the land disposal area.
- Blocked water fixtures inside the house, with sewage overflowing from the relief point.
- High sludge levels within the primary tank (within about 150 mm of inlet pipe).
- Flow obstructed and not able to pass the baffle in the tank.
- The scum layer blocking the effluent outflow.

6.7.1 Storm Water Management:

All stormwater must be disposed of to the legal point of discharge.

Note: An agricultural drain (AG) must be installed on the high side of the wastewater envelope. The drain is to be installed a minimum of 100mm into the naturally occurring clay soils and allow sufficient fall to intercept and drain all overland and subsurface run-off to a legal point of discharge. If a legal point of discharge cannot be obtained, the drainage line may discharge directly to the surface soils, a minimum distance of 10 metres beyond the wastewater disposal area.

7. CONCLUSIONS:

From this investigation it is concluded that the use of an on-site wastewater treatment and disposal system is environmentally sustainable if the recommendations made in this report are followed.

8. REFERENCES:

- Environmental Protection Authority – Guideline for onsite wastewater management, May 2024,
- Municipal Association Victoria (MAV) January 2014, Model Land Capability Assessment Framework
- Australian/New Zealand Standard AS/NZS 1547-2012 – On-site domestic wastewater management.
- A.C. Geotechnical Pty Ltd - Field and Laboratory data (where applicable) collected and recorded.
- Environmental Protection Authority - “Code of Practice - Septic Tanks”, March 1996” ~ Publication 451.
- Environmental Protection Authority, Information Bulletin- “Land Capability Assessment for onsite Domestic Wastewater Management”, March 2003 ~ Publication 746.1.



Notes

1. LAA must be setback a minimum of 1.5 from the north boundary and 3.0 m from the southern boundary.
2. LAA area must be setback a minimum of 1.5 m from the low side and 3.0 m from the high side of the dwelling.
3. Minimum setback distances are outlined in **Section 6.6.1**.
4. The actual disposal system will be significantly small than the LAA indicated.
5. The disposal system must be located entirely within the indicated LAA.

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Appendix B

Site Photographs



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Appendix C

Borelog



Borehole Record BH01

Project Number	24320	Date	24/09/2024
Project	Land Capability Assessment	Drilling Method	HA
Location	25 View Street, Tynong	Logged	AC
Depth (m)	Description		
0.00	Silty SAND (SW): Dark brown, fine to coarse grain, well graded, loose, moist.		
			Disturbed sample - 0.2 m
0.40	Clayey SAND (SW): Medium plasticity, brown, medium dense, moist.		
			Disturbed sample - 0.6 m
2.00	Borehole terminated - target depth achieved		

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Appendix D

Constant Head Calculations & Water Balance

INSITU CONSTANT HEAD PERMEABILITY



Project Address:	25 View Street			Project Number:	24320
Location:	Tynong			Date:	10/09/2024
Client:	MSP Plumbing & Drainage				
INPUT DATA					
Borehole			Reservoir		
Borehole diameter	100 cm		Diameter	97 mm	
Borehole Depth	500 cm		Base area	295.4426 mm2	
Water level from surface	250 cm				
Depth of water in hole	250 cm				
FIELD DATA					
	Test 1	Test 2	Test 3	Test 4	
Time intervals (min)	Water depth in reservoir				
Initial Depth	200	200	200	200	
5					
10					
15					
20	196	195	191	192	Average
Q (cm2/min)	5.908852	7.386065	13.294917	11.817704	9.6018845
Ksat (cm/min)	0.003797667	0.004747083	0.00854475	0.007595333	0.006171208
Ksat (m/d)	0.054686399	0.068357999	0.123044398	0.109372798	0.088865399

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ABSORPTION TRENCH SIZE CALCULATIONS



A.C.
Geotechnical.

Project Address:	25 View Street	Project Number:	24320
Location:	Tynong	Date:	10/09/2024
Client:	MSP Plumbing & Drainage		
INPUT DATA			
Daily flow allowance (per person)	150 L		
Daily wastewater volume	600 L		
Effluent quality	Primary		
Soil texture	Light clay		
Soil structure	Moderate		
Soil category	5b		
Indicative Permeability	0.06-0.12 Ksat		
Design Loading Rate	0 mm/d		
ABSORPTION TRENCHES			
$L = Q / (DLR \times W)$			
Where:			
L = length of trench			
Q = Design daily flow in L/day			
DLR = Design Loading rate in mm/d			
W = width of trench in m			
Width of trench	0.6 m	Width of trench	1 m
Length =	#DIV/0! m	Length =	#DIV/0!

WICK TRENCH SIZE CALCULATIONS



A.C.
Geotechnical.

(Secondary treated Wastewater)

Project Address:	25 View Street	Project Number:	24320
Location:	Tynong	Date:	10/09/2024
Client:	MSP Plumbing & Drainage		
INPUT DATA			
Daily flow allowance (per person)	150 L		
Daily wastewater volume	600 L		
Effluent quality	Secondary		
Soil texture	Light clay		
Soil structure	Moderate		
Soil category	5b		
Indicative Permeability	0.06-0.12 Ksat		
Design Loading Rate	10 mm/d		
Factor of Safety	1.2		
ABSORPTION TRENCHES			
$L = Q / (DLR \times (W/F))$			
Where:			
L = length of trench			
Q = Design daily flow in L/day			
DLR = Design Loading rate in mm/d			
W = width of trench in m			
F = Factor of safety			
Width of trench	1.6 m	Width of trench	2.5 m
Length =	45 m	Length =	28.8



**A.C.
Geotechnical.**

NUTRIENT BALANCE



Project Address:	25 View Street	Project Number:	24320
Location:	Tynong	Date:	10/09/2024
Client:	MSP Plumbing & Drainage		
Nitrogeb Balance -Nitrogen			
Hydraulic Loading	600	l/day	
Effluent N concentration	25	mg/l	
Daily N loading	15000	mg/day	
Annual N loading	5475000	mg/year	
Denitrification loss	20	%	
Denitrification loss	4380000	mg/year	
Total annual N loading	4.38	kg/year	
Plant uptake	220	kg/ha/year	
Minimum area for uptake	199	m2	

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Appendix E

Property Reports

CONSTRUCTIVE ARBORICULTURE

TREE MANAGEMENT AND CONSULTANCY

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ARBORIST REPORT

**Pre-Development Vegetation Impact Assessment
25 View Street
Tynong, VIC 3813**

Prepared for

Second2None Constructions

February 2025

Prepared by



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This information paper is provided to Second2None Constructions on a confidential basis and is provided to the recipient strictly on the understanding that its contents will be kept confidential and will not be disclosed to any other party without Constructive Arboriculture giving prior permission in writing. In accepting the proposal, the recipient acknowledges that Constructive Arboriculture will suffer consequential loss or damage if the confidential information is disclosed whether directly or indirectly or used in any way by the recipient without the consent of Constructive Arboriculture.

This report paper contains recommendations made by Constructive Arboriculture, which are in relation to only those trees provided within this report.

Due to the nature of trees and the practical limitations in accurately assessing the limitations and structural integrity of all parts of a tree it is not possible to make a completely accurate assessment of the condition of a tree. The recommendations in this report are based on visual assessments and external indicators and there is also some degree of subjectivity. This report is intended to be used as a tool to assist the management of trees located within and surrounding the site. It should be noted that any tree near any structure or property or person(s) poses a risk.

To this extent, Constructive Arboriculture gives no warranty as to the reliability or accuracy of the information nor accepts any responsibility arising in any other way (including by reason of negligence) for errors or omissions herein nor accepts liability for any loss or damage suffered by any person or any other persons placing any reliance on, acting on the basis of, the contents hereof. No party shall be entitled to raise any claim or suit of action on the basis of the contents of this report.

Introduction

1.1 Brief

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The purpose of this report is to provide an assessment of significant trees located at and surrounding areas of proposed construction at 25 View Street, Tynong.

This report has been prepared by Constructive Arboriculture at the request of Second2None Constructions and is based on the following instructions:

1. To inspect and document significant trees within and surrounding the proposed area of construction.
2. To provide an objective appraisal of the trees regarding their health, structural stability and suitability for retention.
3. To provide methods of protection for trees, where necessary, in the event of their retention.
4. To provide a list of native and indigenous vegetation to assist with selecting species for proposed landscape plan.

2 Overview

The construction, consisting of additions/extension to the existing dwelling, is proposed at 25 View Street, Tynong.

A total of six (6) trees were assessed for the purpose of this report, all are located within the site. No Council or neighbouring vegetation is present within the vicinity of proposed areas of construction.

Tree protection measures have been provided for the trees assessed, where necessary, in the event that they are retained.

Plans provided demonstrate that all trees assessed can be retained without detriment. However, two trees (#4-S & #5-S) due to their environmental weed status, have been recommended for removal and that suitable replacement planting be provided. The subject trees are exempt of permit requirements (Local Law and ESO1) and can be removed without discretion, regardless of the progression of construction.

3 Vegetation survey

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3.1 Site visit: Adam Hamilton of Constructive Arboriculture inspected the site on Wednesday the 5th February 2025.

3.2 Methodology

- Each individually assessed tree has been allocated a unique number followed by an alphabetical reference which identifies ownership and responsibility. S = Tree within site boundaries, N = Tree on neighbouring property, C = Council tree.
- All trees are assessed by visual observations made from ground level only and limited to accessible components without dissection, excavation or probing. Height and canopy spreads are estimated.
- Trunk Diameter at Breast Height (DBH) is measured in metres at 1.4m above ground level; multi-stemmed trees are measured immediately above the root flare.
- Methodology of determining Health, Structure, Age, Retention Suitability and SULE has been provided as an appendix (*Appendix 2*).
- Photographs have been taken and are stored on file. They can be viewed upon request.

3.3 Tree Survey Schedule: The following table is a summary of the data collected for the trees individually assessed.

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Tree no.	Botanical name Common Name	Height (m)	Canopy spread (m)	DBH (m)	CAB (m)	Health	Structure	Age	Origin	Retention Suitability	SULE	Comments	Arborist's Recommendation
1-S	<i>Lophostemon confertus</i> QLD Box	12	9 x 7	0.56	1.9	Fair	Below average	Mature	Native	Medium	<20	<p>This tree is located in the front set-back of the site close to the southern boundary.</p> <p>The tree is of fair health with below average structure.</p> <p>The tree is causing minor displacement to the boundary fence line.</p> <p>The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained.</p> <p>The tree's TPZ (6.72m) is not impacted by the construction proposal.</p>	Tree management considerations have been provided for this tree in the Tree Protection Schedule (section 4.3) in the event of its retention.
2-S	<i>Jacaranda mimosifolia</i> Jacaranda	4	3 x 2	0.23 (0.14 0.18)	0.9	Poor	Poor	Semi mature	Exotic	Low	<5	<p>This small tree is located in the front set-back of the site towards the southern boundary.</p> <p>The tree is of poor health and structure and possesses limited retention viability.</p> <p>The tree has died-back considerably, its canopy has been lopped in part.</p> <p>The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained.</p> <p>The tree's TPZ (2.76m) is not impacted by the construction proposal.</p>	Tree management considerations have been provided for this tree in the Tree Protection Schedule (section 4.3) in the event of its retention.
3-S	<i>Acmena smithii</i> Lilly Pilly	8	6 x 5	0.4 (0.17 0.19 0.22 0.22)	2.0	Below average	Poor	Mature	Native	Low	<15	<p>This tree is located in the front set-back of the site close to the eastern boundary.</p> <p>The tree is of below average health with poor structure.</p> <p>The tree has died-back in part, its canopy has been lopped in part.</p> <p>The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained.</p> <p>The tree's TPZ (4.8m) is not impacted by the construction proposal.</p>	Tree management considerations have been provided for this tree in the Tree Protection Schedule (section 4.3) in the event of its retention.

Tree no.	Botanical name Common Name	Height (m)	Canopy spread (m)	DBH (m)	CAB (m)	Health	Structure	Age	Origin	Retention Suitability	SULE	Comments	Arborist's Recommendation
4-S	<i>Pittosporum undulatum</i> Sweet Pittosporum	7	8	0.43 (0.13 0.16 0.16 0.17 0.2 0.22)	1.9	Fair	Fair	Mature	Native	Low	Ex	<p>This small tree is located in the front set-back of the site close to the eastern boundary.</p> <p>The tree is of fair health and structure but is not considered suitable for retention.</p> <p>Due to its invasive habit, the tree's removal and suitable replacement would be considered prudent regardless of the progression of construction.</p> <p><i>Pittosporum undulatum</i> is not a highly regarded species and is often considered an invasive weed. Its removal is encouraged by many municipalities including the Cardinia Council (ESO1 – weed exemption).</p> <p>The construction proposal (site-cut), located at its closest point approximately 3.5m from the base of the tree, will encroach upon approximately 7% of the tree's TPZ (5.16m); an encroachment not considered significant (<10% AS 4970-2009).</p> <p>The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained.</p>	<p>Removal recommended.</p> <p>Tree management considerations have been provided for this tree in the Tree Protection Schedule (section 4.3) in the event of its retention.</p> <p>No permit requirement prior to removal.</p>
5-S	<i>Pittosporum undulatum</i> Sweet Pittosporum	7	7 x 6	0.35 (0.16 0.16 0.26)	1.7	Fair	Below average	Mature	Native	Low	Ex	<p>This small tree is located in the front set-back of the site close to the eastern boundary.</p> <p>The tree is of fair health with below average structure but is not considered suitable for retention.</p> <p>Due to its invasive habit, the tree's removal and suitable replacement would be considered prudent regardless of the progression of construction.</p> <p><i>Pittosporum undulatum</i> is not a highly regarded species and is often considered an invasive weed. Its removal is encouraged by many municipalities including the Cardinia Council (ESO1 – weed exemption).</p> <p>The construction proposal (site-cut), located at its closest point approximately 3.5m from the base of the tree, will encroach upon approximately 1% of the tree's TPZ (5.16m); an encroachment not considered significant (<10% AS 4970-2009).</p> <p>The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained.</p>	<p>Removal recommended.</p> <p>Tree management considerations have been provided for this tree in the Tree Protection Schedule (section 4.3) in the event of its retention.</p> <p>No permit requirement prior to removal.</p>

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Tree no.	Botanical name Common Name	Height (m)	Canopy spread (m)	DBH (m)	CAB (m)	Health	Structure	Age	Origin	Retention Suitability	SULE	Comments	Arborist's Recommendation
6-S	<i>Cupressus macrocarpa</i> Monterey Cypress	20	16	0.95	4.8	Below average	Below average	Mature	Exotic	Medium	<20	<p>This large tree is located in the front set-back of the site close to the eastern boundary.</p> <p>The tree is of below average health and structure.</p> <p>The tree's canopy is unbalanced. The eastern aspect of the tree has been hedged to provide clearance of adjacent powerlines. The western aspect of the tree's canopy remains unpruned and has suffered recent storm damage. Several failed branches are suspended within the tree's canopy.</p> <p>Minor flagging of the tree's canopy indicates the presence of Cypress Canker.</p> <p>The construction proposal (site-cut), located at its closest point approximately 9.5m from the base of the tree, will encroach upon approximately 1% of the tree's TPZ (11.4m); an encroachment not considered significant (<10% AS 4970-2009).</p> <p>The tree is suitably distanced from areas of proposed construction and will not be adversely impacted upon in the event that it is retained.</p>	Tree management considerations have been provided for this tree in the Tree Protection Schedule (section 4.3) in the event of its retention.

CAB=Circumference At Base; DBH=Diameter at Breast Height; SULE=Safe Useful Life Expectancy; Est=Estimated

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4 Vegetation protection survey

4.1 Overview

The survey includes trees assessed and provide tree protection measures, where necessary, in the event of their retention.

4.2 Protection zone determination

4.2.1 Structural Root Zone (SRZ): The SRZ is the critical area around a tree's trunk required for tree stability. The measurement is given in metres as a radius from the centre of a tree's trunk and is calculated with reference to the Australian Standard – Protection of trees on development sites AS 4970-2009.

4.2.2 Tree Protection Zone (TPZ): The Tree Protection Zone (TPZ) is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. The measurement is given in metres as a radius from the centre of a tree's stem at ground level and is calculated with reference to the Australian Standard – Protection of trees on development sites AS 4970-2009.

4.3 Tree Protection Zone Schedule:

Tree no.	Botanical name Common Name	Single or Multi-stemmed	Species Tolerance	Diameter Above Root Flare (m)	Structural Root Zone radius AS4970-2009 (m)	DBH (m)	Tree Protection Zone AS4970-2009 (m)	Arborist's recommended placement of TPZs	Comments and recommendations
1-S	<i>Lophostemon confertus</i> QLD Box	S	Good	0.6	2.67	0.56	6.72	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the site.	TPZ protection fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction.
2-S	<i>Jacaranda mimosifolia</i> Jacaranda	M	Moderate	0.27	1.91	0.23 (0.14 0.18)	2.76	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the site.	TPZ protection fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction.
3-S	<i>Acmena smithii</i> Lilly Pilly	M	Good	0.6	2.67	0.4 (0.17 0.19 0.22 0.22)	4.8	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the site.	TPZ protection fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction.

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Tree no.	Botanical name Common Name	Single or Multi-stemmed	Species Tolerance	Diameter Above Root Flare (m)	Structural Root Zone radius AS4970-2009 (m)	DBH (m)	Tree Protection Zone AS4970-2009 (m)	Arborist's recommended placement of TPZs	Comments and recommendations
4-S	<i>Pittosporum undulatum</i> Sweet Pittosporum	M	Good	0.6	2.67	0.43 (0.13 0.16 0.17 0.2 0.22)	5.16	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the site and modify to the edge of the construction proposal (site-cut).	TPZ protection fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction. Due to the weed status of this tree, its removal and suitable replacement is strongly recommended. Permit prior to its removal is not required.
5-S	<i>Pittosporum undulatum</i> Sweet Pittosporum	M	Good	0.5	2.47	0.35 (0.16 0.16 0.26)	4.2	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the site and modify to the edge of the construction proposal (site-cut).	TPZ protection fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction. Due to the weed status of this tree, its removal and suitable replacement is strongly recommended. Permit prior to its removal is not required.
6-S	<i>Cupressus macrocarpa</i> Monterey Cypress	S	Moderate	1.4	3.81	0.95	11.4	Establish tree protection fencing at the edge of the tree's defined TPZ that extends within the site and modify to the edge of the construction proposal (site-cut).	TPZ protection fencing must be established prior to the commencement of demolition and construction and must be maintained until the completion of construction. Pruning of the tree's canopy is required to rectify recent storm damage.

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4.4 Recommendations for methods of construction within TPZs

Proposed foundations (if encroaching upon greater than 10%) within the defined TPZs must consist of pier and beam construction or other root sensitive construction methods, such as suspended slab or bridged footings. Floor levels are to be elevated on piers to allow for oxygenation of the soil profile. Strip footings are to be avoided within a tree's defined TPZ.

Piers and/or supports must be selectively placed with consideration for any significant tree roots that may be present within the soil profile. Minor excavation by hand to 0.5m deep should be undertaken at the points of pier placements to determine if any significant roots are present. Roots greater than 40mm in diameter are deemed significant. If such roots are encountered the positioning of the foundations supports must be altered to provide at least 0.3m of clearance from the roots. An arborist is to be present when any excavation is undertaken within the TPZs, or if any tree roots are uncovered. Any root pruning must be undertaken by a qualified and experienced arborist.

Below-grade construction should not be undertaken within the defined SRZs of trees to be retained and must not encroach upon more than 10% of a tree's TPZ unless pre-existing site conditions negate the spread of a tree's root system.

Any underground services must be diverted around the trees' TPZs where possible, suspended from the undercarriage of the construction or laid beneath the root profile by method of directional boring.

Internal paths and driveways must be constructed above grade where located within a tree's defined TPZ, and must consist of permeable materials of a pH neutral composition.

5 Tree Protection Plan

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5.1 Site meeting: It is recommended that a pre development site meeting takes place for the purpose of tree protection awareness, which should be attended by the following people:

- Arboricultural Consultant
- Clients (Developers) Site Manager/Foreman
- Clients Architect and Landscape Architect
- Local Authority Tree Officer
- Local Authority Planning Officer

5.2 Establishment of Tree Protection Zones (TPZs):

5.2.1 The protective fencing barriers must be established prior to any site clearance, soil grading or demolition work taking place and before the following:

- Contractor's site occupancy
- Plant and materials delivery
- Demolition of any existing structures
- Construction phase of works
- Utility services installation
- Recommended tree removal and pruning

5.2.2 The area within the TPZs is to be regarded of high importance and tree protection fencing shall not be taken down or relocated at any time without the prior documented approval of the arboricultural consultant or local authority arborist, unless this has already been agreed as part of the planning application consent process and is documented. A layer of organic mulch 10 – 15cm thick should be spread over tree protection zones.

5.2.3 The fencing shall comprise of interlocked wire mesh panels, well braced by attachment to a scaffolding framework by means of wires or scaffold clamps. It should have top and bottom horizontal bars, with uprights set into the ground or concrete supports at no greater interval than 3m spacing. For larger lengths of tree protection fencing angled bars should be located behind the fencing to act as braces and should be firmly clamped to the top rail and set into the ground, braced as necessary; these shall be spaced at intervals no greater than 6m. All-weather notices should be erected on tree protection fencing with words such as **“Tree Protection Zone Keep Out”**.

5.2.4 Inside the TPZs which are defined by the line of protective fencing, the following should NOT occur:

- Mechanical digging or grading
- Storage of plant equipment and materials
- Vehicular or plant access
- Fire lighting or burning off (should be maintained at more than 20m from any canopy edge)
- Refuelling of machinery, discharge or spillage of any chemical substance
- Construction of hard surfaces

5.2.5 In accordance with water restrictions supplementary watering should be provided to the trees through any dry periods during and after the construction process on a weekly basis when required.

5.2.6 Consideration should be given for appropriate cultural operations. These may include irrigation, or measures to enhance the soil structure and organic nitrogen levels. This should be made the responsibility of landscape contractors and supervised by a qualified horticulturalist.

6 Post development vegetation management

6.1 Existing trees

6.1.1 Trees growing on a site before development takes place may, if adversely affected, be in decline over a period of several years before they die. This varies greatly depending on the age, species and condition of individual tree, soil conditions, climate and the extent of damage incurred during construction. A program of inspections and necessary work for the treatment of symptoms as they develop should be undertaken in conjunction with an arborist. This program may include recommendations for frequency of inspection and beneficial tree work.

Appendix 2 – Tree photographs.







Tree

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Appendix 3 - Tree Descriptor

AGE

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Category

Description

Young	Juvenile or recently planted approximately 1-7 years.
Semi Mature	Tree actively growing.
Mature	Tree has reached expected size in situation.
Senescent	Tree is over mature and has started to decline.

HEALTH

Category

Description

Excellent	Foliage of tree is entire, with good colour, no sign of pathogens and of good density. Growth indicators are excellent ie. Extension growth of twigs and wound wood development. No canopy die back (deadwood) is evident.
Fair /Good	Foliage of tree is entire, with good colour, very little sign of pathogens and of good density. Growth indicators are good ie. Extension growth of twigs and wound wood development. Minimal die back (deadwood).
Below average	Tree is showing one or more of the following symptoms; < 25% dead wood, minor canopy die back, foliage generally with good colour though some imperfections may be present. Minor pathogen damage present, with growth indicators such as leaf size, canopy density and twig extension growth typical for the species in this location.
Poor	Tree is showing one or more of the following symptoms of tree decline; > 25% deadwood, canopy die back is observable, discoloured or distorted leaves. Pathogens present, stress symptoms are observable as reduced leaf size, extension growth and canopy density.
Dead or dying	Tree is in severe decline; > 55% deadwood, very little foliage, possibly epicormic shoots, minimal extension growth.

STRUCTURE

<u>Category</u>	<u>Description</u>
Good	Trunk and scaffold branches show good taper and attachment with minor or no structural defects. Tree is a good example of the species with a well-developed form showing no obvious root problems or pests and diseases.
Fair	Tree shows some minor structural defects or minor damage to trunk eg. bark missing. There could be cavities present and/or minimal damage to structural roots. Tree could be seen as typical for this species.
Below average	Tree shows many minor or several moderate structural defects, or damage to trunk eg. bark missing, heartwood exposed and newly established decay present, there could be cavities present and/or moderate damage to structural roots.
Poor	There are major structural defects, damage to trunk or bark missing. Co-dominant stems could be present or poor structure with likely points of failure. Girdling or damaged to major roots obvious. Tree is structurally problematic.
Hazardous	Tree is an immediate hazard with potential to fail, this should be rectified as soon as possible.

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RETENTION SUITABILITY

Significance is rated into three levels; **LOW**, **MEDIUM** and **HIGH**.

LOW	The tree is recommended for removal.
MEDIUM	The tree may be retained if it does not hamper the design intent.
HIGH	The tree must be retained and the design must accommodate its long term retention.

SAFE USEFUL LIFE EXPECTANCY - SULE.

LONG SULE: Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

1. Structurally sound trees located in positions that can accommodate future growth.
2. Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
3. Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

MEDIUM SULE: Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

1. Trees that may only live between 15 and 40 years.
2. Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
3. Trees that may live for more than 40 years but would be removed during the course of normal management for safety and nuisance reasons.
4. Storm damage or defective trees that can be made suitable for retention in the medium term by remedial work.

SHORT SULE: Trees that appear to be retainable with an acceptable level of risk for 5 to 15 years.

1. Trees that may live for 5 to 15 years.
2. Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
3. Trees that may live for more than 15 years but would be removed during the course of normal management for safety and nuisance reasons.
4. Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

EXCEEDED: Trees with a high level of risk that would need removal within the next 5 years.

1. Dead trees.
2. Dying or suppressed and declining trees through disease or inhospitable conditions.
3. Dangerous trees through instability or recent loss of adjacent trees.
4. Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
5. Damaged trees that are considered unsafe to retain.
6. Trees that will become dangerous after removal of other trees for the above reasons.
7. Invasive or environmental weed species.

Appendix 4 – Native and Indigenous species list

<u>Common Name</u>	<u>Scientific name</u>
<i>Acacia melanoxylon</i>	Blackwood
<i>Allocasuarina littoralis</i>	Black She-oak
<i>Allocasuarina verticillata</i>	Drooping She-oak
<i>Banksia marginata</i>	Silver Banksia
<i>Eucalyptus viminalis</i>	Manna Gum
<i>Eucalyptus pryoriana</i>	Coastal Manna Gum
<i>Eucalyptus ovata</i>	Swamp Gum
<i>Eucalyptus radiata</i>	Narrow-leaved Peppermint
<i>Eucalyptus cephalocarpa</i>	Silver-leaf Stringybark
<i>Eucalyptus pauciflora</i>	Snow Gum
<i>Indigofera australis</i>	Austral Indigo
<i>Daviesia latifolia</i>	Bitter-Pea Hop
<i>Bossiaea cineria</i>	Showy Bossiaea
<i>Kunzea ericoides</i>	Burgan
<i>Bursaria spinosa</i>	Sweet Bursaria
<i>Correa reflexa</i>	Common Correa
<i>Correa alba</i>	White Correa
<i>Leucophyta brownii</i>	Cushion Bush
<i>Platyloium obtusangulum</i>	Common Flat Pea
<i>Viminaria juncea</i>	Golden Spray
<i>Hibbertia prostrata</i>	Bundled Guinea-flower
<i>Hibbertia stricta</i>	Erect Guinea-flower
<i>Epacris impressa</i>	Common Heath
<i>Allocasuarina pusilla</i>	Dwarf She-oak
<i>Leptospermum myrsinoides</i>	Silky Tea-tree

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Appendix 5 – Common Terms

Canopy: The part of the crown composed of leaves and small twigs.

Central leader: The main stem or bole of the tree.

Co-dominant: Equal in size and relative importance, usually associated with either trunks or scaffold branches in the crown.

Crown: The leaves and branches of a tree measured from the lowest branch on the trunk to the top of the tree.

Decay: Process of degradation of wood tissue by fungi and bacteria through the decomposition of cellulose and lignin.

Diameter at Breast Height (DBH): The DBH of a tree is measured at 1.5m above ground level or in the case of multi-stemmed trees, measured at ground level or above a root flare if present. This measurement assists with establishing Tree Protection Zones (TPZs) for vegetation to be retained.

Dieback: Progressive death of twigs and small branches, generally from tip to base.

Drip line: The width of the crown, as measured by the lateral extent of the foliage.

Epicormic growth: Branch development that arises from latent or adventitious buds that occur on stems and branches and as suckers produced at the base of the tree.

Grading: Altering natural terrain and elevation of land, usually through the action of large equipment.

Included Bark: Pattern of development at branch junction where bark is turned inward rather than pushed out.

SULE: Safe Useful Life Expectancy.

TPZ: Tree Protection Zone

References

1. Tree Protection Zone. The Australian Standard AS 4970-2009 – *Protection of trees on construction sites*.
2. R. W. Harris, J. R. Clark & N. P. Matheny., (2004) *Arboriculture – Integrated Management of Landscape Trees, Shrubs and Vines*.
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4. Botanica's Pocket (1999) *Trees and Shrubs*.

End of report