ONSITE-WASTEWATER ASSESSMENT

4587 Bruny Island Main Road

Lunawanna

January 2025

Updated November 2025

GES

GEO-ENVIRONMENTAL

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Investigation Details

Client:	Ronald Young + Co Builders
Site Address:	4587 Bruny Island Main Road, Lunawanna
Date of Inspection:	01/11/2024
Proposed Works:	New house
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

Site Details

Certificate of Title (CT):	63797/5
Title Area:	Approx. 2400 m²
Applicable Planning Overlays:	Bushfire-prone areas, Biodiversity Protection Area
Slope & Aspect:	10° N facing slope
Vegetation:	Grass & Weeds
Ground Surface:	Disturbed

Background Information

Geology Map:	MRT 1:250000
Geological Unit:	Jurassic Dolerite
Climate:	Annual rainfall 850mm
Water Connection:	Tank
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	*AS2870:2011, AS1726:2017 & AS1547:2012*

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. Tests were conducted across the site to obtain bearing capacities of the material at the time of this investigation.

Soil Profile Summary

BH 1 Depth (m)	BH 2 Depth (m)	BH 3 Depth (m)	USCS	Description
0.00-0.20	0.00-0.20	0.00-0.20	SW	**SAND**: Trace of clay, dark grey, slightly moist, dense
0.20-1.60	0.20-1.00	0.20-0.80	CH	**Silty CLAY**: High plasticity, grey, yellow, brown, slightly moist, stiff,
1.60-2.00			CL	**Silty CLAY**: With gravels, low plasticity, pale brown, slightly moist, stiff,
2.00-3.00	1.00-2.00	0.80-1.00	GC	**Clayey GRAVEL**: Yellow, slightly moist, dense, refusal on rock.

Site Notes

Soils on site are developing over Jurassic dolerite. The soils encountered on site were deep duplex profiles that are expected to significant moderate ground surface movement with moisture fluctuations and will have low permeability with high CEC and nutrient adsorption capacity for onsite wastewater disposal.

Wastewater Classification & Recommendations

According to AS1547-2012 (on-site waste-water management) the natural soil is classified as **Light Clay (category 5)**. The site is unsuited to the installation of a traditional septic tank and trenches due to shallow soil onsite. Secondary treatment of effluent will be required, and it is proposed to install a package treatment system (e.g. Econocycle, Envirocycle, Ozzikleen etc) with treated effluent disposed by subsurface irrigation. A Design Irrigation Rate (DIR) of 3L/m^2/day has been assigned for this site.

The proposed three-bedroom dwelling has a calculated maximum wastewater output of 600L/day. This is based on a tank water supply and a maximum occupancy of 5 people (120L/day/person). With secondary treatment this will require an absorption area of at least 200m^2. This can be accommodated by subsurface drippers under natural leaf litter. For all calculations please refer to the Trench summary reports. A cut-off drain will be required and the area is to be excluded from traffic or any future building works.

In light of the use of irrigation and secondary treatment the designation of a reserve area can be eliminated. This is justified by the ease at which irrigation systems can be replaced, with old lines and mulch removed and replaced with new topsoil and irrigation systems within a 48 hour period.

To comply with E23.10.1 of the Interim Planning Scheme 2015;

A1 *Horizontal separation distance from a building to a land application area must comply with one of the following:*

(a) be no less than 6m;	Non-compliance
(b) be no less than; (i) 2m from an upslope or level building; (ii) if primary treated effluent be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) if secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a down slope building.	 Complies Complies

A2 *Horizontal separation distance from downslope surface water to a land application area must comply with any of the following:*

(a) be no less than 100m;	Complies
(b) if the site is within a high rainfall area or the site soil category is 4, 5 or 6, be no less than the following; (i) if primary treated effluent standard or surface application, 50m plus 7m for every degree of average gradient from downslope surface water; (ii) if secondary treated effluent standard and subsurface application, 50m plus 2m for every degree of average gradient from down slope surface water.	Complies
(c) if the site is not within a high rainfall area or the site soil category is not 4, 5 or 6, be no less than the following; (i) if primary treated effluent 15m plus 7m for every degree of average gradient from downslope surface water; (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient from down slope surface water.	n/a

A3 *Horizontal separation distance from a property boundary to a land application area must comply with either of the following:*

(a) be no less than 40m from a property boundary;	Non-compliance
(b) be no less than: (i) 1.5m from an upslope or level property boundary; and (ii) if primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or (iii) if secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.	Complies Complies

A4

Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m.	Complies

A5

Vertical separation distance between groundwater and a land application area must be no less than 1.5m.	Complies

A6

Vertical separation distance between a limiting layer and a land application area must be no less than 1.5m.	Non-Compliance see P6

P6 *Vertical separation distance between a limiting layer and a land application area must satisfy all of the following:*

(a) effluent must be no less than secondary treated effluent standard and applied through a subsurface land application system;	Complies
(b) vertical separation distance must be no less than 0.5m, (whether 'in ground' or by use of a raised bed).	Complies

A7 *The arrangement of a land application area must comply with both of the following:*

(a) not include areas beneath buildings, driveways or other hard stand areas;	Complies
(b) have a minimum horizontal dimension of 3m.	Complies

The following setback distances are required to comply with the E23.10.1 of the Interim Planning Scheme 2015

Upslope or level buildings:	2m
Downslope buildings:	4.5m
Upslope or level boundaries:	1.5m
Downslope boundaries:	11.5m
Downslope surface water:	68m

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table.

During construction GES will need to be notified of any variation to the soil conditions or wastewater loading as outlined in this report.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD

Director

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report

Site assessment for on-site waste water disposal

Assessment for	Ronald Young + Co Builders	Assess. Date	16-Dec-24
		Ref. No.	
Assessed site(s)	4587 Bruny Island Main Roan, Lunawanna	Site(s) inspected	1-Nov-24
Local authority	Kingborough	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and sustem sizing and design issues. Site Capability and Environmental sensitivity issues are reported separately, where 'Alert' columns flag factors with high (A) or very high (AA) limitations which probably require special consideration for system design(s). Blank spaces on this page indicate data have not been entered into TRENCH.

Wastewater Characteristics

Wastewater volume (L/day) used for this assessment = 600 (using the 'No. of bedrooms in a dwelling' method)
Septic tank wastewater volume (L/day) = 200
Sullage volume (L/day) = 400
Total nitrogen (kg/year) generated by wastewater = 2.2
Total phosphorus (kg/year) generated by wastewater = 1.1

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	51	46	49	55	47	43	66	77	80	78	74	63
Adopted rainfall (R, mm)	51	46	49	55	47	43	66	77	80	78	74	63
Retained rain (Rr, mm)	41	37	39	44	38	34	53	62	64	62	59	50
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	**89**	**73**	**52**	**19**	**4**	**-5**	**-21**	**-20**	**-1**	**22**	**46**	**76**

Annual evapotranspiration less retained rain (mm) = 334

Soil characterisitics

Texture = Light Clay Category = 5 Thick. (m) = 2
Adopted permeability (m/day) = 0.12 Adopted LTAR (L/sq m/day) = 3 Min depth (m) to water = 5

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	All wastewater will be disposed of on the site
The preferred method of on-site primary treatment:	In a package treatment plant
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	None
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Not needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	18
Width (m) =	11
Depth (m) =	0.2
Total disposal area (sq m) required =	200
comprising a Primary Area (sq m) of:	200
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The calculated DLR for the category 5 soil present is 3L/sq m/day with an absorption area of 200 sq m required for the proposed development.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report

Site assessment for on-site waste water disposal

Assessment for	Ronald Young + Co Builders	Assess. Date	16-Dec-24
		Ref. No.	
Assessed site(s)	4587 Bruny Island Main Roan, Lunawanna	Site(s) inspected	1-Nov-24
Local authority	Kingborough	Assessed by	John Paul Cumming

This report summarises data relating to the physical capability of the assessed site(s) to accept wastewater. Environmental sensitivity and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) site limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
A	Expected design area	sq m	500	V. high	High		
	Density of disposal systems	/sq km	2	Mod.	Very low		
	Slope angle	degrees	10	High	Moderate		
	Slope form	Convex spreading		High	Very low		
	Surface drainage	Mod. good		High	Low		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces N		V. high	Very low		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	600	High	Moderate		
	SAR of septic tank effluent		1.2	High	Low		
	SAR of sullage		2.1	High	Moderate		
	Soil thickness	m	2.0	V. high	Very low		
	Depth to bedrock	m	2.0	Mod.	Low		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		7.0	High	Very low		
	Soil bulk density	gm/cub. cm	1.5	High	Low		
	Soil dispersion	Emerson No.	7	V. high	Very low		
	Adopted permeability	m/day	0.12	Mod.	Very low		
A	Long Term Accept. Rate	L/day/sq m	3	High	High		

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The site has good capability to support onsite wastewater disposal.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report

Site assessment for on-site waste water disposal

Assessment for	Ronald Young + Co Builders	Assess. Date	16-Dec-24
		Ref. No.	
Assessed site(s)	4587 Bruny Island Main Roan, Lunawanna	Site(s) inspected	1-Nov-24
Local authority	Kingborough	Assessed by	John Paul Cumming

This report summarises data relating to the environmental sensitivity of the assessed site(s) in relation to applied wastewater. Physical capability and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Cation exchange capacity	mmol/100g	60	High	Moderate		
A	Phos. adsorp. capacity	kg/cub m	0.5	High	High		
	Annual rainfall excess	mm	-334	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	3.3	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	3	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
A	Dist. to nearest surface water	m	112	V. high	High		
A	Dist. to nearest other feature	m	11.5	V. high	High		
	Risk of slope instability	Very low		V. high	Very low		
	Distance to landslip	m	111	V. high	Low		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

There is a low environmnental risk associated with wastewater disposal on site.

Demonstration of wastewater system compliance to *Building Act 2016 Guidelines for On-site Wastewater*

Acceptable Solutions	**Performance Criteria**	**Compliance**
A1 Horizontal separation distance from a building to a land application area must comply with one of the following: a) be no less than 6m; or b) be no less than: (i) 3m from an upslope building or level building; (ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.	P1 a) The land application area is located so that (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation	Complies with E23 of the Interim Planning Scheme 2015 Complies with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building. Complies with A1 (b) (iii) Land application area will be located with a minimum separation distance of 4.5m of downslope building.
A2 Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b) (a) be no less than 100m; or (b) be no less than the following: (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.	P2 Horizontal separation distance from downslope surface water to a land application area must comply with all of the following: a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A2 A2 (a) Land application area will be located a minimum of 100m from downslope surface water

A3 Horizontal separation distance from a property boundary to a land application area must comply with either of the following: (a) be no less than 40m from a property boundary; or (b) be no less than: (i) 1.5m from an upslope or level property boundary; and (ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or (iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.	P3 Horizontal separation distance from a property boundary to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an upslope or level property boundary Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 11.5m of downslope property boundary.
A4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of the bore whether up or down gradient.	P4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable	Complies with A4 No bore or well identified within 50m

A5 Vertical separation distance between groundwater and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.6m if secondary treated effluent	P5 Vertical separation distance between groundwater and a land application area must comply with the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable	Complies with A5 (b) No groundwater encountered
A6 Vertical separation distance between a limiting layer and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.5m if secondary treated effluent	P6 Vertical setback must be consistent with AS/NZS1547 Appendix R.	Complies with A5 (b)
A7 nil	P7 A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties	Complies

AS1547:2012 – Loading Certificate – AWTS Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 4587 Bruny Island Main Roan, Lunawanna

System Capacity: 5 persons @ 120L/person/day

Summary of Design Criteria

DIR: 3mm/day.

Irrigation area: 200m^2

Reserve area location /use: Not assigned. Irrigation lines and topsoil will need to be replaced within a 48 hour period

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to use of AWTS and large land area

Overloading consequences: Continued overloading may cause hydraulic failure of the irrigation area and require upgrading/extension of the area. Risk considered acceptable due to monitoring through quarterly maintenance reports.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Long term under loading of the system may also result in vegetation die off in the irrigation area and additional watering may be required. Risk considered acceptable due to monitoring through quarterly maintenance reports.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the irrigation area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation by the permit authority required to ensure compliance.

Other considerations: Owners/occupiers must be made aware of the operational requirements and limitations of the system by the installer/maintenance contractor.

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form **35**

To: Ronald Young + Co Builders *Owner name*
174 Bathurst Street *Address*
Hobart 7000 *Suburb/postcode*

Designer details:

Name:	John-Paul Cumming	Category:	Bld. Srvcs. Dsgnr. - Hydraulic
Business name:	Geo-Environmental Solutions	Phone No:	03 6223 1839
Business address:	29 Kirksway Place		
	Battery Point 7004	Fax No:	N/A
Licence No:	CC774A	Email address:	office@geosolutions.net.au

Details of the proposed work:

Owner/Applicant	Ronald Young + Co Builders	Designer's project reference No.	J10899
Address:	4587 Bruny Island Main Road	Lot No:	63797/5
	Lunawanna 7150		

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

Description of work:

On-site wastewater management system - design

(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
	☐ Building design	Architect or Building Designer
	☐ Structural design	Engineer or Civil Designer
	☐ Fire Safety design	Fire Engineer
	☐ Civil design	Civil Engineer or Civil Designer
	☒ Hydraulic design	Building Services Designer
	☐ Fire service design	Building Services Designer
	☐ Electrical design	Building Services Designer
	☐ Mechanical design	Building Service Designer
	☐ Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
	☐ Other (specify)	

Deemed-to-Satisfy: ☒ Performance Solution: ☐ (*X the appropriate box*)

Other details:

AWTS with subsurface irrigation

Design documents provided:

The following documents are provided with this Certificate –

Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Nov-25
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Nov-25
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Nov-25

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:

Onsite Wastewater Assessment - 4587 Bruny Island Main Road Lunawanna - Nov-25

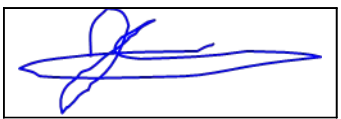
Onsite Wastewater Assessment - 4587 Bruny Island Main Road Lunawanna - Nov-25

Attribution as designer:

I John-Paul Cumming, 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.

	Name: (print)	*Signed*	*Date*
Designer:	John-Paul Cumming		05/11/2025
Licence No:	CC774A		

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:

- [x] The works will not increase the demand for water supplied by TasWater
- [x] 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
- [x] The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- [x] The works will not damage or interfere with TasWater's works
- [x] The works will not adversely affect TasWater's operations
- [x] The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- [x] I have checked the LISTMap to confirm the location of TasWater infrastructure
- [x] 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 ..... John-Paul Cumming..... 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

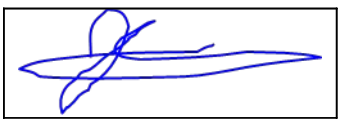
	Name: (print)	*Signed*	*Date*
Designer:	John-Paul Cumming		05/11/2025

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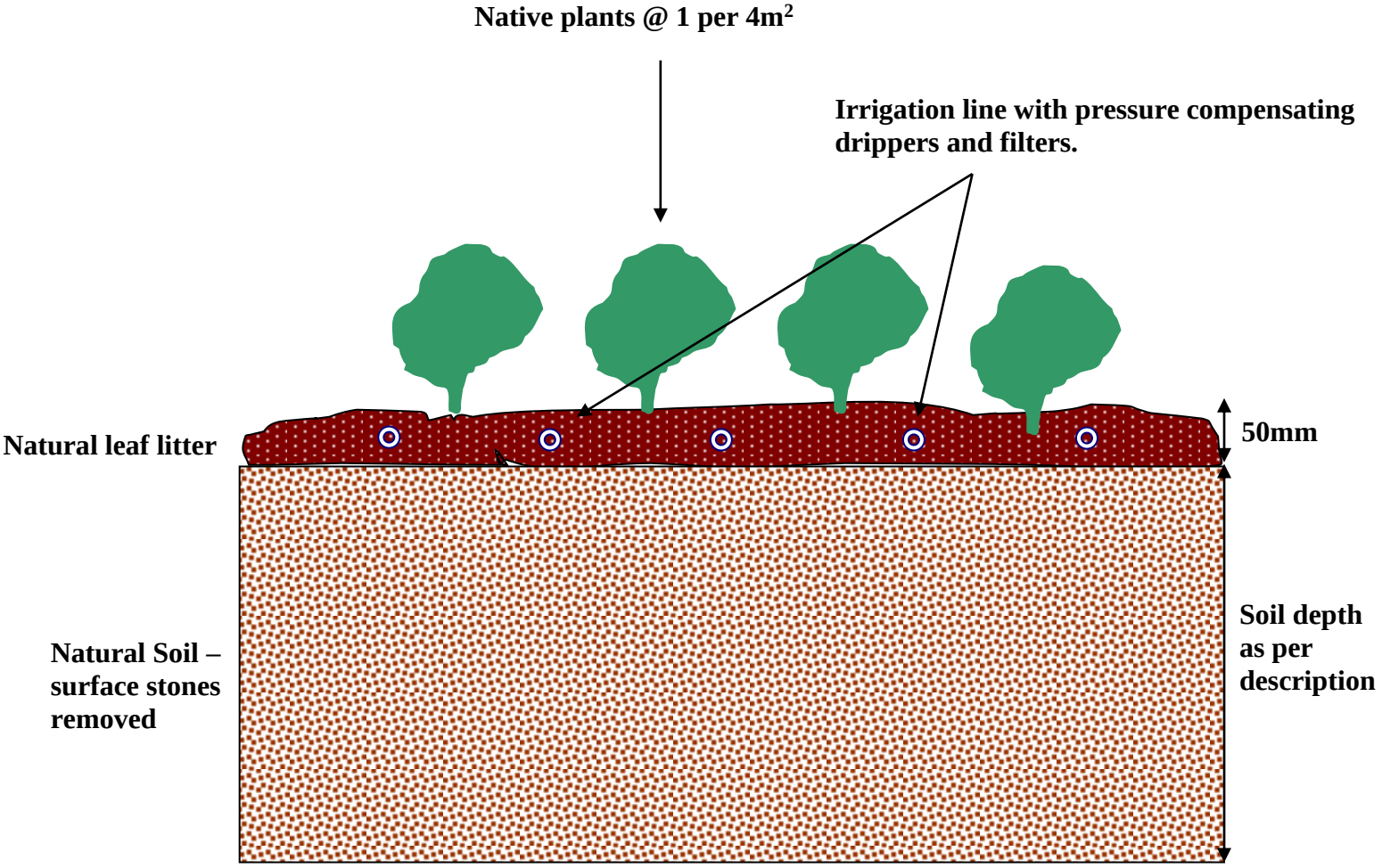
Figure 1 - AWTS

AWTS – covered surface drippers

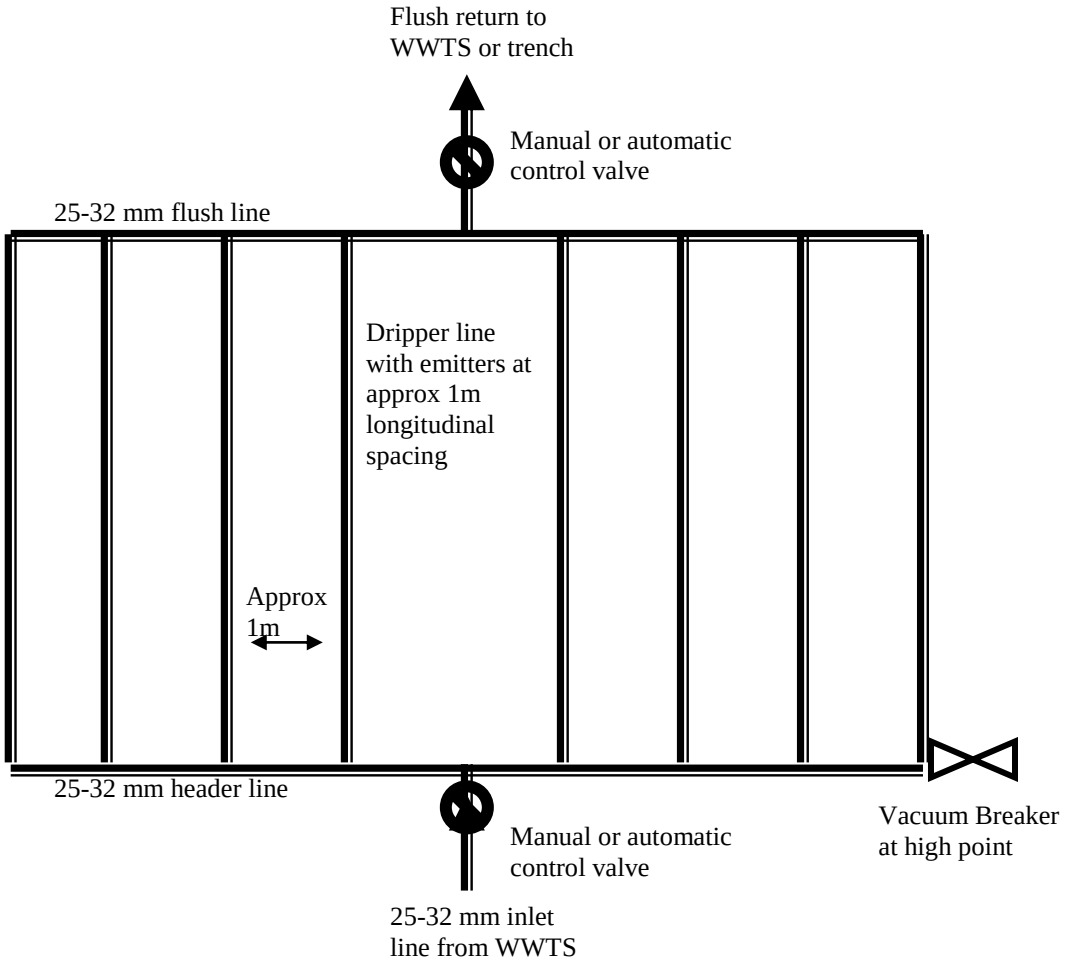
To be used in conjunction with site evaluation report for construction of irrigation areas for use with aerated wastewater treatment systems (AWTS) on shallow, duplex, or clay soils**.** On dispersive soils gypsum should be added to tilled natural soil at 1Kg/5m^2. For irrigation areas larger than 500m^2 the irrigation area should be split into multiples of at least 100m^2 with flow automatically switched between each area by a K-rain valve.

Irrigation Area Cross Section



- Irrigation lines to be placed on soil surface and covered within natural leaf litter a minimum of 50mm depth

Irrigation Area Plan View



Design specifications:

1. Manufacturer's recommendations for spacing of lateral irrigation lines should be followed with commonly used with spacing of 0.5m in highly permeable soils and 1m in less permeably loams and clays.
2. Dependent upon treatment system a 200µm filter may be installed at the pumping chamber outlet, but a 100-120 µm inline disc filter **should** be installed prior to discharge into the irrigation area.
3. A vacuum breaker valve must be installed at the highest point of each irrigation zone in a marked and protected valve control box.
4. A flush line must be installed at the lowest point/bottom of the irrigation area with a return valve for flushing back into the treatment chamber of the system (not into the primary chamber as it may affect the performance of the microbial community) or to a dedicated absorption trench.
5. The minimum irrigation pumping capacity should be equivalent to 120kpa (i.e. 12m of head) at the furthest point of the irrigation area (a gauge should be placed at the vacuum breaker) – therefore pump size can be matched on site to the irrigation pipe size and design.

THIS PLAN IS ACCEPTED BY:

.....

PLEASE NOTE: No Variations will be permitted after plans are signed by the client (with exception of Council requirements/ approvals.
SIGNATURE:

.....

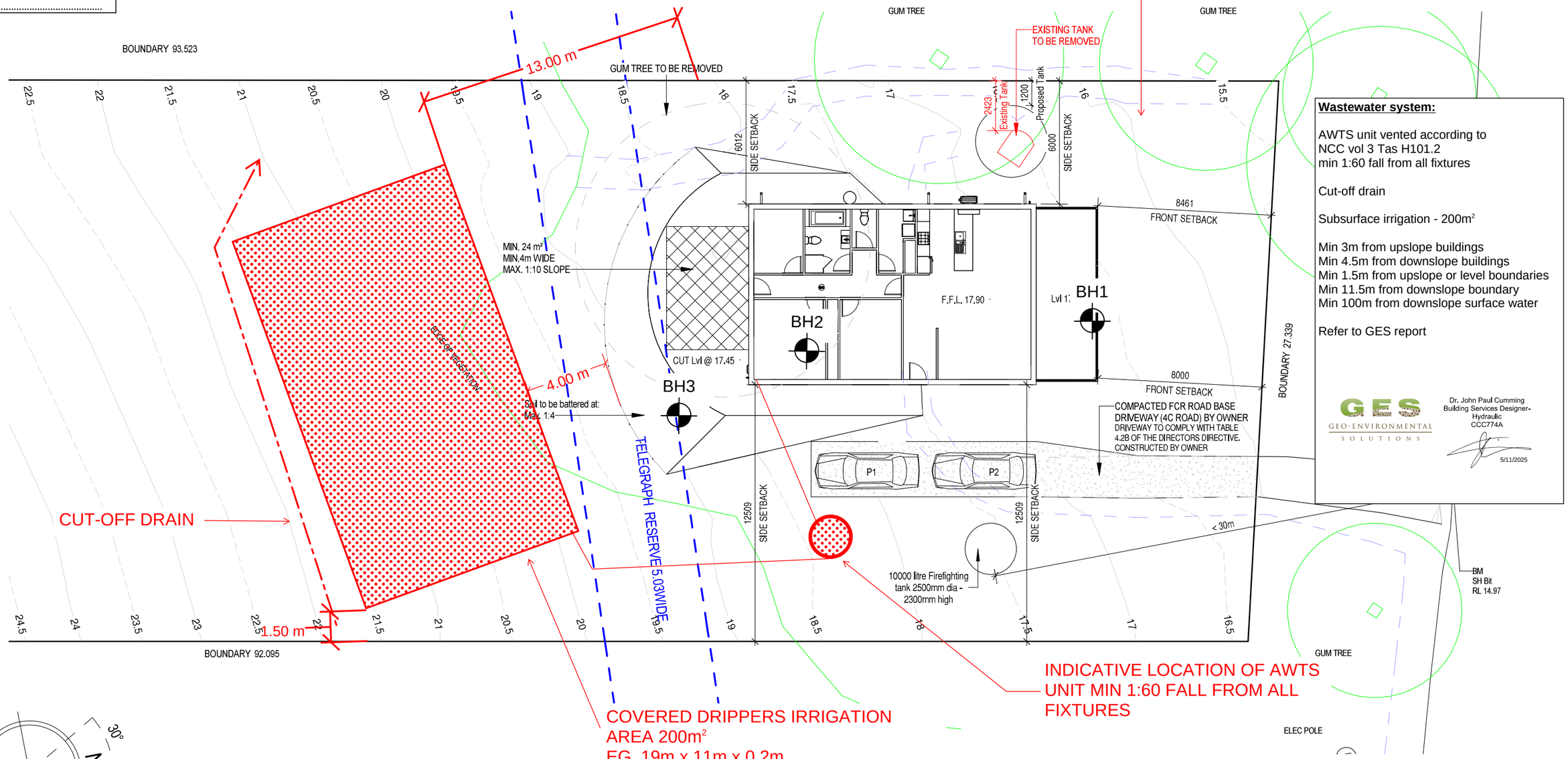
DATE:

.....

Ground FL	17.900
CL	20.300

RONALD YOUNG + CO BUILDERS

174 Bathurst Street, Hobart, Tasmania 7000
Phone 03 6234 7633



Wastewater system:

AWTS unit vented according to NCC vol 3 Tas H101.2
min 1:60 fall from all fixtures

Cut-off drain

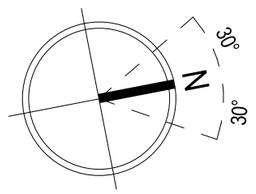
Subsurface irrigation - 200m²

Min 3m from upslope buildings
Min 4.5m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 11.5m from downslope boundary
Min 100m from downslope surface water

Refer to GES report

GES GEO-ENVIRONMENTAL SOLUTIONS

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A
5/11/2025



GLAZING NOTE:
All windows are Double glazed.

AREA SCHEDULE

Dwelling Area : 123.2 m²

Deck : 25.4 m²

Scale: 1 : 200

PROPOSED DWELLING FOR MORGAN
AT 4587 BRUNY ISLAND MAIN ROAD, BRUNY ISLAND

Rev.	Date	Revision Description	Drawn
A	20.01.2025	BAL/Setback modified & water tank details added	RK
	11.10.2024	BA PLANS	RK

BAL : 29

DRAWING: SITE PLAN
DATE: 20.01.2025
PROJECT No: 2311
DRAWN BY: RK
DWG No: 01B

GEO-ENVIRONMENTAL
SOLUTIONS
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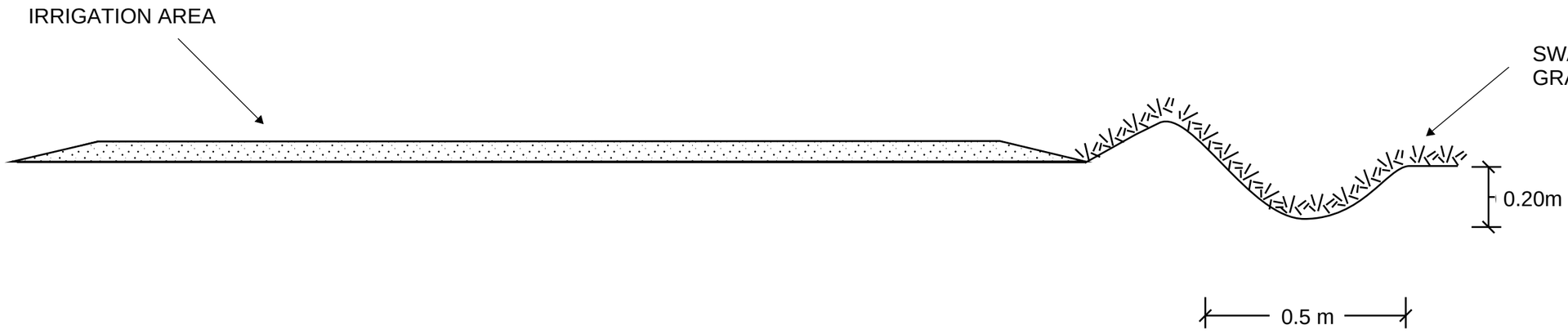
TYPICAL GRASSED SWALE DRAIN CROSS-SECTION

SWALE DRAIN TO BE MIN 0.5M WIDE BY MIN 0.20M DEEP

GRASS COVER TO BE MAINTAINED TO SLOW WATER FLOW AND MINIMSE EROSION



Do not scale from these drawings. Dimensions to take precedence over scale.	Geo-Environmental Solutions			Grassed swale drain typical cross-section	Sheet 1 of 1 Drawn by SR

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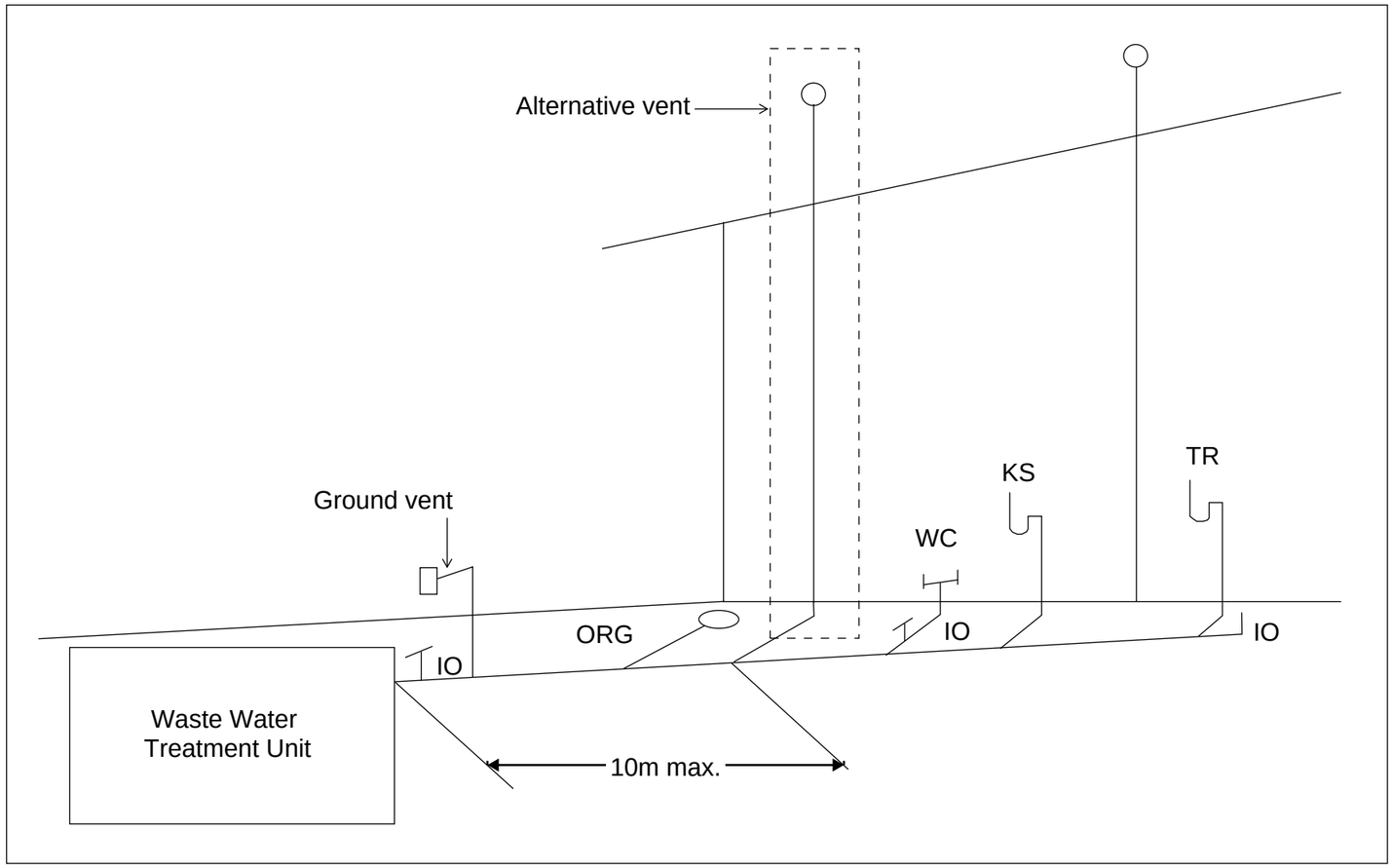

Tas Figure C2D6 Alternative Venting Arrangements

Vents must terminate in accordance with AS/NZS 3500.2

Alternative venting to be used by extending a vent to terminate as if an upstream vent, with the vent connection between the last sanitary fixture or sanitary appliance and the on-site wastewater management system. Use of a ground vent in not recommended

Inspection openings must be located at the inlet to an on-site wastewater management system treatment unit and the point of connection to the land application system and must terminate as close as practicable to the underside of an approved inspection opening cover installed at the finished surface level

Access openings providing access for desludging or maintenance of on-site wastewater management system treatment unites must terminate at or above finished surface level

Do not scale from these drawings. Dimensions to take precedence over scale.				Tas Figure C2D6 Alternative Venting Arrangements		Sheet 1 of 1