



HUON VALLEY COUNCIL

40 Main Street, Huonville
PO Box 210, Huonville 7109
03 6264 0300
hvc@huonvalley.tas.gov.au
huonvalley.tas.gov.au
ABN 77 602 207 026

18 December 2023

Our Ref: 17/82
Enquiries to: Rong Zheng

Mr J Ramsay
Delegate (Chair)
Tasmanian Planning Commission
GPO Box 1691
HOBART TAS 7001

Email: tpc@planning.tas.gov.au

Dear Mr Ramsay

**RE: DRAFT HUON VALLEY LOCAL PROVISION SCHEDULE (LPS) – LPS-HUO-TPS –
DIRECTION 15**

I write in response to the Commission's directions issued on 9 August 2023.

Direction 15 requested the following information:

In relation to Submission 12 (land at 2438 Huon Highway, Huonville, folio of the Register 64394/4), the provision of any recently issued planning permit for use and/or development at 2438 Huon Highway, Huonville.

Response

The permit for Single dwelling and two outbuildings was issued on 16 June 2023 for land at 2438 Huon Highway, Huonville (FR 64394/4). Please find attached Planning Permit.

If you would like to discuss this matter further, please do not hesitate to contact Rong Zheng direct on 6264 9467.

Kind Regards

RONG ZHENG
PROJECT MANAGER – STRATEGIC LAND USE



HUON VALLEY COUNCIL

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PO Box 210, Huonville 7109
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ph: (03) 6264 0300
ABN: 77 602 207 026

Ms C S Pettit
PO Box 330
HUONVILLE TAS 7109

Our Ref: DA-9/2023
PID: 3108834
Enquiries To: Planning

23 June 2023

Dear Ms Pettit

**PROPOSED DEVELOPMENT/USE – SINGLE DWELLING AND TWO OUTBUILDINGS AT
2438 HUON HIGHWAY, HUONVILLE (CT-64394/4)**

Your Planning Application for the above proposal has now been approved. The planning permit with the conditions under which the approval was granted is attached together with the endorsed documents that form part of the approved permit documentation.

The planning permit relates to the approved use and development on the land irrespective of the applicant. Whoever acts on this permit must comply with all relevant permit conditions. *Therefore, please read the permit carefully to ensure that all conditions are complied with.*

Works must not commence until a building, plumbing or demolition permit has been issued under the Building Act 2016 where these permits are required. Therefore, please ensure that for building and plumbing work to be carried out, a building and plumbing application is lodged with Council and a permit is issued for those works before building or plumbing work commences. If necessary, an application for demolition work is also to be lodged with Council and approved before demolition work commences.

Please also ensure all conditions of this permit that require completion before those applications are lodged are completed prior to their lodgement or as otherwise required by the permit.

If you are not satisfied with the conditions of the permit, you have a right to appeal the Planning Authority's decision. Appeals must be lodged with the Tasmanian Civil and Administrative Tribunal within 14 days of the date of this letter and be accompanied by the fee for lodgement of the appeal. For further information, please refer to the Tasmanian Civil and Administrative Tribunal website, www.tascat.tas.gov.au.

If you have concerns regarding the decision or any of the permit conditions please do not hesitate to contact Council's Planning Officer, Ying Liu on (03) 6264 0300 or forward an email to hvc@huonvalley.tas.gov.au.

Yours sincerely

KATHRYN TUCKER
SENIOR PLANNING OFFICER
Enc



PLANNING PERMIT

Applicant:	Ms C S Pettit
Permit number:	DA-9/2023
Application date:	18 January 2023
Approval date:	16 June 2023
Permit for:	Single dwelling and two outbuildings
Site:	2438 Huon Highway, Huonville (CT-64394/4)
Property ID:	3108834
Planning Scheme:	Huon Valley Interim Planning Scheme 2015

Approval is granted in accordance with Section 57 of the *Land Use Planning and Approvals Act 1993* subject to the following conditions:

Conditions

1. Except as otherwise required by this Permit, use and development of the land must be substantially in accordance with Development Application No. DA-9/2023 and the following documentation:
Council Plan Reference No P1 submitted on 19 January 2023, including:
 - Architectural Plans (floor plan and elevation drawings) prepared by Paal Homes and dated 9 January 2023;
 - Architectural Plans (small shed, page 1 to 4) prepared by Shed Corp;Council Plan Reference No P2 submitted on 21 March 2023, including:
 - Agricultural Assessment Report prepared by Complete Agricultural Consulting Services and dated March 2023;
 - Architectural Plans (shed, page 1 to 4) prepared by Shed Corp;
 - Whole Farm Management Plan prepared by Complete Agricultural Consulting Services and dated March 2023;Council Plan Reference No P3 submitted on 19 May 2023, including:
 - Hydraulic Design Report (reference number FE-HOB-23007-040) prepared by Flussig Engineers and dated 4 May 2023; and
 - Stormwater Assessment Report prepared by Geo-Environmental Solutions and dated April 2023.All endorsed to form part of this planning permit.
2. This Permit relates to the use of land or buildings irrespective of the applicant or subsequent occupants, and whoever acts on it must comply with all conditions in this Permit. Any amendment, variation or extension of this Permit requires further planning consent of Council.
3. Prior to the commencement of any works, and prior to lodgement of a building or plumbing application under the *Building Act 2016*, a revised site plan must be submitted for approval to the satisfaction of the Director Infrastructure, Climate and Environment Services. The revised

plan must be drawn to scale with dimensions and must increase building setback of the dwelling and outbuildings from each boundary to 40 metres or greater.

When approved, the revised plans will be endorsed and will then form part of the permit.

4. Prior to the commencement of site works and prior to lodgement of a building or plumbing application under the *Building Act 2016*, a Soil and Water Management Plan to minimise soil and erosion runoff must be submitted to Council for approval. The plan must be in accordance with NRM South Soil and Water Management of Construction Sites – Guidelines and Tasmanian Standard Drawings (TSD-SW28). The plan must be maintained to the satisfaction of the Director Governance Strategy and Sustainable Development during construction work.

A site inspection by Council is to be arranged by the landowner of the implemented plan prior to the commencement of any work on site if required by Council.

5. The stormwater runoff from all roofed areas must be collected and contained within the property in accordance with all relevant legislation and approved plans. Any soakage trench must be in accordance with the endorsed Hydraulic Design Report in Condition 1, or any approved alternative design, and located a suitable distance from boundaries. All works in relation to the discharge of stormwater must be completed to the satisfaction and approved by the Director Infrastructure, Climate and Environmental Services.

Stormwater must not be discharged on or under a State Road, Crown Land or on adjoining land unless all necessary consents are obtained and easements are created.

6. Prior to the lodgement of a building or plumbing application under the *Building Act 2016*, the access to the property must be constructed in accordance with the requirements of the Department of State Growth (DSG) and the Tasmanian Municipal Standard Drawings (Typical rural access) and be sealed between the state road and the property boundary as required by the DSG.

A Permit to carry out works within the Department of State Growth's Road reservation must be obtained prior to any works commencing within the road reservation in accordance with Section 16 of the *Roads and Jetties Act 1935*.

7. Engineering design drawings must be submitted to Council for approval prior to the issue of a Building Permit or Plumbing Permit. Plans must be to the satisfaction of the Director Infrastructure, Climate and Environment Services, and be in accordance with the following:

- for the driveway/access to the property from Huon Highway to the development site area on the property, be in accordance with the standard requirements of the Department of State Growth and the Tasmanian Standard drawings;
 - (a) The applicant is to provide details on the type of heavy vehicles that are expected to attend the business and how regularly this is expected to occur.
 - (b) A design must be submitted demonstrating that the access must accommodate the swept path of the heavy vehicles such that a vehicle turning left out of the property onto the Huon highway does not need to cross the centreline into the southbound lane.
 - (c) The access must be constructed in accordance with the Department approved plans and sealed at minimum the length of the proposed heavy vehicle from the state road.
 - (d) If it is considered that heavy vehicle access is not required, the access must be sealed to the property boundary or 10m from the state road, whichever is greater. The sealing distance should be noted on the proposed access drawing.
- for stormwater discharge and detention for the development show:

- (a) details of all proposed stormwater drainage infrastructure and any scour protection measures;
- (b) how all stormwater discharged from all new impervious development areas (including roofed areas and tank overflows) will be retained within the property boundaries; and
- (c) that all stormwater runoff from all new impervious development areas (including roofed areas and tank overflows) will be no greater than pre-existing stormwater runoff from that area of the property, or if it will be, that the stormwater can be accommodated within existing or upgraded stormwater drainage infrastructure on the property.

8. Prior to the commencement of any works, a detailed Landscape Plan must be prepared by a qualified landscape architect or suitably qualified person and submitted for the approval of the Director Governance Strategy and Sustainable Development.

The Landscape Plan must be drawn to scale with dimensions and must:

- show landscaping vegetation to be established in the area between the Dwelling and Outbuildings and the Huon Highway frontage, for the entire length of the Dwelling and Outbuildings; and
- show suitable screening vegetation and quantity of plants to be used as screening.

The landowner is to implement the plan and ensure the trees and plants in the approved Landscape Plan are maintained in a healthy condition for the duration of the residential use and development on the property.

9. The residential use (dwelling) is required to support the agricultural use of the property at all times in accordance with the planning scheme unless a planning scheme no longer requires this.

10. Development and works must be undertaken in accordance with the endorsed Farm Management Plan in Condition 1 and Site Plan in Condition 3.

The paddock fence layout set out in the plan for the property is to be established prior to the commencement of the construction of the dwelling, unless otherwise approved by the Director Infrastructure, Climate and Environment Services.

11. Prior to the commencement of any works, a revised elevation drawing must be submitted for approval to the satisfaction of Council's Manager Development Services. The revised drawing must be drawn to scale with dimensions and show the exterior building surfaces of new buildings must be coloured such that the surfaces have a light reflectance value not greater than 40 percent.

When approved, the revised plans will be endorsed and will then form part of the permit.

The Director Infrastructure, Climate and Environmental Services may consent in writing to vary the requirements.

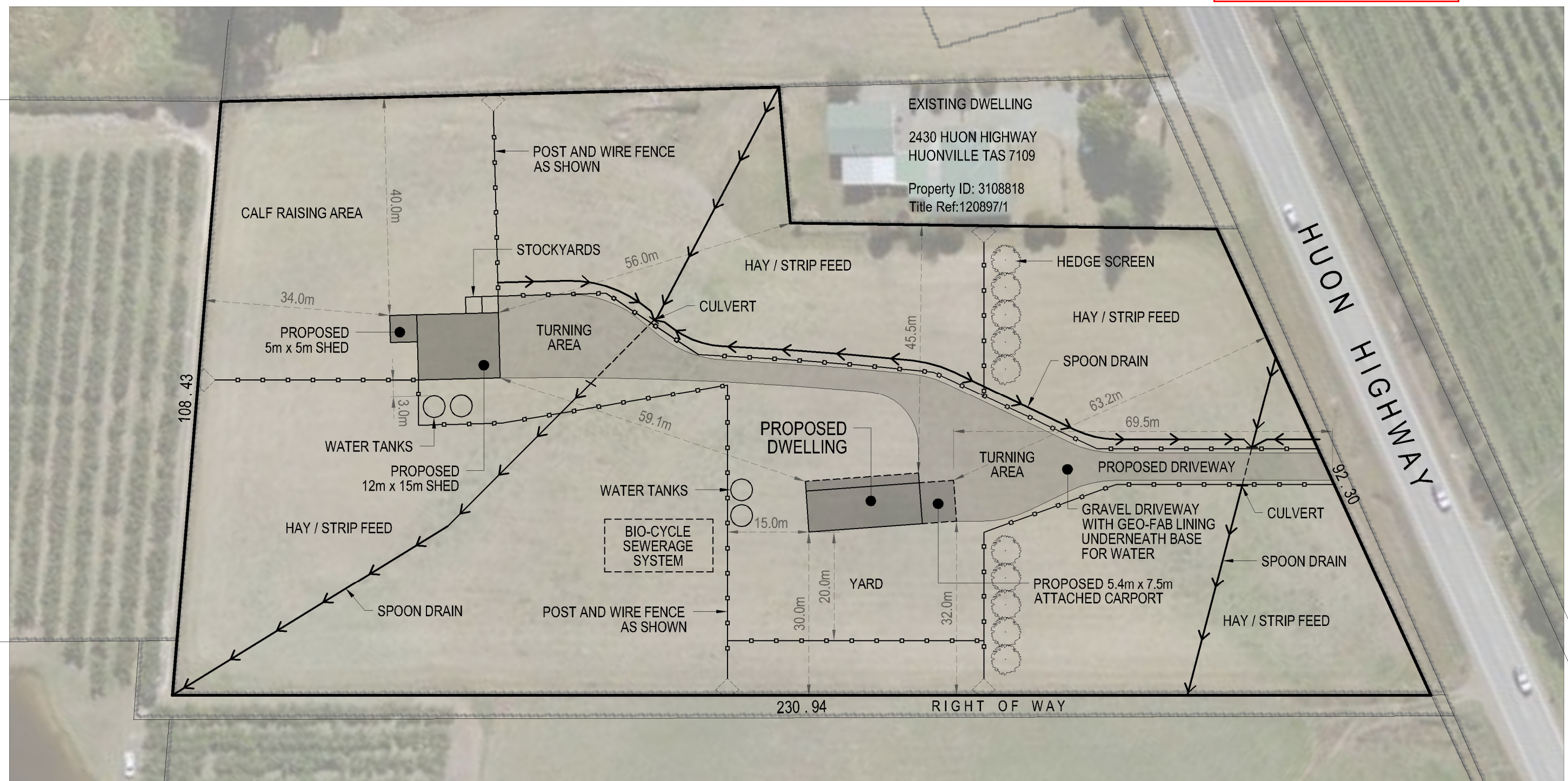
12. The outbuildings are approved as incidental to the agricultural use only and must not be used for any other purpose (including habitation) unless in accordance with a permit issued by Council or as otherwise permitted by Council's Planning Scheme.

Advice

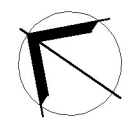
- A. This approval is in respect of development/use under the Planning Scheme and does not imply any other approval by the Council or any other body. It is the developer's responsibility to ensure that all necessary approvals, including but not limited to building and plumbing permits, demolition permits, engineering certification or any other relevant approvals are obtained.
- B. In accordance with the *Land Use Planning and Approvals Act 1993*, this permit shall lapse at the expiration of two (2) years from the date of approval if the approved use and development has not substantially commenced.
- C. An application for a Department of State Growth Works Permit is available from: [https://www.transport.tas.gov.au/roads and traffic management/permits and bookings](https://www.transport.tas.gov.au/roads_and_traffic_management/permits_and_bookings).
Applications must be received by the Department of State Growth at least 20 business days before the expected start date for works, to allow enough time to assess the application.
- D. As the dwelling is to be located in an area that is both adjoining and surrounded by land that has existing or likely agricultural or non-sensitive uses there is the potential for activities occurring that generate noise, odours, dust and other emissions that may cause inconvenience or nuisance to the occupiers of a residential dwelling.
It is recommended the construction of the dwelling takes into account sound proofing, double glazing of windows, or other similar features within the design of the dwelling given the rural location and for the purposes of minimizing any impacts on the residential amenity of the dwelling from those uses.



MICHAEL BARTLETT
MANAGER DEVELOPMENT SERVICES



SITE PLAN
 SCALE 1 : 750 (@ A3)



SITE INFORMATION

Property ID:	3108834	Item	Rating	Reference/Notes
Title Reference:	64394/4	Development Class:	1a	NCC-2019-BCA Vol 1, Section A3.2
Address:	2438 HUON HIGHWAY HUONVILLE TAS 7109	Planning Zone:	27.0 Significant Agriculture	Huon Valley Interim Planning Scheme 2015
Site Area	20,412m ²	Site wind classification:	TBA	AS 4055-2006
Proposed Building Area	374m ²	Site soil classification:	TBA	AS 2870-2011
PROPOSED PLOT RATIO	1.8%	Climate zone:	7	NCC-2019-BCA Vol 2, Figure 1.1.4
		Bushfire attack level:	TBA	AS 3959-2009, Section 2, Method 1

HUON VALLEY COUNCIL
 Planning Permit Document
 Approved via Delegated Authority
 Decision Date: 16 June 2023

CLIENT MR SAM FLOWERS MOBILE: 0448 426 740	PROJECT PROPOSED SINGLE DWELLING 2438 HUON HIGHWAY HUONVILLE TAS 7109	DRAWN Scott Combes M: 0438 663 496 E: scottcombes@duggans.com.au
DRAWING TITLE COVER SHEET		APPROVED ENGINEER
		SCALE AS SHOWN
DATE 19/03/23	DRAWING NO. 001	REV. 0.2
		A3

BERRIMA

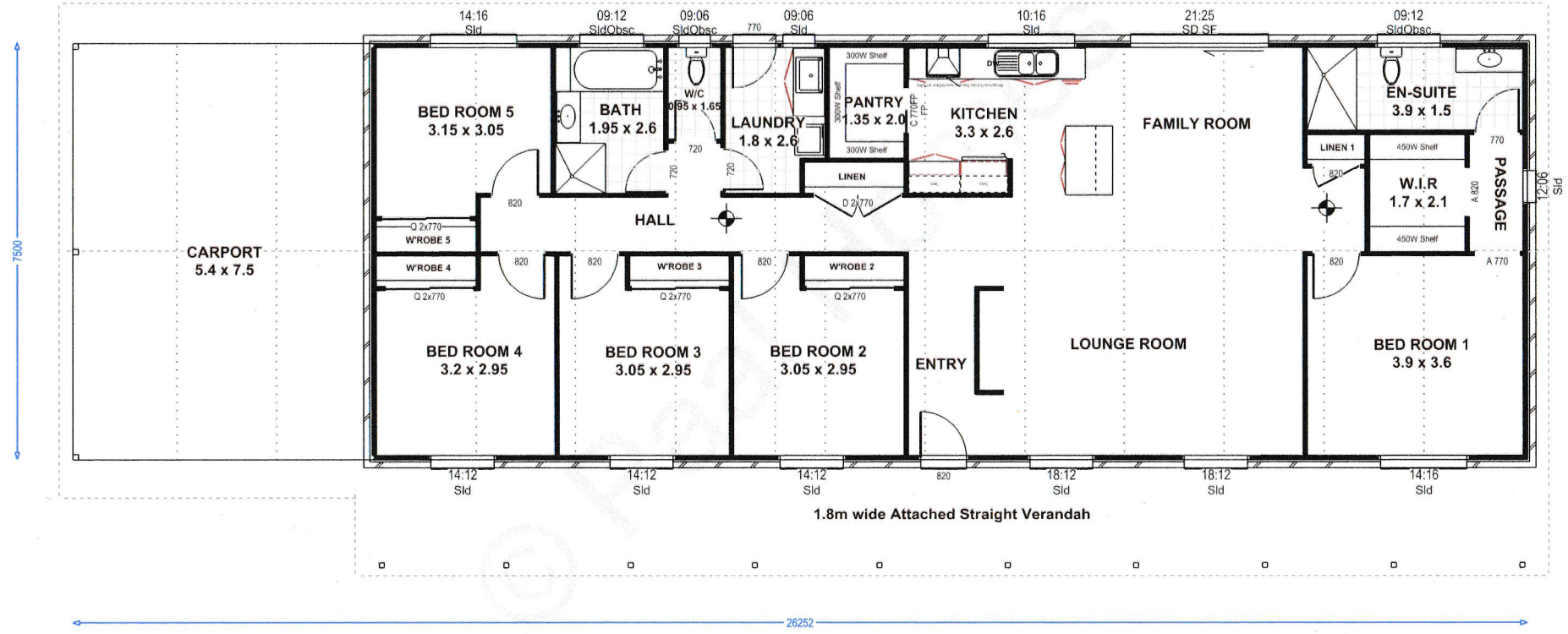
with the following specifications :
(For comprehensive list of inclusions, please refer to pricelist.)

© 2011 Paal Homes P/L

Ceiling Height : 2.4m
Roof Truss Span : 7500
Roof Pitch : 25°
Cladding :
Front Door : Raised Timber Moulding

Windows : Aluminium as specified on plan
Eaves Overhang : 600mm
Gable End Overhang : 350 mm
Internal Doors :
Door Architraves .

Window Architraves :
Floor Skirtings : Colonial 89 x 19 mm - Primed Pine Skirting
Kitchen Cupboard Doors :
Frontage : 26.55m



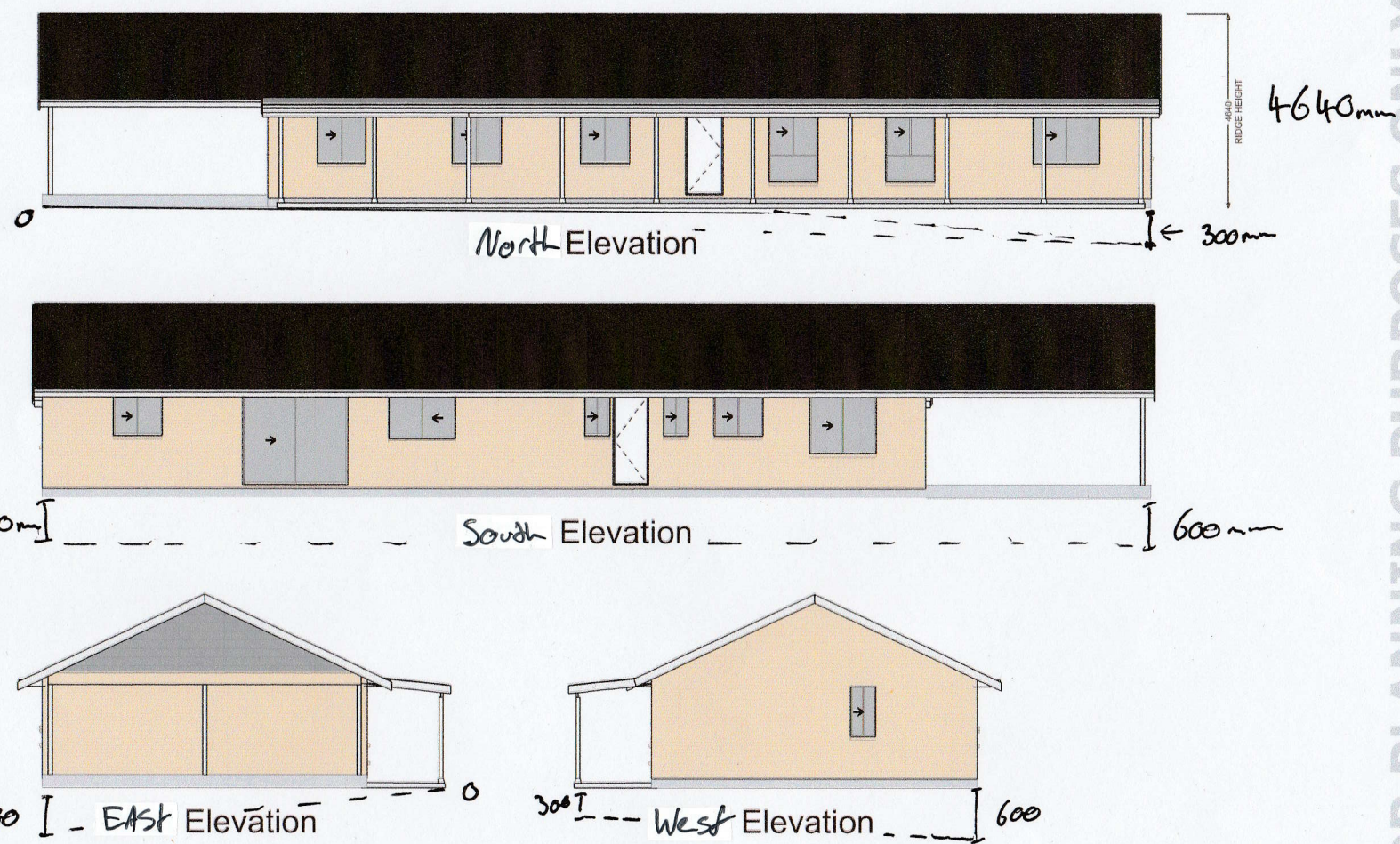
PROPOSAL FOR SAMUEL FLOWERS

© 9/01/2023 Paal Homes P/L



HUON VALLEY COUNCIL
Planning Permit Document
Approved via Delegated Authority
Decision Date: 16 June 2023

Document Set ID: 2010774
 Version: 1, Version Date: 16/01/2023



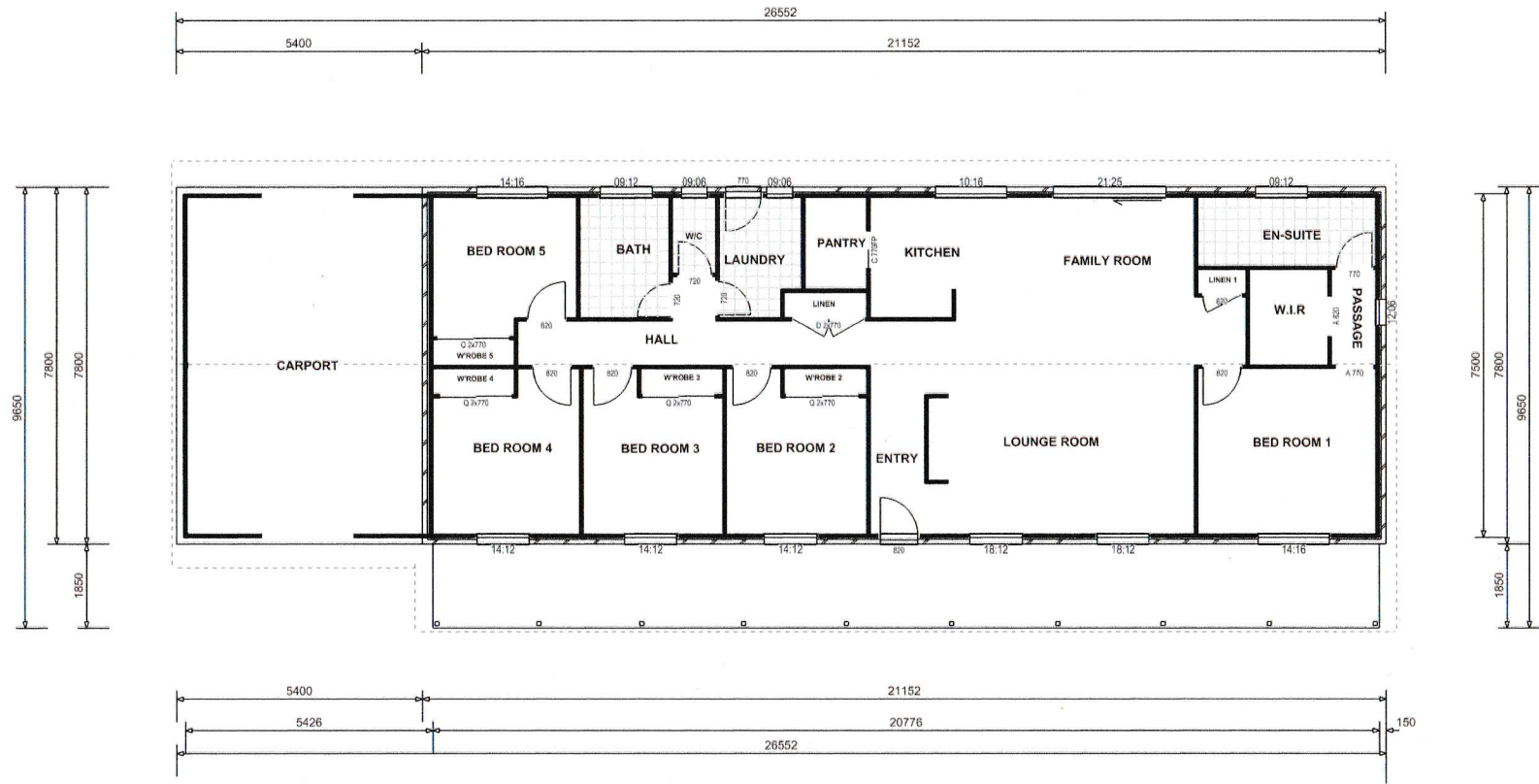
FOR PLANNING PURPOSES ONLY
 To be used exclusively for the construction of a PAAL home

EXTERNAL MATERIAL FINISHES AND COLOURS
 COLORBOND CORRUGATED ROOFING - GALVANISED
 WINDOWS - PRIMROSE
 EXTERNAL CLADDING - BRICK VENEER

			DESIGNED AND SUPPLIED BY PAAL Homes Pty Ltd P.O Box 290 Penrith NSW 2751 Ph: (02) 4795 4977 Copyright © PAAL Homes 2023	SCALE 1:100 on A3	PROPOSED NEW RESIDENCE FOR SAMUEL FLOWERS at	
				PRINTED ON 09-01-2023		
				DRAWN		
				E.V 0 (2.1.918)		
REV	DATE	DESCRIPTION		Issue	DWG No. 2/2	JOB No.

HUON VALLEY COUNCIL
 Planning Permit Document
 Approved via Delegated Authority
 Decision Date: 16 June 2023

Document Set ID: 2010774
 Version: 1, Version Date: 16/01/2023



FOR PLANNING PURPOSES ONLY
 To be used exclusively for the construction of a PAAL home



Floor Plan

AREA Table

Dwelling	164.99 m ²
Verandahs	38.44 m ²
Carport	42.12 m ²
TOTAL	245.54 m²

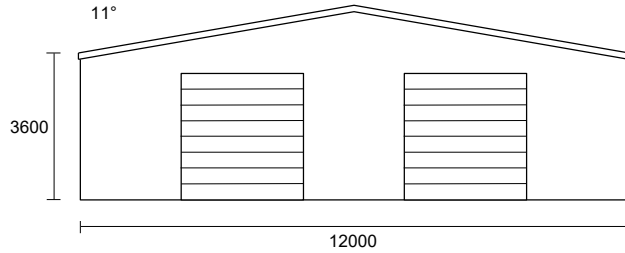
Typical Gutter & Barge Over-Hangs

Roof Gutters	567 mm
Verandah Gutters	168 mm
Barges	245 mm

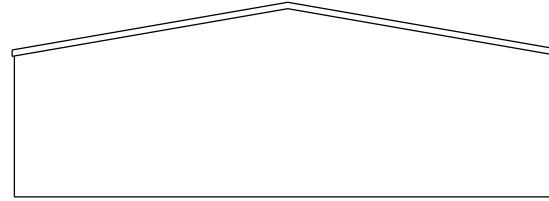
REV	DATE	DESCRIPTION	DESIGNED AND SUPPLIED BY PAAL Homes Pty Ltd P.O. Box 290 Penrith NSW 2751 © 2023 PAAL Homes Copyright PAAL Homes 2023	SCALE	1:100 on A3	PROPOSED NEW RESIDENCE FOR SAMUEL FLOWERS at
				PRINTED ON	09-01-2023	
				DRAWN		
				E.V.	0 (2.1.918)	
				Issue	DWG No. 1/2	

HUON VALLEY COUNCIL
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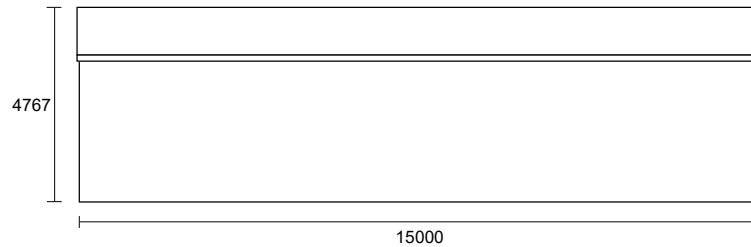
QUOTATION FOR SAMUEL FLOWERS



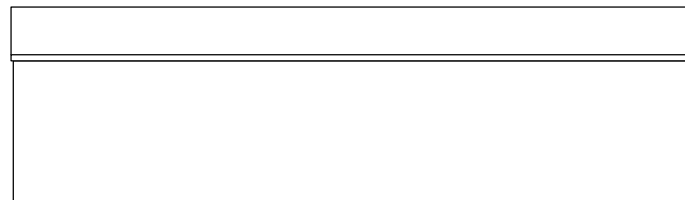
FRONT ELEVATION



REAR ELEVATION



RIGHT ELEVATION



LEFT ELEVATION

KIT MATERIALS AS DETAILED	\$28,840.00
TRADE DISCOUNT	-\$3,410.00
TOTAL	\$25,430.00

GST OF \$2,311.00 INCLUDED IN THE ABOVE AMOUNT

QUOTE VALID FOR 14 DAYS FROM THE 16/3/2023. SUBJECT TO ACCEPTANCE OF OUR TRADING TERMS AND CONDITIONS OF SALE.

PLEASE REFER TO PAGES 2-4 FOR INCLUSION SPECIFICATIONS, PRODUCT AND COMPONENT INFORMATION

Assumed Design Loadings
Region A to Terrain Category 2.0
Regional Wind Speed - 45 m/s
Design Wind Speed - 45 m/s

We only use industry leading Australian Manufacturers



Tasmania's Best Value Garages & Sheds

23 DALMATION CRT LEGANA TAS 7277
PH: 1800 750 649 FAX: 1800 750 649

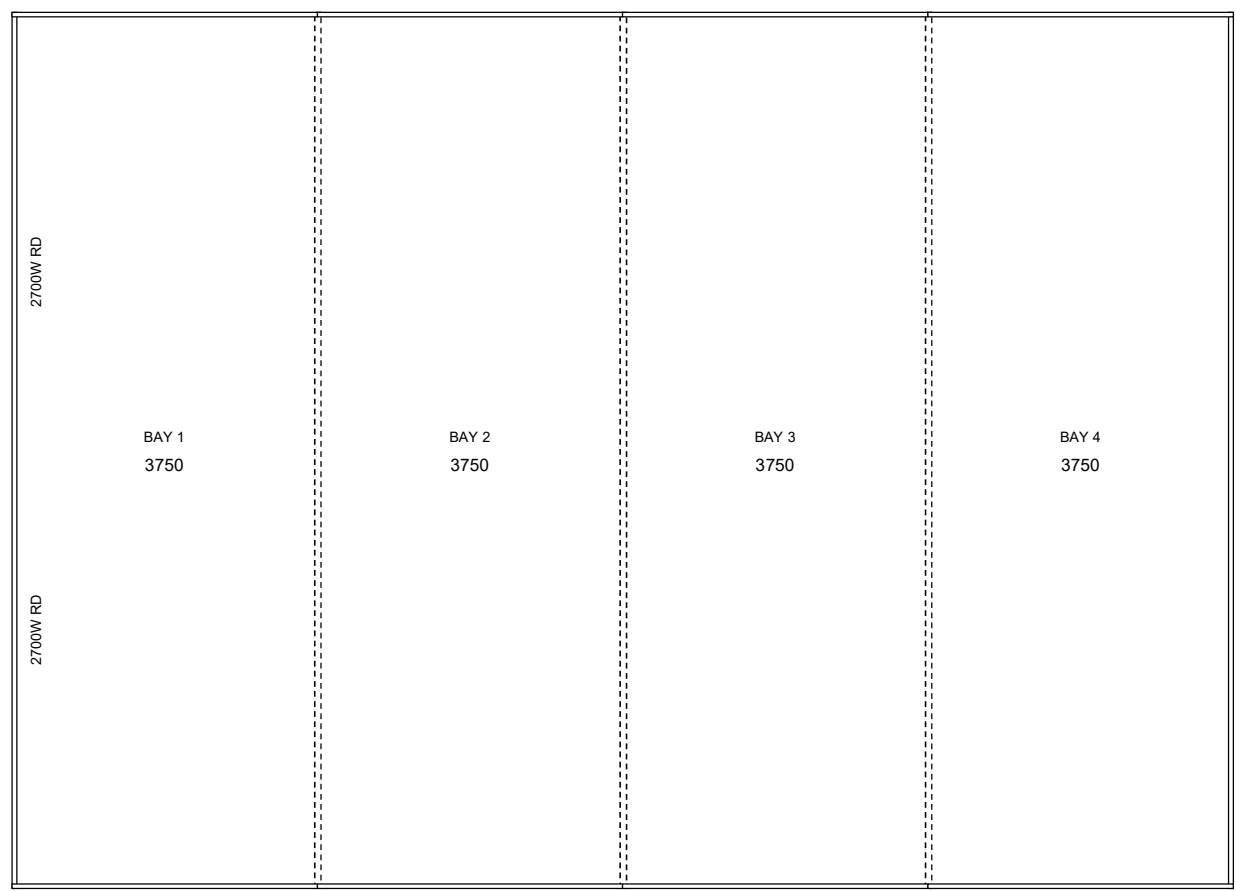
ANY SHED, ANY SIZE
Furn PEB Software Concepts Software Version 13.85

All our buildings are made from BlueScope® materials



HUON VALLEY COUNCIL
Planning Permit Document
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**QUOTATION FOR
SAMUEL FLOWERS**



- MODERN DESIGN CLASS 10a MID SPAN GABLE SHED
- ROOF: 0.42 BMT (0.47 TCT) CUSTOM ORB - COLORBOND
- WALLS: 0.42 BMT (0.47 TCT) TRIMDEK - COLORBOND
- CORNERS: FLASHINGS SUPPLIED
- GUTTER: HI-FRONT QUAD GUTTER - COLORBOND
- NO DOWNPIPE SUPPLIED IN KIT
- VERTICAL WALL CLADDING
- COLORBOND 3100H 2700W DOM RD TO LH FRT GBL
- COLORBOND 3100H 2700W DOM RD TO RH FRT GBL
- MODERN ROLFORMED MEMBER BRACED FRAME DESIGN
- TOPHAT PURLINS/GIRTS WITH C100 EAVES
- ALL ROLLER DOORS MANUALLY OPERATED
- FREE DELIVERY TO STD LYSAGHT DELIVERY AREAS

FLOOR PLAN

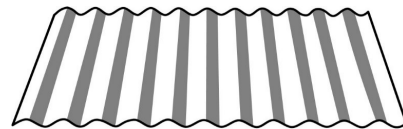
HUON VALLEY COUNCIL
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Tasmania's Best Value Garages & Sheds
 23 DALMATIAN CRT LEGANA TAS 7277
 PH: 1800 750 649 FAX: 1800 750 649
 ANY SHED, ANY SIZE

Your Building contains the following quality products

YOUR ROOF SHEETING IS:



0.42 CUSTOMORB® PROFILE MADE BY



TECHNICAL SPECS.

OVERALL WIDTH 830MM
COVERAGE 762MM
BASE MATERIAL 0.42MM
TOTAL COATED THICKNESS 0.47MM
550 MPa MIN. YIELD STRENGTH
COMPLIES WITH AS1397-2011

*OPTIONAL CLADDING

0.42 TRIMDEK®
*CONTACT OUR OFFICE TO REQUEST



YOUR WALL CLADDING IS:



0.42 TRIMDEK® PROFILE MADE BY



TECHNICAL SPECS.

OVERALL WIDTH 830MM
COVERAGE 762MM
BASE MATERIAL 0.42MM
TOTAL COATED THICKNESS 0.47MM
550 MPa MIN. YIELD STRENGTH
COMPLIES WITH AS1397-2011

*OPTIONAL CLADDING

0.35 TRIMWALL®



0.35 MULTICLAD®
0.42 MULTICLAD®

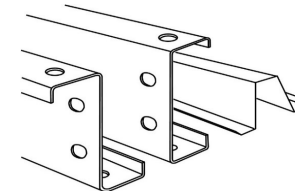


0.42 CUSTOMORB®



*CONTACT OUR OFFICE TO REQUEST

YOUR FRAMING MEMBERS ARE:



ZED, CEE AND TOPSPAN MADE BY



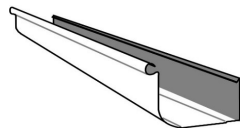
TECHNICAL SPECS.

ZED AND CEE PURLINS
1.0 - 550 MPa MIN. YIELD STRENGTH
1.2 - 500 MPa MIN. YIELD STRENGTH
>1.2 - 450 MPa MIN. YIELD STRENGTH
GALVANISED WITH 350 GRAMS PER SQ/M.

TOPSPAN® TOPHATS
550 MPa MIN. YIELD STRENGTH
ZINC COATED WITH 150 GRAMS PER SQ/M.

ALL COMPLY WITH AS1397-2011
FOR MORE TECHNICAL SPECIFICATIONS
REFER TO LYSAGHTS WEBSITE.

YOUR GUTTERING PROFILE IS:

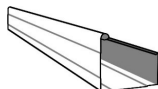


115 QUAD PROFILE MADE BY



*OPTIONAL GUTTERING

SQUARE®
GUTTERING



*CONTACT OUR OFFICE TO REQUEST

NO DOWNPIPE IS INCLUDED IN
THIS QUOTATION

CAN WE SUGGEST THE FOLLOWING DOWNPIPE OPTIONS:

*OPTIONAL DOWNPIPES

100x50 RECTANGLE
100x75 RECTANGLE
100x100 SQUARE



90 ROUND STEEL
90 ROUND PVC



*CONTACT OUR OFFICE TO REQUEST

Components from industry leading suppliers



Taurean Roller doors

HUON VALLEY COUNCIL
Planning Permit Document
Approved via Delegated Authority
Decision Date: 16 June 2023

Your Building is designed to the highest standards

The National Construction Code of Australia 2015

Australian Standard 1170.1:2011 - Structural Design Actions - Permanent, actions

Australian Standard 1170.4:2011 - Structural Design Actions - Earthquake loads

Australian Standard 4055:2012 - Wind Loads

Australian Standard 4600:2005 - Cold Formed Steel Structures

Screw Fasteners are to Australian Standard 3566.2:2002 - Self drilling screws

Australian Standard 1170.0:2011 - Structural Design Actions - General Principals

Australian Standard 1170.2:2011 - Structural Design Actions - Wind actions

Australian Standard 3600:2009 - Concrete Structures

Australian Standard 4600:2005 - Steel Structures

Connection bolts are to Australian Standard 1252:1983 - Structural assemblies

Have You considered ?

Adding safety wire to your roof	3 Rolls reqd.	NOT AVAILABLE
Adding foil sisilation to your roof	3 Rolls reqd.	NOT AVAILABLE
Adding insulated foil blanket to your roof	8 Rolls reqd.	NOT AVAILABLE
Replacing a roof sheet with a skylight sheet	Per sheet	\$200.00
Adding a remote controller to roller door	Each	\$705.00
Adding 300mm rotary vent to your roof	Each	\$266.00
Adding a personal door kit to your building	Each	\$901.00
Adding a window kit to your building	From	\$532.00

The next step:

Step 1. Choose any extras you may want from the list on the left.

Step 2. Choose your kit contract option:

Option 1 - 15% deposit for engineering

Option 2 - Full order for immediate ordering of materials

Step 3. Contact our sales office on 1800 750 649 to arrange a kit building contract.

HUGONVILLE COUNCIL
Planning Permit Document
Approved via Delegated Authority
Decision Date: 16 June 2023

STORMWATER ASSESSMENT

2438 Huon Highway

Huonville

April 2023



GEO-ENVIRONMENTAL

S O L U T I O N S

Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon reliance on the information.

HUON VALLEY COUNCIL
Planning Permit Document
Approved via Delegated Authority
Decision Date: 16 June 2023



Investigation Details

Client: Samuel
Site Address: 2438 Huon Highway, Huonville
Date of Inspection: 12/04/2023
Proposed Works: New house
Investigation Method: Geoprobe 540UD
Inspected by: M Campbell

Site Details

Certificate of Title (CT): 64394/4
Title Area: Approx. 2.009 ha
Applicable Planning Overlays: Bushfire Prone Area, Scenic Landscape Corridor, Waterway and Coastal Protection Area
Slope & Aspect: Flat aspect
Vegetation: Grass / Disturbed

Background Information

Geology Map: MRT 1:25000
Geological Unit: Permian sediments overlain by Quaternary sediments in the NW of the property.
Climate: Annual rainfall approx. 750mm
Water Connection: Mains
Sewer Connection: Un-serviced-onsite wastewater
Testing and Classification: AS2870:2011, AS1726:2017 & AS1547:2012

HUON VALLEY COUNCIL
Planning Permit Document
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Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below.

Soil Profile Summary

BH 1 Depth (m)	USCS	Description
0.00-0.10	SM	TOPSOIL: Sandy SILT : brown, slightly moist, loose.
0.10-1.20	CL	Silty CLAY : low plasticity, white-yellow-brown-grey, slightly moist, firm.
1.20-1.40	SW	SAND trace gravel: yellow-brown, dry, very dense, refusal on assumed rock.

Soil Conditions

The soils on site have developed from Permian sediments and consist sandy silt topsoil overlying silty clay to sand subsoils. The soil has a moderate estimated permeability of approximately 0.24-0.36m/day.

GES have identified the following at the site:

- The site has a <2% grade and presents a low risk to slope stability and landslip
- There are no proposals for cuts or change of grade which will impact on any proposed onsite stormwater absorption,
- The site soils have been identified as comprising of sandy silt topsoil overlying silty clay to sand subsoils and no soil dispersion was identified
- No evidence of a water table was observed at the time of the investigation
- There is a low risk of the natural soils being impacted by contamination
- Bedrock was encountered at a depth of 1.4m.

Soil Dispersion

The soils are non-dispersive.

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Summary

The soils and site are suitable for in ground absorption of stormwater from the proposed structure. A hydraulic assessment and design for the absorption system has been completed by Flusigg Engineers and can be found attached to this report with a form 35.

It is also recommended that regular inspection and maintenance is conducted to ensure the stormwater system is operating without obstruction. A schematic of recommended checks is also attached.

Please contact me if you have any further questions.

A handwritten signature in blue ink, consisting of a stylized 'J' and 'P' followed by a long horizontal stroke.

Dr John Paul Cumming PhD CPSS
Director

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GES Stormwater Maintenance Plan Checklist

Indicative frequency	Inspection and criteria	Maintenance activities (where required)
Annual	Check whether any tree branches overhang the roof or are likely to grow to overhang the roof	If safe and where permitted, consider pruning back any overhanging branches
	Check that access covers to storage tanks are closed	Secure any open access covers to prevent risk of entry
	Check that screens on inlets, overflows and other openings do not have holes and are securely fastened	Repair any defective screens to keep out mosquitoes
	Inspect tank water for presence of rats, birds, frogs, lizards or other vermin or insects	Remove any infestations, identify point of entry and close vermin and insect-proof mesh
	Inspect tank water for presence of mosquito larvae (inspect more frequently in sub-tropical and tropical northern Australia, based on local requirements)	Identify point of entry and close with insect-proof mesh with holes no greater than 1.6 mm in diameter
	Inspect gutters for leaf accumulation and ponding	Clean leaves from gutters-remove more regularly if required. If water is ponding, repair gutter to ensure water flows to downpipe
	Check signage at external roof water taps and that any removable handle taps are being properly used	Replace or repair the missing or damaged signage and fittings
	Check plumbing and pump connections are watertight/without leakage	Repair any leaks as necessary
	Check suction strainers, in-line strainers and pump location for debris	Clean suction strainers, in-line strainers or debris from pump location
	Check pump installation is adequate for reliable ongoing operation	Modify and repair as required
	Check first flush diverter, if present	Clean first flush diverter, repair and replace if necessary
	Check health of absorption trench area and surrounding grass or plants	Investigate any adverse impacts observed that might be due to irrigation
Check condition of roof and coatings	Investigate and resolve any apparent changes to roof condition, such as loss of material coatings	

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Triennial	Drain, clean out and check the condition of the tank walls and roof to ensure no holes have arisen due to tank deterioration	Repair any tank defects
	Check sediment levels in the tank	Organise a suitable contractor to remove accumulated sediment if levels are approaching those that may block tank outlets
	Undertake a systematic review of operational control of risks to the system	Identify the reason for any problems during inspections and take actions to prevent failures occurring in future
After 20 years and then every 5 years	Monitor the effectiveness of the stormwater absorption area to assess for any clogging due to algal growth, or blocking due to tree roots/grass growth/trench failure.	Clean or replace clogged equipment
Ongoing	Inspect and follow up on any complaints or concerns raised that could indicate problems with the system	Repair or replace any problems that are notified

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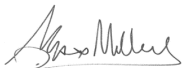
HYDRAULIC DESIGN REPORT

FE-HOB-23007-040 PERFORMANCE SOLUTION REPORT

Document Information

Title	Client	Document Number	Project Manager
2438 Huon Hwy, Huonville TAS 7109 Performance Solution Report	Geo Environmental Solutions PTY LTD	FE-HOB-23007-040	Manuri Alwis <i>BEng(Hons)</i> <i>Graduate Civil Engineer</i>

Document Initial Revision

REVISION 00	Staff Name	Signature	Date
Prepared by	Manuri Alwis Graduate Civil Engineer		04/05/2023
Reviewed by	Max W. Möller Principal Hydraulic Engineer		04/05/2023
Authorised by	Max W. Möller Principal Hydraulic Engineer		04/05/2023

Document Revision History

Rev No.	Description	Reviewed by	Authorised by	Date

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INTRODUCTION

This report details the stormwater management strategies for the proposed development **2438 Huon Hwy, Huonville TAS 7109**. The objective of the report is to demonstrate how stormwater runoff would be captured and conveyed from the subject site safely to the receiving drainage network while considering stormwater quantity management and the incorporation of water tank and soakage trench elements.

The suggestion is to provide detention to proposed rainwater tanks and install soakage trenches to provide the function of detention and dispersion for the new impervious areas.

EXISTING CONDITIONS AND ASSUMPTIONS

The site covers an area of approximately 20,009m². Proposed development will increase the impervious roofed areas to a total of 447m² and gravel driveway to 1,378m². This will result in a total of 345m² of impervious areas for the new development. The increase of the total impervious area of the site is 9.12%.

Stormwater from the site would be routed through the proposed conventional underground drainage system comprising of Grated Sumps and PVC Pipes, coupled with the use of water tank elements and a soakage trench for on-site detention.

The stormwater management report is prepared in accordance with the design criteria listed below:

- The stormwater drainage system is designed using Bureau of Meteorology (BOM) published rainfall Intensity Frequency Duration (IFD) data as a minor / major system to accommodate the 5% AEP / 20 min storm events.
- The flow rate of stormwater leaving the site shall be designed so that it does not exceed the pre-developed flow rate for both the minor and major rain events.
- The total site discharges are modelled as described in *Storm Drainage Design in Small Urban Catchments*, a handbook for Australian practice by *Australian Rainfall and Runoff (ARR2019)*, Book 9 – Runoff in Urban Areas.

Existing site conditions are to remain except the new dwelling impervious roof areas are to discharge to the 23,000L water tank and then outflow into the 1.0m deep, 40m² proposed soakage trench. The proposed shed impervious roof areas to discharge to the 23,000L tank and outfall to a 40m², 1m deep soakage trench. The runoff from the driveway is compensated in the detention calculation for new dwelling and shed.

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PERFORMANCE SOLUTION COMPLIANCE

AS 3500.3 – CL 7.10	7.10.1 – Overflow is safe and does not compromise freeboard to habitable spaces.
ARR2019 Book 9	7.10.3 – Tank to be od approved zinc coated steel or poly tank. On-Site Detention
General	<ul style="list-style-type: none"> AS/NZS 3500.3: Part 3 Stormwater Drainage Australian Rainfall and Run-off Volume 8: Urban Stormwater Management Australian Runoff Quality – A Guide to Water Sensitive Urban Design Storm drainage design in small urban catchments: A handbook for Australian practice Water Sensitive Urban Design (WSUD) Engineering Procedure: Stormwater Water Services Association of Australia Code (WSAA).

DETENTION DESIGN

Detention calculations are provided in Appendix B with the following summary for design:

Detention Volume = 2,120L (Proposed dwelling) & 1,800L (Proposed shed)

Stored Volume = 0L

Permissible Site discharge = 0.67L/s (Proposed dwelling) & 0.57L/s (Proposed shed)

Land Use	Pre-Development New Impervious Areas Only		Post-Development New Impervious Areas Only	
	Area m ²	% Total land	Area m ²	% Total land
Total Pervious	447	100	0	0
Total Impervious	0	0	447	100

As per Council's Interim Planning Scheme 2015, E7.0 (Stormwater Management), the post-development allowable site discharge must not exceed the pre-development site discharge. As seen from the figures above, this is exceeded in the 5% AEP 20min storm duration by a Permissible Site

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discharge of 0.67L/s & 0.57L/s respectively for proposed dwelling and proposed shed. Therefore, the site must detain the difference using an onsite stormwater detention (OSD) system with 3,000L minimum capacity rainwater detention tank for the proposed dwelling and a 2,000L minimum capacity detention tank for the proposed shed.

Task	Action	Frequency
General Cleaning – gutters, downpipe, filters etc.	Clear all debris from gutters and tank filters, ensure operational	Approximately every 3 months
Specialised cleaning and inspection	Inspect all gutters downpipes, inflow, and outflow – flush if required. Inspect all filters replace if required. Inspect main tank for defects	Yearly
Maintenance	Perform detailed inspection and maintenance of tank and associated infrastructure by a qualified person.	Every 5 years.

SUMMARY AND CONCLUSIONS

- Detention tank to be adopted as per design and documentation.
- The designed solution complies with the Performance solution design check carried out above.
- For the proposed dwelling, a 23,000L rainwater tank has been sized to detain 3,000L over a 20min storm duration and store 20,000L while another 23,000L tank is sized solely for storage.
- For the proposed shed, a 23,000L rainwater tank has been sized to detain 2,000L over a 20min storm duration and store 20,000L while another 23,000L tank is sized solely for storage.
- Both proposed shed and dwelling will have their overflow from the stormwater tanks connected to a soakage trench of 1.0m deep, 40m² base.

End of Report

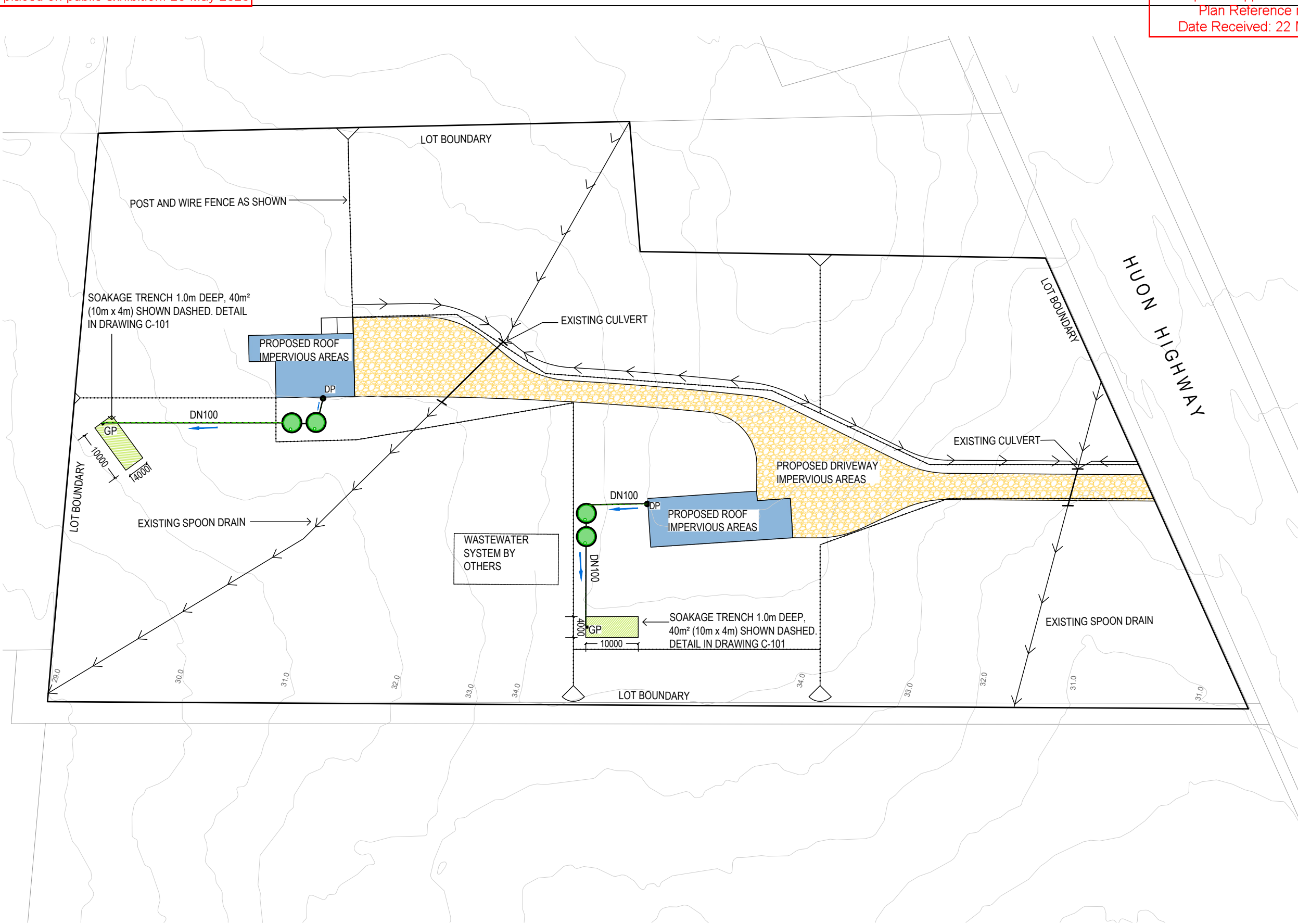
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APPENDIX A

STORMWATER DESIGN DRAWINGS

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- NEW SERVICES**
- STORMWATER PIPE
 - STORMWATER FLOW DIRECTION
 - GRATED STORMWATER PIT, 450X450 CLASS A ACO DRAIN TYPE 66 POLYCRETE PIT OR SIMILAR ENGINEER APPROVED ACO GALVANISED HEELGUARD OR SIMILAR ENGINEER APPROVED
 - RAINWATER DETENTION AND STORAGE TANK, DN30 UNDERFLOW AND DN100 OVERFLOW

- STORMWATER SERVICES NOTES:**
1. ALL SITE SAFETY & MANAGEMENT PROCEDURES SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF STATE GROWTH SPECIFICATIONS: SECTION 168 OCCUPATIONAL HEALTH AND SAFETY & SECTION 176 ENVIRONMENTAL MANAGEMENT.
 2. ALL PIPES UNDER TRAFFIC ABLE AREAS ARE TO BE BACK FILLED FULL DEPTH WITH 20 F.C.R. AND FULLY COMPACTED.
 3. ALL STORM WATER PIPES TO BE PVC-U-SWJ CLASS "SN8" TO AS 1254 UNO.
 4. ALL DRAIN AND TRENCH CONSTRUCTION SHALL COMPLY WITH THE LGAT STANDARD DRG TSD G01.
 5. ANY EXCAVATED TRENCHES IN EXCESS OF 1.5M IN DEPTH ARE TO BE ADEQUATELY SHORED TO PREVENT COLLAPSE DURING WORKS.

- SITE AREA=20,009m²
- PROPOSED IMPERVIOUS ROOF AREA 447m²
 - PROPOSED IMPERVIOUS GRAVEL AREA 1378m²

STORMWATER DETENTION PLAN
 SCALE 1: 750

NOT FOR CONSTRUCTION
 CONCEPT ONLY - DRAWINGS MUST BE USED IN CONJUNCTION WITH FLUSSIG ENGINEERS REPORT

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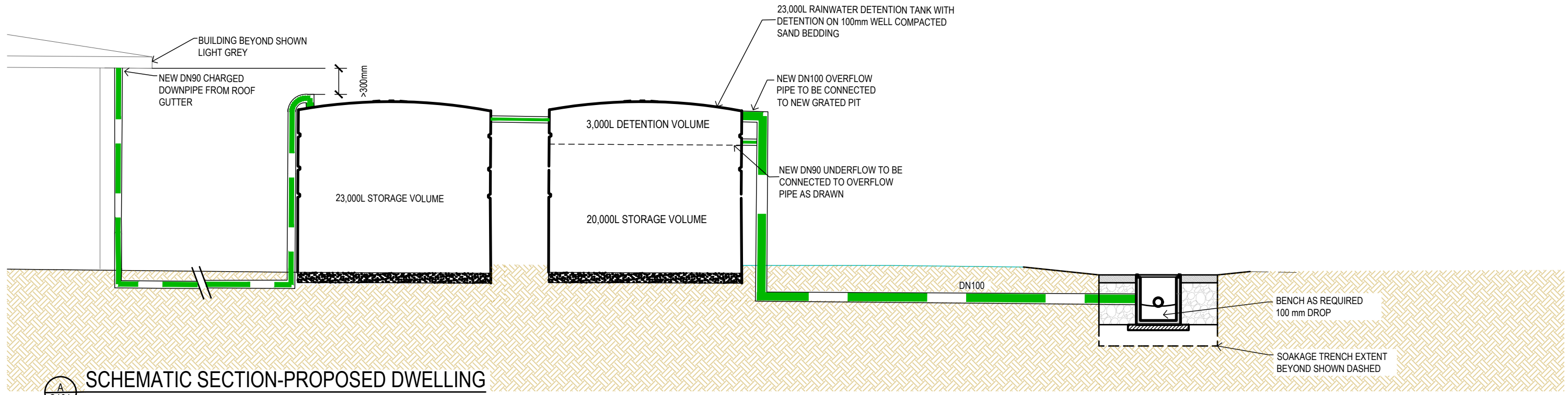
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STATUS:	CONCEPT		

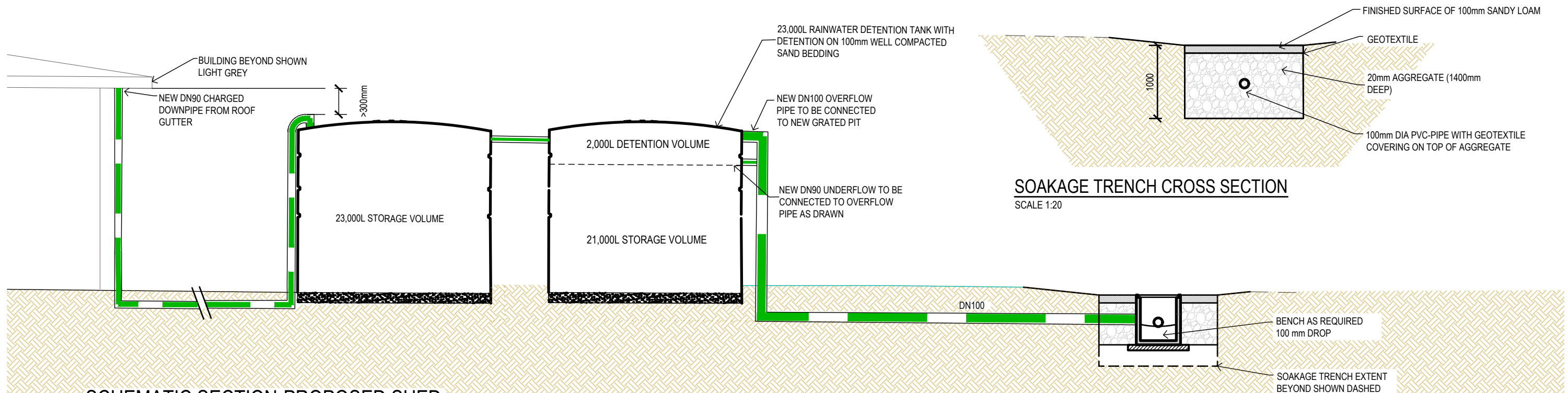
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 a: 116 Bathurst St, Level 4 Hobart, 7000, TASMANIA

CLIENT: GEO ENVIRONMENTAL SOLUTIONS PTY LTD	SITE: 2438 HUON HWY, HUONVILLE TAS 7109
TITLE: STORMWATER DESIGN	
PROJECT: PROPOSED NEW DWELLING	SCALE AT A3: AS SHOWN
DATE: 04.05.2023	DRAWN: MA
PROJECT NO: FE-HOB-23007-040	CHECKED: MM
DRAWING NO: C-100	REVISION: 00



SCHEMATIC SECTION-PROPOSED DWELLING
 SCALE 1:50



SCHEMATIC SECTION-PROPOSED SHED
 SCALE 1:50

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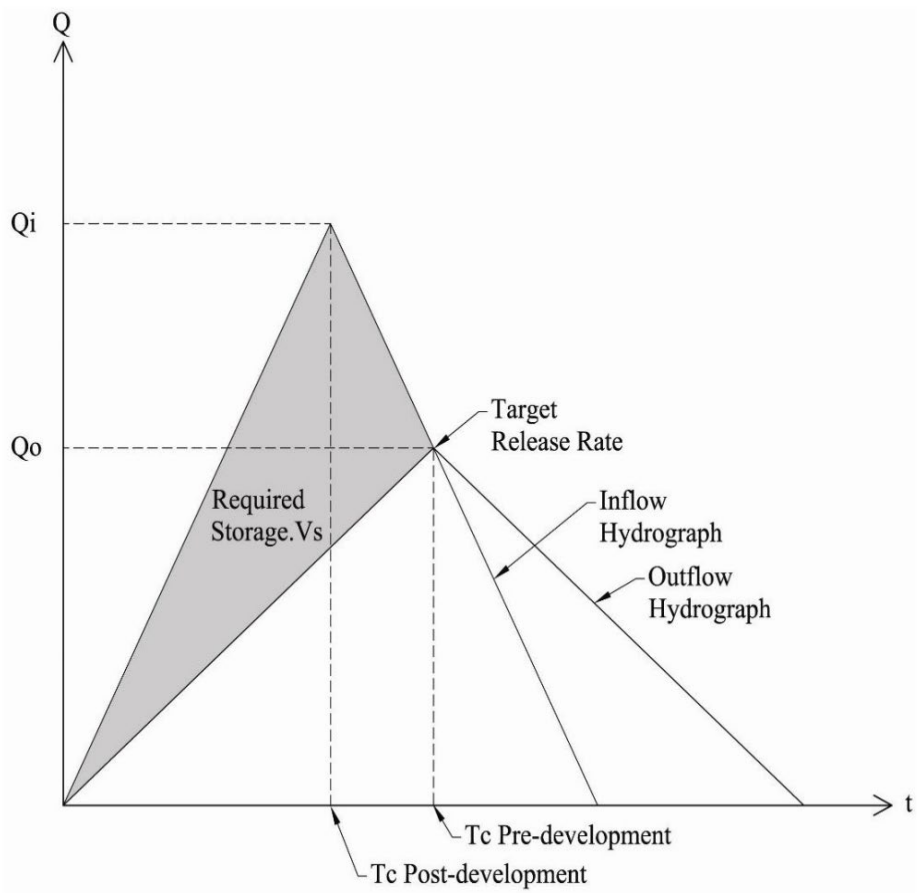
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PROJECT: PROPOSED NEW DWELLING	SCALE AT A3: AS SHOWN
DATE: 04.05.2023	DRAWN: MA
PROJECT NO: FE-HOB-23007-040	DRAWING NO: C-101
CHECKED: MM	REVISION: 00

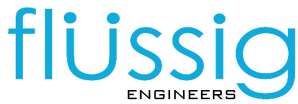
APPENDIX B

DETENTION COMPUTATIONS



Triangular Hydrograph Method Schematic

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2438 Huon Hwy, Huonville TAS 7109 - Dwelling

STORMWATER DETENTION V5.05

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Location: Hounville TAS
Site: 242m² with tc = 20 and tcs = 15 mins.
PSD: ARI of 5 years, Above ground PSD = 0.67L/s
Storage: ARI of 5 years, Above ground volume = 2.12m³

Design Criteria (Custom ARI IFD data used)

Location = Hounville TAS
 Method = A (A)RI 2001,A(E)P 2019
 PSD average recurrence interval (ARI) = 5 years
 Storage average recurrence interval (ARI) = 5 years

Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom

Site Geometry

Site area (As) = 242 m² = 0.0242 Ha
 Pre-development coefficient (Cp) = 0.30
 Post development coefficient (Cw) = 1.00
 Total catchment (tc) = 20 minutes
 Upstream catchment to site (tcs) = 15 minutes

Coefficient Calculations

Pre-development				Post development			
Zone	Area (m ²)	C	Area * C	Zone	Area (m ²)	C	Area * C
Concrete	0	0.90	0	Concrete	0	0.90	0
Roof	0	1.00	0	Roof	242	1.00	242
Gravel	0	0.50	0	Gravel	0	0.50	0
Garden	242	0.30	73	Garden	0	0.30	0
Total	242	m²	73	Total	242	m²	242
Cp = ΣArea*C/Total = 0.300				Cw = ΣArea*C/Total = 1.000			

Permissible Site Discharge (PSD) (ARI of 5 years)

PSD Intensity (I) = 31.8 mm/hr For catchment tc = 20 mins.
 Pre-development (Qp = Cp*1*As/0.36) = 0.64 L/s
 Peak post development (Qa = 2*Cw*1*As/0.36) = 4.27 L/s = (0.134 x I) Eq. 2.24
 Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom
 Permissible site discharge (Qu = PSD) = 0.668 L/s

Above ground - Eq 3.8

$$0 = PSD^2 - 2*Qa/tc*(0.667*tc*Qp/Qa + 0.75*tc+0.25*tcs)*PSD + 2*Qa*Qp$$

Taking x as = PSD and solving

a = 1.0 b = -8.9 c = 5.5

$$PSD = -b \pm \sqrt{b^2 - 4ac} / (2a)$$

PSD = 0.668 L/s

Below ground pipe - Eq 3.3

$$Qp = PSD * [1.6 * tcs / (tc * (1 - 2 * PSD / (3 * Qa))) - 0.6 * tcs^{2.67} / (tc * (1 - 2 * PSD / (3 * Qa)))^{2.67}]$$

= 0.64

PSD = 0.664 L/s

Below ground rectangular tank - Eq 3.4

$$t = tcs / (tc * (1 - 2 * PSD / (3 * Qa))) = 0.834$$

$$Qp = PSD * [10.005 - 0.455 * t + 5.228 * t^2 - 1.045 * t^3 - 7.199 * t^4 + 4.519 * t^5]$$

= 0.64

PSD = 0.644 L/s

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Design Storage Capacity (ARI of 5 years)

$$\begin{aligned} \text{Above ground (Vs)} &= [0.5*Qa*td - [(0.875*PSD*td)(1-0.917*PSD/Qa) + (0.427*td*PSD^2/Qa)]] * 60/10^3 \text{ m}^3 & \text{Eq 4.23} \\ \text{Below ground pipe (Vs)} &= [(0.5*Qa - 0.637*PSD + 0.089*PSD^2/Qa) * td] * 60/10^3 \text{ m}^3 & \text{Eq 4.8} \\ \text{Below ground rect. tank (Vs)} &= [(0.5*Qa - 0.572*PSD + 0.048*PSD^2/Qa) * td] * 60/10^3 \text{ m}^3 & \text{Eq 4.13} \end{aligned}$$

td (mins)	Qa (mm/hr)	Qa (L/s)	Above Vs (m ³)	Pipe Vs (m ³)	B/G Vs (m ³)
5	62.2	8.4	1.08		
15	37.2	5.0	1.76		
20	31.8	4.3	1.91		
25	27.9	3.8	2.01		
30	25.0	3.4	2.07		
34	23.2	3.1	2.10		
39	21.3	2.9	2.12		
44	19.7	2.6	2.12		
49	18.4	2.5	2.11		
54	17.2	2.3	2.10		

Table 1 - Storage as function of time for ARI of 5 years

Type	td (mins)	Qa (mm/hr)	Qa (L/s)	Vs (m ³)
Above Pipe B/ground	43.3	19.9	2.7	2.12

Table 2 - Storage requirements for ARI of 5 years

Frequency of operation of Above Ground storage

$$\begin{aligned} Q_{op2} &= 0.75 \text{ Cl 2.4.5.1} \\ Q_{p2} = Q_{op2} * Q_{p1} \text{ (where } Q_{p1} = PSD) &= 0.50 \text{ L/s at which time above ground storage occurs} \\ I = 360 * Q_{p2} / (2 * C_w * A_s * 10^3) &= 3.7 \text{ mm/h} & \text{Eq 4.24} \end{aligned}$$

Period of Storage**Time to Fill:**

$$\begin{aligned} \text{Above ground (tf)} &= td * (1 - 0.92 * PSD / Qa) & \text{Eq 4.27} \\ \text{Below ground pipe (tf)} &= td * (1 - 2 * PSD / (3 * Qa)) & \text{Eq 3.2} \\ \text{Below ground rect. tank (tf)} &= td * (1 - 2 * PSD / (3 * Qa)) & \text{Eq 3.2} \end{aligned}$$

Time to empty:

$$\begin{aligned} \text{Above ground (te)} &= (Vs + 0.33 * PSD^2 * td / Qa * 60 / 10^3) * (1.14 / PSD) * (10^3 / 60) & \text{Eq 4.28} \\ \text{Below ground pipe (te)} &= 1.464 / PSD * (Vs + 0.333 * PSD^2 * td / Qa * 60 / 10^3) * (10^3 / 60) & \text{Eq 4.32} \\ \text{Below ground rect. tank (te)} &= 2.653 / PSD * (Vs + 0.333 * PSD^2 * td / Qa * 60 / 10^3) * (10^3 / 60) & \text{Eq 4.36} \end{aligned}$$

$$\text{Storage period (Ps = tf + te)} \quad \text{Eq 4.26}$$

Type	td (mins)	Qa (L/s)	Vs (L/s)	tf (mins)	te (mins)	Ps (mins)
Above Pipe B/ground	43.3	2.7	2.1	33.4	64.3	97.7

Table 3 - Period of Storage requirements for ARI of 5 years

Orifice

$$\begin{aligned} \text{Permissible site discharge (} Q_u = PSD) &= 0.67 \text{ L/s (Above ground storage)} \\ \text{Orifice coefficient (CD)} &= 0.61 \text{ For sharp circular orifice} \\ \text{Gravitational acceleration (g)} &= 9.81 \text{ m/s}^2 \\ \text{Maximum storage depth above orifice (H)} &= 340 \text{ mm} \\ \text{Orifice flow (Q)} &= CD * A_o * v(2 * g * H) \end{aligned}$$

Therefore:

$$\begin{aligned} \text{Orifice area (} A_o) &= 424 \text{ mm}^2 \\ \text{Orifice diameter (} D = \sqrt{4 * A_o / \pi}) &= 23.2 \text{ mm} \end{aligned}$$

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Soakage Trench for proposed dwelling

Hydrology						
A1 = impervious area collected	242	sqm				
C1 = coefficient	1					
A2=Impervious area	0	sqm				
C2= Coefficient	0					
ARI = Annual Recurrence Interval	20	yr				
Ground Conditions						
Hydraulic conductivity K (absorption rate)	0.1667	mm/min				
Adjusted rate (15% clogging factor)	0.1417	mm/min				
Trench Design						
Length, L	10	m				
Width, B	4	m				
Depth, h	1	m				
Base area, BA	40	sqm				
Void space	35%					
Trench Storage	14	cum				
	14000.00	L				
Detention tank data		Final Check				
Tank storage	3.00	cum	Criteria	Required	Design	Check
Tank Underflow	0.67	L/s	Total Detention needed	2,120	17000	OK
Tank Underflow	40.20	L/m	Trench capacity underflow for 5% AEP 20-minute storm	691	14000	OK
Total Available storage	17	cum				
	17000	L				

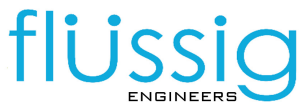
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Checking storms

	Duration (min)	Intensity (mm/hr)	Vol in System(L)	Vol in Trench (L)	Vol out Trench (L)	Storage total System (L)	Storage Trench(L)	Hours to empty Trench
5Mins	5	85.3	1720	201	28	1692	173	1
6Mins	6	80.94	1959	241	34	1925	207	1
10Mins	10	63.5	2561	402	57	2505	345	1
20Mins	20	43.8	3533	804	113	3420	691	2
30Mins	30	34.5	4175	1175	170	4005	1005	3
1Hr	60	22.8	5518	2518	340	5178	2178	7
2Hrs	120	15.4	7454	4454	680	6774	3774	13
3Hrs	180	12.5	9075	6075	1020	8055	5055	18
6Hrs	360	8.84	12836	9836	2040	10796	7796	29
12Hrs	720	6.21	18034	15034	4080	13954	10954	44
24Hrs	1440	4.13	23987	20987	8160	15827	12827	62
48Hrs	2880	2.5	29040	26040	16320	12720	9720	77
72Hrs	4320	1.78	31015	28015	24480	6535	3535	82

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2438 Huon Hwy, Huonville TAS 7109 - Shed

STORMWATER DETENTION V5.05

A | Flüssig Engineers

Location: Hounville TAS
Site: 205m² with tc = 20 and tcs = 15 mins.
PSD: ARI of 5 years, Above ground PSD = 0.57L/s
Storage: ARI of 5 years, Above ground volume = 1.80m³

Design Criteria (Custom ARI IFD data used)

Location = Hounville TAS
 Method = A (A)RI 2001,A(E)P 2019
 PSD average recurrence interval (ARI) = 5 years
 Storage average recurrence interval (ARI) = 5 years

Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom

Site Geometry

Site area (As) = 205 m² = 0.0205 Ha
 Pre-development coefficient (Cp) = 0.30
 Post development coefficient (Cw) = 1.00
 Total catchment (tc) = 20 minutes
 Upstream catchment to site (tcs) = 15 minutes

Coefficient Calculations

Pre-development				Post development			
Zone	Area (m ²)	C	Area * C	Zone	Area (m ²)	C	Area * C
Concrete	0	0.90	0	Concrete	0	0.90	0
Roof	0	1.00	0	Roof	205	1.00	205
Gravel	0	0.50	0	Gravel	0	0.50	0
Garden	205	0.30	62	Garden	0	0.30	0
Total	205	m²	62	Total	205	m²	205
Cp = ΣArea*C/Total = 0.300				Cw = ΣArea*C/Total = 1.000			

Permissible Site Discharge (PSD) (ARI of 5 years)

PSD Intensity (I) = 31.8 mm/hr For catchment tc = 20 mins.
 Pre-development (Qp = Cp*I*As/0.36) = 0.54 L/s
 Peak post development (Qa = 2*Cw*I*As/0.36) = 3.62 L/s = (0.114 x I) Eq. 2.24
 Storage method = A (A)bove,(P)ipe,(U)nderground,(C)ustom
 Permissible site discharge (Qu = PSD) = 0.566 L/s

Above ground - Eq 3.8

$$0 = PSD^2 - 2*Qa/tc*(0.667*tc*Qp/Qa + 0.75*tc+0.25*tcs)*PSD + 2*Qa*Qp$$

Taking x as = PSD and solving

$$a = 1.0 \quad b = -7.5 \quad c = 3.9$$

$$PSD = -b \pm \sqrt{b^2 - 4ac} / (2a)$$

$$PSD = 0.566 \text{ L/s}$$

Below ground pipe - Eq 3.3

$$Qp = PSD*[1.6*tcs/(tc*(1-2*PSD/(3*Qa)))-0.6*tcs^{2.67}/(tc*(1-2*PSDp/(3*Qa)))^{2.67}]$$

$$= 0.54$$

$$PSD = 0.562 \text{ L/s}$$

Below ground rectangular tank - Eq 3.4

$$t = tcs / (tc*(1-2*PSD/(3*Qa))) = 0.834$$

$$Qp = PSD*[10.005-0.455*t+5.228*t^2-1.045*t^3-7.199*t^4+4.519*t^5]$$

$$= 0.54$$

$$PSD = 0.545 \text{ L/s}$$

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Licensee: Flüssig Engineers

Design Storage Capacity (ARI of 5 years)

$$\begin{aligned} \text{Above ground (Vs)} &= [0.5*Qa*td - [(0.875*PSD*td)(1-0.917*PSD/Qa) + (0.427*td*PSD^2/Qa)]] * 60/10^3 \text{ m}^3 & \text{Eq 4.23} \\ \text{Below ground pipe (Vs)} &= [(0.5*Qa - 0.637*PSD + 0.089*PSD^2/Qa) * td] * 60/10^3 \text{ m}^3 & \text{Eq 4.8} \\ \text{Below ground rect. tank (Vs)} &= [(0.5*Qa - 0.572*PSD + 0.048*PSD^2/Qa) * td] * 60/10^3 \text{ m}^3 & \text{Eq 4.13} \end{aligned}$$

td (mins)	Qa (mm/hr)	Qa (L/s)	Above Vs (m ³)	Pipe Vs (m ³)	B/G Vs (m ³)
5	62.2	7.1	0.92		
15	37.2	4.2	1.49		
20	31.8	3.6	1.62		
25	27.9	3.2	1.70		
30	25.0	2.9	1.75		
34	23.2	2.6	1.78		
39	21.3	2.4	1.79		
44	19.7	2.2	1.80		
49	18.4	2.1	1.79		
54	17.2	2.0	1.78		

Table 1 - Storage as function of time for ARI of 5 years

Type	td (mins)	Qa (mm/hr)	Qa (L/s)	Vs (m ³)
Above Pipe B/ground	43.3	19.9	2.3	1.80

Table 2 - Storage requirements for ARI of 5 years

Frequency of operation of Above Ground storage

$$\begin{aligned} Q_{op2} &= 0.75 \text{ Cl 2.4.5.1} \\ Q_{p2} = Q_{op2} * Q_{p1} \text{ (where } Q_{p1} = PSD) &= 0.42 \text{ L/s at which time above ground storage occurs} \\ I = 360 * Q_{p2} / (2 * C_w * A_s * 10^3) &= 3.7 \text{ mm/h} & \text{Eq 4.24} \end{aligned}$$

Period of Storage**Time to Fill:**

$$\begin{aligned} \text{Above ground (tf)} &= td * (1 - 0.92 * PSD / Qa) & \text{Eq 4.27} \\ \text{Below ground pipe (tf)} &= td * (1 - 2 * PSD / (3 * Qa)) & \text{Eq 3.2} \\ \text{Below ground rect. tank (tf)} &= td * (1 - 2 * PSD / (3 * Qa)) & \text{Eq 3.2} \end{aligned}$$

Time to empty:

$$\begin{aligned} \text{Above ground (te)} &= (Vs + 0.33 * PSD^2 * td / Qa * 60 / 10^3) * (1.14 / PSD) * (10^3 / 60) & \text{Eq 4.28} \\ \text{Below ground pipe (te)} &= 1.464 / PSD * (Vs + 0.333 * PSD^2 * td / Qa * 60 / 10^3) * (10^3 / 60) & \text{Eq 4.32} \\ \text{Below ground rect. tank (te)} &= 2.653 / PSD * (Vs + 0.333 * PSD^2 * td / Qa * 60 / 10^3) * (10^3 / 60) & \text{Eq 4.36} \end{aligned}$$

$$\text{Storage period (Ps = tf + te)} \quad \text{Eq 4.26}$$

Type	td (mins)	Qa (L/s)	Vs (L/s)	tf (mins)	te (mins)	Ps (mins)
Above Pipe B/ground	43.3	2.3	1.8	33.4	64.3	97.7

Table 3 - Period of Storage requirements for ARI of 5 years

Orifice

$$\begin{aligned} \text{Permissible site discharge (} Q_u = PSD) &= 0.57 \text{ L/s (Above ground storage)} \\ \text{Orifice coefficient (CD)} &= 0.61 \text{ For sharp circular orifice} \\ \text{Gravitational acceleration (g)} &= 9.81 \text{ m/s}^2 \\ \text{Maximum storage depth above orifice (H)} &= 226 \text{ mm} \\ \text{Orifice flow (Q)} &= CD * A_o * v(2 * g * H) \end{aligned}$$

Therefore:

$$\begin{aligned} \text{Orifice area (A}_o) &= 441 \text{ mm}^2 \\ \text{Orifice diameter (D = } \sqrt{4 * A_o / \pi}) &= 23.7 \text{ mm} \end{aligned}$$

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Soakage Trench for existing shed

Hydrology						
A1 = impervious area collected	205	sqm				
C1 = coefficient	1					
A2=Impervious area	0	sqm				
C2= Coefficient	0					
ARI = Annual Recurrence Interval	20	yr				
Ground Conditions						
Hydraulic conductivity K (absorption rate)	0.1667	mm/min				
Adjusted rate (15% clogging factor)	0.1417	mm/min				
Trench Design						
Length, L	10	m				
Width, B	4	m				
Depth, h	1	m				
Base area, BA	40	sqm				
Void space	35%					
Trench Storage	14	cum				
	14000.00	L				
Detention tank data			Final Check			
Tank storage	3.00	cum	Criteria	Required	Design	Check
Tank Underflow	0.57	L/s	Total Detention needed	1,800	17000	OK
Tank Underflow	34.20	L/m	Trench capacity underflow for 5% AEP 20-minute storm	571	14000	OK
Total Available storage	17	cum				
	17000	L				

C(roof)	1
---------	---

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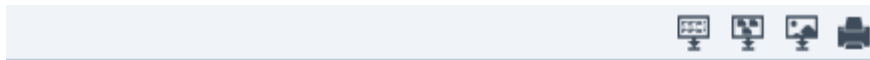
Checking storms

	Duration (min)	Intensity (mm/hr)	Vol in System(L)	Vol in Trench (L)	Vol out Trench (L)	Storage total System (L)	Storage Trench(L)	Hours to empty Trench
5Mins	5	85.3	1457	171	28	1429	143	1
6Mins	6	80.94	1659	205	34	1625	171	1
10Mins	10	63.5	2170	342	57	2113	285	1
20Mins	20	43.8	2993	684	113	2880	571	2
30Mins	30	34.5	3536	536	170	3366	366	2
1Hr	60	22.8	4674	1674	340	4334	1334	5
2Hrs	120	15.4	6314	3314	680	5634	2634	10
3Hrs	180	12.5	7688	4688	1020	6668	3668	14
6Hrs	360	8.84	10873	7873	2040	8833	5833	23
12Hrs	720	6.21	15277	12277	4080	11197	8197	36
24Hrs	1440	4.13	20320	17320	8160	12160	9160	51
48Hrs	2880	2.5	24600	21600	16320	8280	5280	64
72Hrs	4320	1.78	26273	23273	24480	1793	-1207	68

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IFD Design Rainfall



Location

Label: 2438 Huon Hwy, Huonville TAS 7109
Latitude: -43.015 [Nearest grid cell: 43.0125 (S)]
Longitude: 147.06 [Nearest grid cell: 147.0625 (E)]



IFD Design Rainfall Intensity (mm/h)

Issued: 03 May 2023

Rainfall intensity for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP).
[FAQ for New ARR probability terminology.](#)

Table Chart

Unit: **mm/h**

Duration	Annual Exceedance Probability (AEP)						
	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	61.0	69.2	96.6	117	139	170	196
2 min	52.9	59.7	81.4	96.4	111	130	145
3 min	46.7	52.8	72.4	86.2	100	118	133
4 min	42.0	47.5	65.6	78.6	91.9	110	125
5 min	38.2	43.3	60.2	72.5	85.3	103	118
10 min	27.5	31.2	43.8	53.4	63.5	78.5	91.0
15 min	22.3	25.2	35.4	43.2	51.5	63.7	74.0
20 min	19.1	21.6	30.2	36.8	43.8	54.0	62.7
25 min	16.9	19.1	26.7	32.4	38.4	47.2	54.6
30 min	15.2	17.2	24.0	29.1	34.5	42.2	48.6
45 min	12.2	13.8	19.1	23.0	27.0	32.7	37.3
1 hour	10.4	11.8	16.3	19.5	22.8	27.3	30.9
1.5 hour	8.38	9.50	13.1	15.6	18.1	21.4	24.0
2 hour	7.19	8.17	11.3	13.4	15.4	18.2	20.3
3 hour	5.81	6.63	9.15	10.8	12.5	14.6	16.2
4.5 hour	4.69	5.37	7.47	8.85	10.2	11.9	13.2
6 hour	4.02	4.62	6.46	7.67	8.84	10.4	11.5
9 hour	3.22	3.71	5.23	6.24	7.22	8.54	9.55
12 hour	2.73	3.15	4.46	5.35	6.21	7.40	8.32
18 hour	2.13	2.46	3.51	4.23	4.94	5.95	6.74
24 hour	1.77	2.04	2.91	3.52	4.13	5.01	5.70
30 hour	1.52	1.75	2.49	3.02	3.56	4.32	4.94
36 hour	1.34	1.54	2.18	2.65	3.12	3.80	4.35
48 hour	1.09	1.24	1.75	2.12	2.50	3.05	3.50
72 hour	0.799	0.905	1.26	1.51	1.78	2.16	2.47
96 hour	0.638	0.718	0.983	1.18	1.37	1.66	1.89
120 hour	0.536	0.600	0.813	0.965	1.12	1.35	1.53
144 hour	0.465	0.520	0.698	0.824	0.952	1.14	1.28
168 hour	0.414	0.463	0.617	0.725	0.832	0.989	1.11

Note:

The 50% AEP IFD **does not** correspond to the 2 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 1.44 ARI.

* The 20% AEP IFD **does not** correspond to the 5 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 4.48 ARI.

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CERTIFICATE OF THE RESPONSIBLE DESIGNERSection 94
Section 106
Section 129
Section 155

To: *Owner name*

Address

Suburb/postcode

Form **35****Designer details:**

Name: *Category:*

Business name: *Phone No:*

Business address:
 Fax No:

Licence No: *Email address:*

Details of the proposed work:

Owner/Applicant *Designer's project reference No.*

Address: *Lot No:*

Type of work: Building work Plumbing work *(X all applicable)*

Description of work:*(new building / alteration / addition / repair / removal / re-erection / water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)***Description of the Design Work (Scope, limitations or exclusions):** *(X all applicable certificates)*

Certificate Type:	Certificate	Responsible Practitioner
<input type="checkbox"/>	Building design	Architect or Building Designer
<input type="checkbox"/>	Structural design	Engineer or Civil Designer
<input type="checkbox"/>	Fire Safety design	Fire Engineer
<input checked="" type="checkbox"/>	Civil design	Civil Engineer or Civil Designer
<input type="checkbox"/>	Hydraulic design	Building Services Designer
<input type="checkbox"/>	Fire service design	Building Services Designer
<input type="checkbox"/>	Electrical design	Building Services Designer
<input type="checkbox"/>	Mechanical design	Building Service Designer
<input type="checkbox"/>	Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
<input type="checkbox"/>	Other (specify)	

Deemed-to-Satisfy: **HUON VALLEY COUNCIL**
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Decision Date: 16 June 2023

Performance Solution: *(X the appropriate box)*

Other details: Onsite stormwater retention

Design documents provided:

The following documents are provided with this Certificate –

Document description:

Drawing numbers: FS-HOB-23007-40_REV00-C100 FS-HOB-23007-40_REV00-C101	Prepared by: Flussig Engineers	Date: 04.05.23
Schedules:	Prepared by:	Date:
Specifications: Performance Solution Report	Prepared by: Flussig Engineers	Date: 04.05.23
Computations: Performance solution Report	Prepared by: Flussig Engineers	Date:04.05.23
Performance solution proposals: Onsite stormwater retention	Prepared by: Flussig Engineers	Date:04.05.23
Test reports:	Prepared by:	Date:

Standards, codes or guidelines relied on in design process:
--

AS1547-2012 On-site domestic wastewater management.

AS3500 (Parts 0-5)-2013 Plumbing and drainage set.

Any other relevant documentation:
--

GES stormwater assessment 'Site assessment - 2438 Huon Highway, Huonville'
--

Attribution as designer:


I Max W. Moller, am responsible for the design of that part of the work as described in this certificate;

The documentation relating to the design includes sufficient information for the assessment of the work in accordance with the *Building Act 2016* and sufficient detail for the builder or plumber to carry out the work in accordance with the documents and the Act;

This certificate confirms compliance and is evidence of suitability of this design with the requirements of the National Construction Code.

Max W. Moller

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04.05.23

Licence No: 650370893

Assessment of Certifiable Works: (TasWater)

Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.

If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.

TasWater must then be contacted to determine if the proposed works are Certifiable Works.

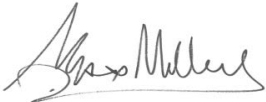
I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:

- The works will not increase the demand for water supplied by TasWater
- The works will not increase or decrease the amount of sewage or toxins that is to be removed by, or discharged into, TasWater's sewerage infrastructure
- The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- The works will not damage or interfere with TasWater's works
- The works will not adversely affect TasWater's operations
- The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- I have checked the LISTMap to confirm the location of TasWater infrastructure
- If the property is connected to TasWater's water system, a water meter is in place, or has been applied for to TasWater.

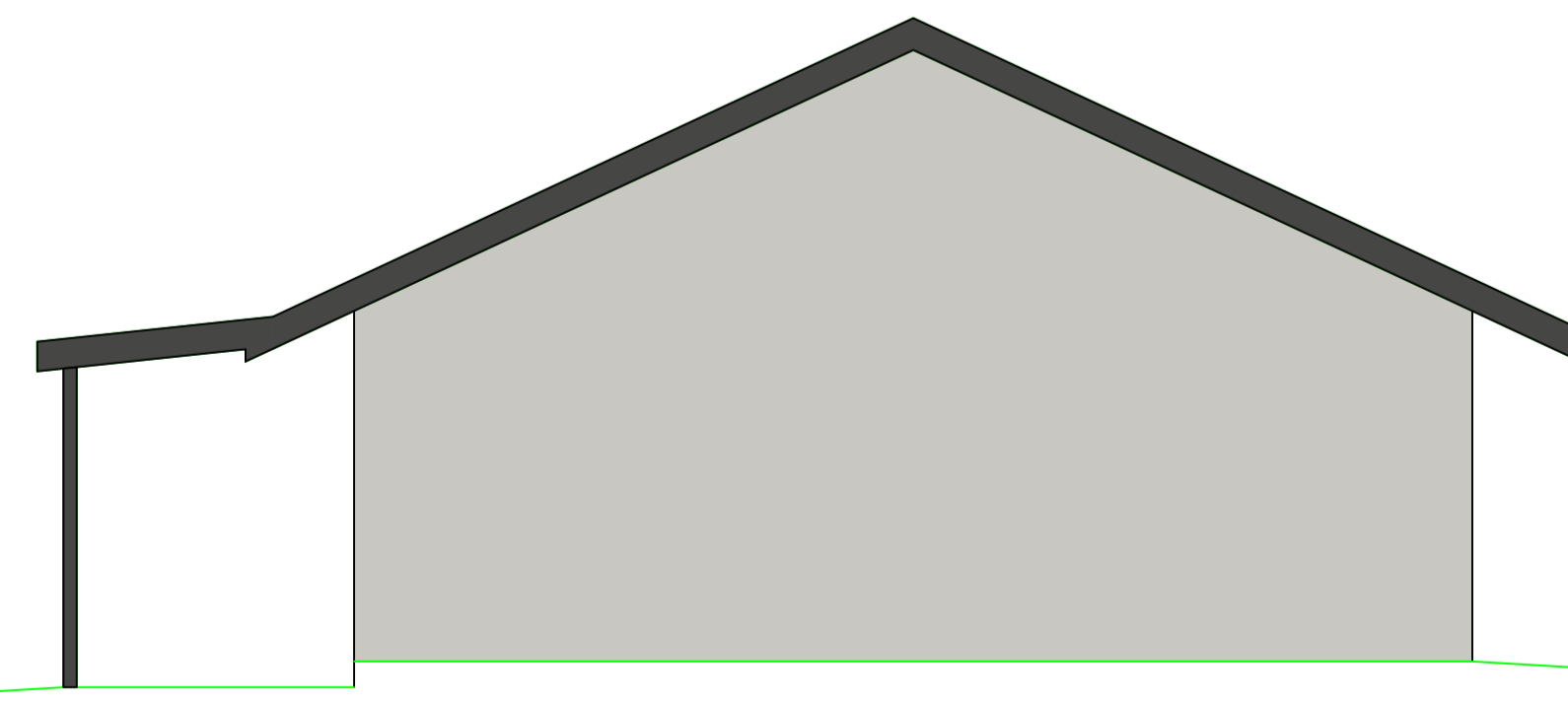
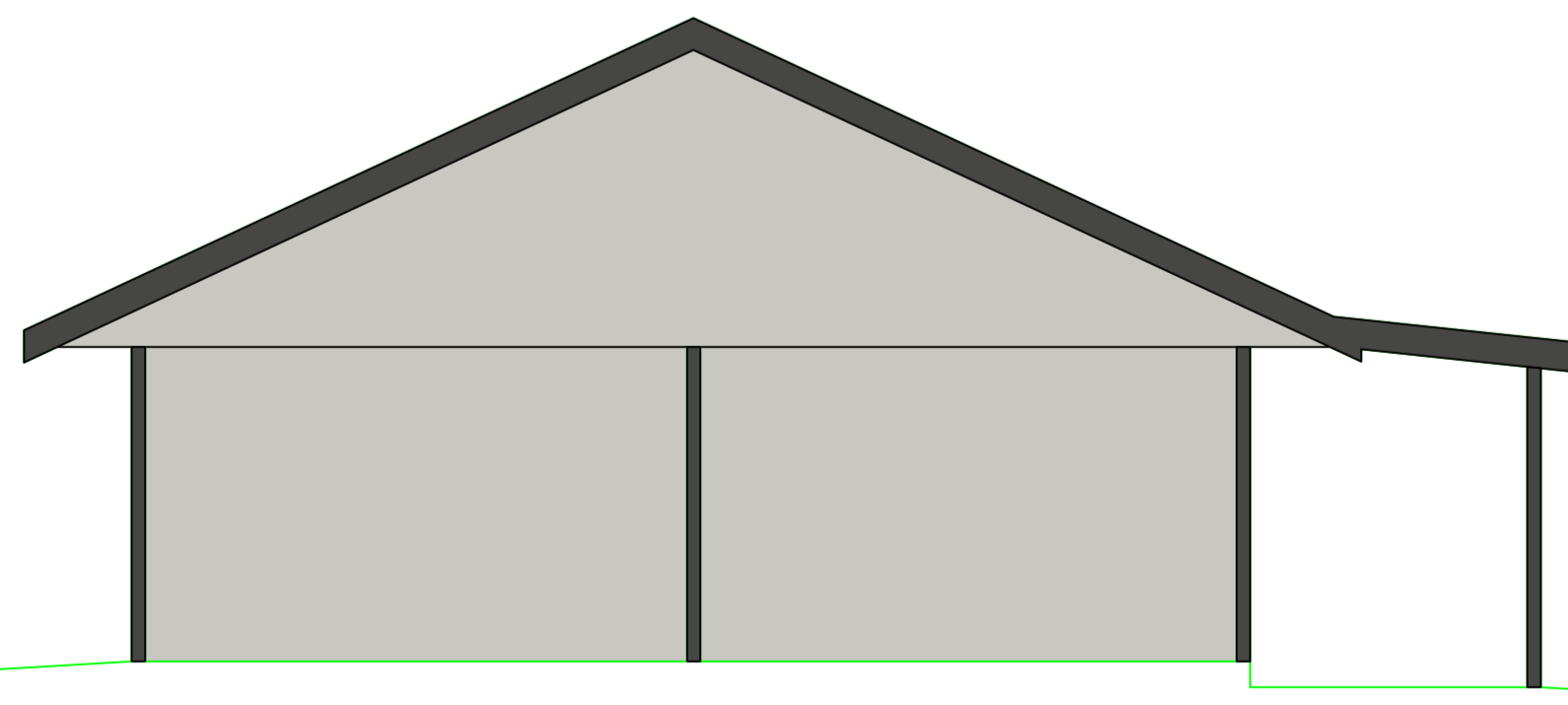
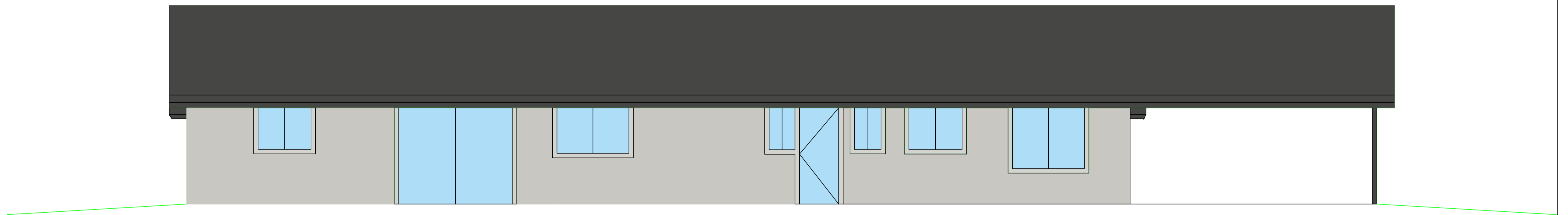
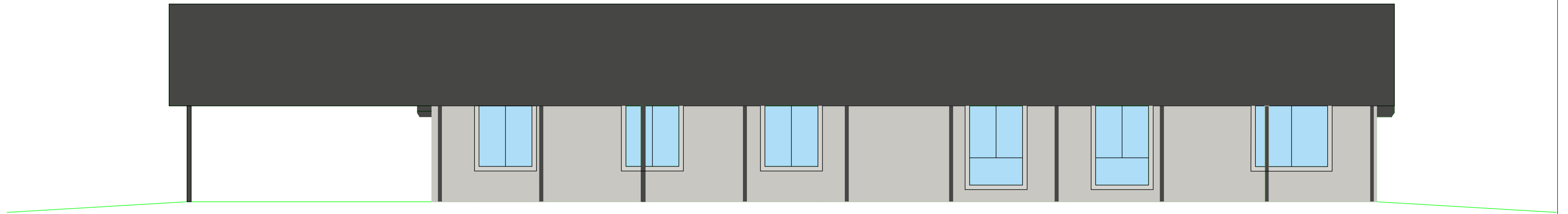
Certification:

I Max W. Moller..... being responsible for the proposed work, am satisfied that the works described above are not Certifiable Works, as defined within the *Water and Sewerage Industry Act 2008*, that I have answered the above questions with all due diligence and have read and understood the Guidelines for TasWater CCW Assessments.

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: www.taswater.com.au

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	Max W. Moller		04.05.23

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CLIENT: SAMUEL REEVE
PROJECT: ELEVATIONS
GEORGIA HABERLE DRAFTING
0447 744 792

Complete Agricultural Consulting Services

Agricultural Assessment

Of

2.02 Ha Allotment

2438 Huon Road

Huonville

Tasmania

Prepared for Samuel Flowers

By

Complete Agricultural Consulting Services

March 2023

HOUSTON COUNCIL
Planning Permit Document
Approved via Delegated Authority
Decision Date: 16 June 2023

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Report Purpose

The focus of the report is on the agricultural environment of the subject property in order to provide information for the Huon Council in making a determination on a Development Application for a single residence. The report is not available for other purposes.

Introduction

This report, prepared by Mr Frank W Walker, Manager, Complete Agricultural Consulting Services, was commissioned to provide expert comment to accompany a development proposal to the Huon Council.

An assessment has been made of the Land Classes and Capability of the subject property. Guidelines for the Classification of Agricultural Land in Tasmania, as prescribed in the Land Capability Handbook, have been followed in the assessment process. The Land Class has been identified as per the guidelines.

The report reviews the present land use and that which may apply to the allotment.

Matters relating to the Interim Huon Planning Scheme of 2015, specifically to land use within the Significant Agricultural Zone (SAZ) are addressed.

The report summarises the assessment findings following a site visit made in the company of Mr S Flowers who confirmed land boundaries in November, 2022

Disclaimer: Complete Agricultural Consulting Services, in drawing on data from various sources to develop the report, does not accept responsibility for the final outcomes as detailed.

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Summary

The Assessment reveals a constrained agricultural environment for significant agricultural production.

Without access to a cost effective irrigation water supply the Class 4 soils are best utilised as a dryland farming base

The Farm Plan provides for effective, intensive, sustainable land use within the Significant Agriculture Zone. It is evident the farming program requires the manager to reside on farm to undertake intensive management in rearing day old calves.

The farm program complies with the applicable Zone Purpose Statements.

It is recommended Council endorse the proposal to provide for the establishment of a single residence to facilitate optimum intensive farm management across the allotment.

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**Agricultural Assessment
Of
2.02 ha Allotment at 2438 Huon Highway, Huonville.**

1. Background

An agricultural assessment has been undertaken to ascertain the suitability of the property for intensive agriculture/optimum farming operations on land classed as Significant Agriculture.

2. Property Location and Area

The subject land, depicted in Appendix 1, is located approximately 3 kms North of the Huonville business centre. It comprises a rectangular 2.02 ha allotment of open, undulating pasture.

3. Property Environment

3.1 Climate

3.1.1 Rainfall

The property lies in a medium rainfall area of approximately of 650-700 mm per annum, with a predominant winter distribution.

The area is occasionally subject to hailstorms that can cause significant damage to fruit crops.

3.1.2 Temperatures

Temperatures experienced throughout the year are conducive to a limited range of high value temperate agricultural practices.

Severe frosts are experienced throughout the region over winter. Damaging late season frosts are often experienced within the locality.

3.1.3 Wind

The open farming area is exposed to prevailing west/northwest winds, which can contain the production of horticultural enterprises.

3.2 Soil Type

The property is within the Cygnet Hills Land System (LS No. 464142) with a duplex soil , comprised of deep loam over a medium clay (Ref.1). As noted under this Land System the land resource is commonly deployed as a base for grazing and orchards.

3.3. Topography and Drainage

The land form, adjoining the Huon Highway, comprises gently undulating pasture land. Approximately one fifth of the allotment is low lying with poor drainage.

The land form is a higher terrace within the Huon Flats system. (Ref 2).

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4. Water Supply

The property is serviced with a TasWater supply providing domestic and stock water. As there is insufficient scope to harvest and contain a water supply for significant intensive farming enterprises/irrigation projects, land use is severely constrained.

It is not practical nor economically feasible to use the domestic supply source over summer for commercial orchards and vineyards.

5. Land Capability and Classification

Land capability assessment takes into account the physical nature of the land (eg. geology, soils, slope, stoniness) and other factors such as climate, erosion hazard, drainage and the land management practices required for sustainable operations.

Land capability assessment should not be confused with a suitability assessment which takes into account economic and social issues in reviewing the best use options.

Under the Tasmanian Land Capability Classification System (Ref.3) the land across the allotment is regarded as Class 4.

The subject land is not considered within the Classification System to be prime agricultural land (Class 1, 2, or 3).

6. Effective Land

Excluding the very low lying land and the proposed building areas the effective cultivation area across the allotment is noted to approximately 1.75 ha.

With fully improved pastures the maximum winter carrying capacity is estimated as 25 dry sheep equivalents.

7. Land Use

With the allotments effective area being less than 2 ha, together with the land form not suited to harvesting several megalitres of water for irrigation and the constrained farm environment the land remains a dry land grazing unit.

Due to the size of the allotment and the farming environment, the property can only provide a base for hobby farming operations.

The proposed Farm Plan (Appendix 2) provides for sustainable land use.

There is a large residential area some 100 meters to the south and a residence and associated buildings on the northern boundary. The proximity to the residences is a matter that has to be addressed in determining optimum land use, preferably avoiding the use of air-blast sprayers.

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8. Significant Agricultural Zone Matters

A requirement of the SAZ is that residential use is necessary to undertake farming/management. The detailed Farm Plan provides for a farming program that meets the Significant Agriculture Zone Purpose Statements (Clause 27.1.1) and provides evidence that on site management is required.

It is submitted that it is appropriate for Council to apply discretion and approve a residence and enable onsite management to provide for timely critical inputs in rearing day old calves.

9. Council Planning Scheme

9.1 Huon Interim Planning Scheme 2015

The following agricultural matters relating to the Significant Agriculture Zone are addressed:

Clause 27. Significant Agricultural Zone

27.0 Zone Purpose Statements

27.1.1.1 To provide for the use or development of land for higher productivity value agriculture dependent on the soil as a growth medium.

The proposed calf rearing enterprise involves intensive use of the pasture, providing for higher productivity. Floriculture enterprises again provide for higher productivity.

27.1.13 To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.

The planned enterprises and farming program provide for sustainable land management. The proposed infrastructure complies with this statement.

27.1.1.7 To ensure that new residential use is only established where necessary to facilitate the management of the land for agricultural purposes and does not fetter existing or potential agricultural use.

The potential owners need to reside on site to undertake the intensive farming program detailed in the Whole Farm Plan, presented in Appendix 2. The calf rearing work requires constant interaction with the animals to ensure high levels of welfare and hygiene to ensure economic production.

The proposed enterprises have been selected with care in order to minimise the impact of management inputs on both adjacent and nearby properties. Hence fettering should not be an issue.

Clause 27.2 Discretionary Use Table

Residential: Only if a single dwelling necessary to support agricultural use on the property.

The Whole Farm Plan presented in Appendix 2 outlines the enterprises to be undertaken. It is necessary for management to reside on site to ensure good levels of animal welfare/management and hygiene are maintained.

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The Significant Zone Purpose Statement can be achieved in implementing the farming program. The Farm Plan provides for long term sustainable farming of the small allotment within the constrained environment and is endorsed as realistic land use under the prevailing environment.

10. State Policy on the Protection of Agricultural Land

Purpose: To protect prime agricultural land from development which would reduce potential production value.

The Land Capability Assessment shows the subject land to be Class 4 whereas prime agricultural land is regarded as Class 1 to Class 3 inclusive.

11. Summary

The agricultural capacity is constrained due to:

- The limited effective cultivation area of 1.75 ha within the 2.02 ha allotment.
- The local climate with significant winter and spring frost incidence.
- No prospects for harvesting and storing a significant quantity of water or irrigation; only the TasWater supply being available for domestic and stock water.
- Nearby residences restricting use/the timing of some critical management practices such as using air blast sprayers.

The proposed Farm Plan provides for effective, sustainable use of the Class 4 land.

Approving a residence, on the non prime agricultural land, facilitates meeting key Significant Agriculture Zone Purpose Statements.

12. Recommendation

A Development Application for a single residence be approved.



F W Walker HDA, GDE, FAIAST.
Manager
Complete Agricultural Consulting Services

Reference 1: Land Systems South, East and Midlands (region 6) DPIWE. A Resource Classification Survey, Dept. Agriculture, 1988.

Reference 2: DeRose R.C. (2001) Land Capability Survey of Tasmania D'Entrecasteaux Report. Department of Primary Industries Water and Environment, Tasmania, Australia.

Reference 3: Land Capability Handbook. Guidelines for Classes of Agricultural Land in Tasmania, second edition, DPIWE 1999.

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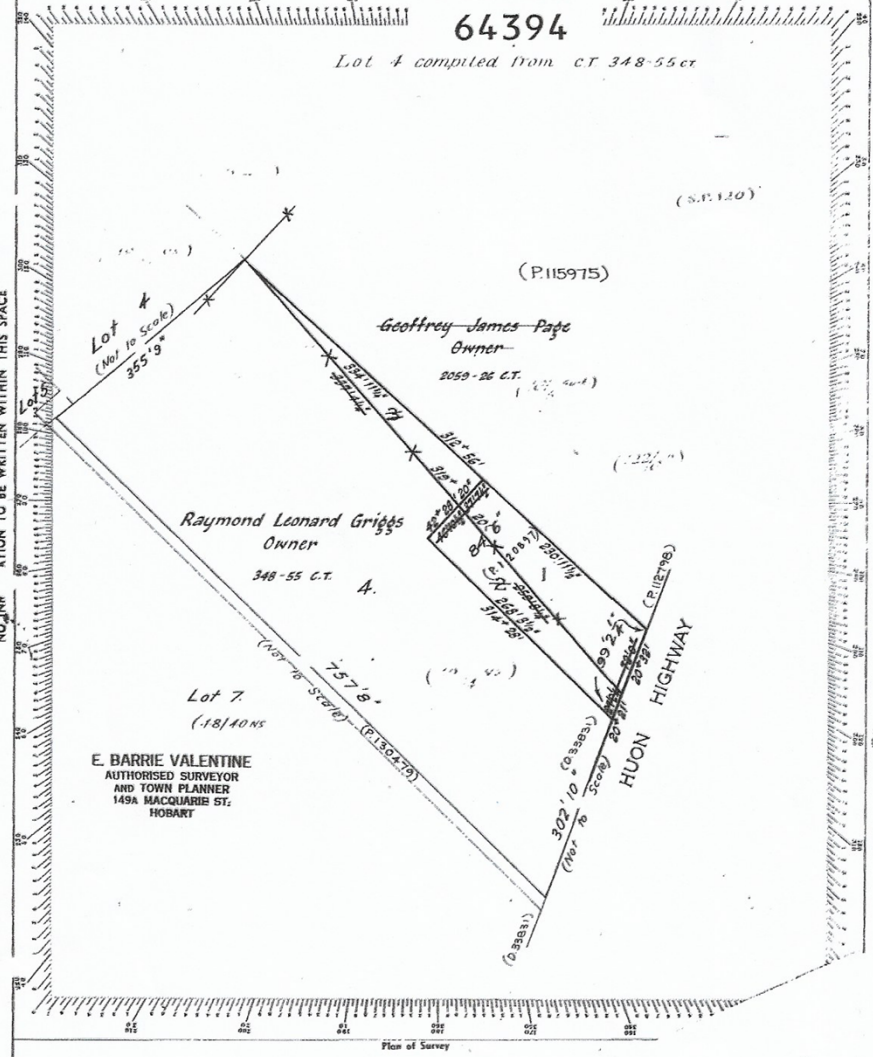
Appendix 1



FOLIO PLAN
RECORDER OF TITLES
Issued Pursuant to the Land Titles Act 1980



Owner <i>Raymond Leonard Griggs</i>		PLAN OF SURVEY		Registered Number	
Title Reference <i>348-55 ct 2058-26 ct</i>		by Surveyor <i>E. Barrie Valentine</i>		S.P.2610	
Area of Parcel		of land situated in the		Filed by: <i>W. J. ...</i>	
Lot Number	Area	Lot Number	Area	on <i>4/1/23</i> at <i>...</i>	
1	0.2.0.4			Received by: <i>...</i>	
2	3.4.7			Receiving Clerk: <i>...</i>	
3	2.3.1			Effective from: <i>...</i>	
4	4.3.39.2			Recorder of Titles / Registrar of Deeds	
Total	5.1.39.6				
Total	2.5.10	Total			



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Appendix 2

**Whole Farm Management Plan
2438 Huon Highway, Huonville.****Property Data****1. Farm Land**

The land forming the base for the Farm Plan comprises 2.02 ha. It is fully developed, under improved pasture.

There is a residence and farm sheds alongside the northern boundary; approximately 80m from the southern boundary is a large residential area. Due to the nearby residences, “passive” enterprises are being implemented.

2 Planned Land Use**2.1 Grazing - Calve Rearing**

The farm will be utilised as an intensive management base with a calf rearing enterprise.

The enterprise is based on buying in groups of day old calves and initially rearing them on special calf rations within a purpose built shed. Most calves will be raised over winter to take advantage of spring pasture growth.

With increasing access to pasture, the calves will be weaned onto specially managed swards and grown out for sale as weaners.

Strip grazing, via electric fencing, will be undertaken daily to optimize use of available pasture production throughout the year.

The property will be fenced into five paddocks each with water troughs. Fencing will be comprised of ringlock © with an electric wire.

The effective grazing area is noted as approximately 1.75 ha. The long term carrying capacity is assessed at 25 DSE's.

A two pen stock yard and loading ramp to be constructed.

Capital costs: calf shed \$6800; loading ramp \$2500; yards \$1950; fencing and gates \$2280.
Total \$13550.

2.1.1 Calf Rearing Enterprise Business Data

Purchase day old cross bred and fine bred dairy calves to average \$150. Managed in groups of five to ten head.

The calves are collected as available from dairy farms/received on site and intensively managed for the first four weeks in the especially constructed shed with straw as soft, warm bedding.

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On arrival the calves are immediately injected with 7in1. Drenching will be undertaken according to situation and need.

Milk feeding program: initially up to 1.5 litres four times a day for 4 days then 2 litres three times a day for some 10 days, then 3 litres twice a day for a further 4 weeks.

Calf grain fed daily from first two weeks with hay, with access to pasture from four weeks and as weaning begins pasture strip feeding undertaken with new /fresh areas made available every day.

Present feed costs (milk, grain, hay) and animal health inputs costed at \$595/hd.

Late summer and autumn weaner sales to average \$1050/head net. After purchase and rearing costs of say \$750, net margin \$300/hd. Net income of \$3,000 per batch of 10.

The available grazing area is the primary restriction, limiting the number of stock that can be grown out on pasture.

2.1.2 Need For On Site Labour

An ongoing presence is required daily from when the calves are intermittently received in order to intensively nurture them. It is vital the delicate day old calves are closely managed to achieve a high level of animal welfare and hygiene to avoid scours and costly deaths.

The calves will be received/trickle in over a three month period (May-July). Each will be placed under lamps immediately on arrival and fed as detailed above (initially four times a day). Thus considerable inputs are made daily over some 16 to 20 weeks from when the first last to calf is received.

Constant daily inputs are required to ensure good levels of both animal welfare and hygiene are maintained.

There is the daily feeding/attention for all calves into the early spring with on going letting out to strip grazing and initially re-shedding at night into early spring.

It is necessary to closely monitor the calves at all times to avoid any growth checks / ill thrift as this incurs slow growth and lower returns.

In summary, for good animal welfare and general management the enterprise managers need to reside on site.

2.2 Floriculture

Small scale floriculture is another option planned to best utilise the metered TasWater supply. Floriculture will focus on perennials, with production based on supply needs identified from time to time with florists.

Perennials can be better managed with drip/mini sprinkler irrigation, more efficiently using the costly TasWater supply.

It is proposed to use the Tasmanian Flower emblem, the red flowering Waratah in shelter hedges, harvesting several hundred long stem flowers for sale at \$2 each; gross \$1000.

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Lavender flower stems as fillers for florists; gross \$500

Miscellaneous sales of items arranged to supply to certain florists; gross \$1000
Estimated net income of \$ 2500/ year.

Submitted by Samuel Flowers.

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Appendix 3

Complete Agricultural Consulting Services

SPECIALISING IN:

- FARM APPRAISAL AND ENTERPRISE SUITABILITY/ASSESSMENT
- FINANCIAL PLANS AND MANAGEMENT
- WHOLE FARM MANAGEMENT AND RISK ASSESSMENT
- LAND USE CAPABILITIES AND CLASSIFICATION
- COMPARATIVE FINANCIAL ANALYSIS
- DAMAGE AND LOSS ASSESSMENT
- LITIGATION - RECOVERY OF LOSSES AND INCOME FOREGONE
- DEVELOPMENT OF RESEARCH AND DEVELOPMENT PROPOSALS
- DEVELOPMENT AND PRESENTATION OF BUSINESS PROPOSALS
- DEVELOPMENT OF INDUSTRY PLANS

Manager: Frank W Walker, HDA, GDE, FAIAST.

Business Address: 1A Lindeith Court, Sandy Bay Tas. 7005

Postal Address: PO Box 471, Sandy Bay Tas. 7006

Mobile 0417 543 057

E-mail: fwalker5@bigpond.com

ABN 39234 855 763

~~CONFIDENTIALITY ASSURED IN ALL BUSINESS OPERATIONS~~

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Farm Appraisal & Assessment

- Establishes the suitability of the farm to various livestock enterprises, intensive operations (including vineyards) extensive cropping programs and business opportunities.
- Development of a farm program within the constraints of the farm to suit your personal needs and lifestyle.

Financial Plans & Management

- Development of enterprise and farm cash flow budgets.
- Management of financial operations on behalf of owners and financiers.
- Development of data for loan applications; assistance in arranging finance.

Whole Farm Planning & Risk Management

- Assistance to develop a Whole Farm Plan for intensive and extensive systems.
- Development of Risk Outlines for existing and new farming systems.

Land Classification

- Assessment of land use and classification for Councils, reports for subdividers; potential for rezoning.

Comparative Financial Analysis

- Establish how you rate in terms of returns per hectare, \$ profit per livestock unit carried, profit per labour unit employed and return to capital.
- Assessment of your farming system to improve operations in line with your interests and preferred income level and lifestyle.

Loss & Damage Assessment

- Assessment of losses incurred and income foregone through inappropriate action of a second party (eg. incorrect advice).
- Crop damage from spray drift, inappropriate contractor operations.
- Independent insurance assessments for livestock and crop losses, including fire damage.

Litigation

- Recovery of damages through special arrangements with experienced barristers.
- Representation as expert witness in legal proceedings.

Development of Research & Development Proposals

- Advice on the formulation of proposals to meet the needs of R&D Corporations and other agencies. Optimum extension program design.

- **Development and Presentation of Business Proposals**
Professional presentations to Business Organisations and finance institutions.

- **Assistance in Development of Industry Plans**
Assist in identification of industry needs and

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From: "Samuel Flowers" <samuelflowers1992@gmail.com>
Sent: Mon, 20 Mar 2023 20:25:33 +1100
To: "Huon Valley Council" <hvc@huonvalley.tas.gov.au>
Subject: Application Additional information
Attachments: 15 x 12 shed.pdf, farm plan.docx, site plan 3pdf.pdf

Hi Yinghuan Liu

Here is the further information requested for planning on 2438 huon highway,
Huonville, Tasmania 7109.

Application No: DA-9/2023
Property ID: 3108834

1. clause 27.3.1 & 27.3.3 Sensitive Use and Discretionary Use

Please see updated farm management plan and Site plan

2. Clause 27.4.3 External Finishes A2/P2

wall colour will be dover white and roof colour shale grey.

3. Clause 27.4.3 Fill or excavation A3/P3

Fill will be brought in to fill from zero on the northern side of house and shed to 600mm high
build up to level pad for slab preparation.

4. Clause E6.0 - Parking and Access code

Access driveway and parking will be will be gravel with Geo fab lining underneath with culverts
and spoon drains for stormwater flow and access off highway will be sealed.

5. Clause E7.0 Stormwater Management Code

Stormwater will be managed by spoon drains and water tanks for stormwater catchment from
House and Shed.

6. Clause E14.0 Scenic landscapes Code

Amended site plan to have hedging or red flowering waratah for screening of Dwelling from
Huon Highway.

Updated site plan and Farm plan and shed building Attached below.

Thanks Samuel and Courtney

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me 9 May
to hvc ▾



Hi yinghuan Liu

Further information on the application on 2438
huon highway Tas 7109

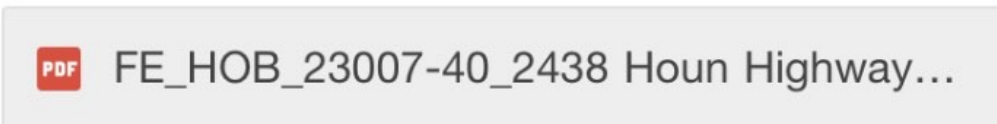
Clause 27.4.3 External Finishes A2/P2

External colours are shale grey for roof colour and
Dover white for exterior wall colours, please find
attached a coloured picture of what the house
colours will look like.

Clause E7.0 stormwater management code

Please see attached stormwater report produced
by GES solutions and stormwater to be collected
in tanks

Thanks Samuel



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