



Onsite Wastewater Solutions

DTS AS/NZS 1547 for Land Application Areas Directors Guidelines OSWMS

G McRea & T Wilkie 4850 Channel Hwy Gordon

Objective:

To provide for sustainable onsite wastewater management through the provision of appropriate land application areas.

Acceptable Solutions	Performance Criteria	Compliance Comments
<p>A1 Horizontal separation distance from a building to a land application area must comply with one of the following:</p> <ul style="list-style-type: none"> (a) be no less than 6m; (b) be no less than: <ul style="list-style-type: none"> (i) 3m 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. 	<p>P1 The land application area is located so that:</p> <ul style="list-style-type: none"> (i) The risk of wastewater reducing the bearing capacity of a buildings 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 	<p>Complies with A1 b (i) AS/NZS 1547</p> <p>Building is 3M upslope.</p>
<p>A2 Horizontal separation distance from downslope surface water to a land application area must comply with the following:</p> <ul style="list-style-type: none"> (a) be no less than 100m; (b) be no less than the following: <ul style="list-style-type: none"> (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. 	<p>P2 Horizontal separation distance from downslope surface water for a land application area must satisfy all of the following:</p> <ul style="list-style-type: none"> (a) Setbacks 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 	<p>Complies with A2 b (ii) AS/NZS 1547</p>
<p>A3 Horizontal separation distance from a property boundary to a land application area must comply with either of the following:</p> <ul style="list-style-type: none"> (a) be no less than 40m from a property boundary or (b) be no less than: <ul style="list-style-type: none"> (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 	<p>P3 Horizontal separation distance from a property boundary to a land application area must comply with all of the following:</p> <ul style="list-style-type: none"> (a) Setback must be consistent with AS/NZS 1547 Appendix R; <p>and</p> <ul style="list-style-type: none"> (b) A risk assessment in accordance with Appendix A of AS/NZS has been completed that 	<p>Compliance with A3 b(iii) AS/NZS 1547:2012</p> <p>Raised Bed LAA 20M from Prop Frontage</p>

<p>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.</p>	<p>demonstrates that the risk is acceptable</p>	
<p>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</p>	<p>P4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must satisfy all of the following: (a) Setback be consistent with AS/NZS Appendix R ; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</p>	<p>There are no water bores on site or known of in vicinity</p>
<p>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</p>	<p>P5 Vertical separation distance between groundwater and a land application area must satisfy all of the following: (a) Setback be consistent with AS/NZS Appendix R ; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</p>	<p>Complies A5 AS/NZS1547 No Groundwater Encountered</p>
<p>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</p>	<p>P6 Vertical separation distance must be consistent with AS/NZS 1547 Appendix R.</p>	<p>Complies with A6 (b) AS/NZS 1547 Raised Bed LAA 0.5M+ above Limiting Layer</p>
<p>A7 Nil</p>	<p>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 others</p>	<p>Complies Note: Part 6 of the Building Act 2016 specifies requirements for protection work which apply to plumbing work including a wastewater treatment unit</p>

Design Loading Certificate AS/NZS1547:2012 4850 Channel Hwy Gorden

System Capacity – AWTS 3 bedrooms 5 Persons 6000 L/Day

Summary of design criteria: –The Land application area to be a total area of 18sqm
With a Raised Bed 9M x 2.0 M x 0.0.8M with AWTS secondary treated effluent

Reserve area :- There is adequate reserve areas on site if necessary

Water efficient fittings & fixtures- there are no nominated fixtures applicable, however it is recommended that 6/3ltr wc's, aerator tap outlets, and water conserving dishwashing and washing machine be installed

Allowable system variations- The designed disposal and treatment system is designed for a min of 6000 ltrs / day. For Max 5 Persons

Consequences of changes in loadings – may lead to wastewater disposal area failure if overloading or adverse change in wastewater quality occurs. Bio-degradable safe detergents are recommended and will ensure a more sustainable treatment and disposal system. If caustic or non biodegradable cleaning products are used this may kill the beneficial bacteria and micro-organisms within the system causing primary treatment and secondary treatment system failure.

Consequences of overloading the treatment system-the max capacity of the recommended treatment system is 1200 Ltrs/day

The treatment system has capacity for short term additional loading however the LAA is designed for 600Ltrs day and if exceeded for an extended period may fail.

Consequences of under loading the system- there are adverse effects if the AWTS is under loaded . The property owner will need to discuss with the maintenance Contractor if the property is being vacated for any length of time

Consequences of lack of operation, maintenance, and monitoring attention-The recommended system maintenance is in accordance with the systems accreditation and carried by a trained Licenced Contractor as specified for the system including the LAA

The Raised Bed needs to be flushed out annually by releasing the flush points & activating the pump cycle and any vegetation to be maintained and replaced as necessary

The property owners have the responsibility to ensure the system is used as recommended by Council. Advice is provided by the installer/ supplier/designer on how the system is used and maintained and additional advice may be supplied by the local permit authority
If the required maintenance is not carried out the system will fail

Other Relevant Considerations:

The Local Authority will advise on any other specific maintenance requirements

The installation of water saving devices are recommended as previously stated and all taps and fixtures are to be maintained as necessary to prevent water wastage and potential overloading of the system.

The total land application area to be maintained specifically for residential effluent disposal

Before considering planting specific landscaping vegetation advice from a nursery and or the system installer is recommended

Vehicle or machinery access around Land Application area is prohibited

Recommended plantings over the LAA are suitable grasses & ground covers

Also recommended that landscaping in front and around the bed area will enhance long term sustainability of the disposal area

There are many factors that may affect the successful operation of the onsite wastewater management system and it is likely that sometime in the future additional replacement work may be required to maintain the system operational and nuisance free.

J M Parkinson

Onsite Wastewater Solutions

Onsite Wastewater Solutions
Land suitability and system sizing for on-site wastewater management
 Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report
Onsite Wastewater System

Assessment for G McRea & T Wilkie
 C/- Arkular L2- 65 Murray St Hobart
 Assessed site(s) 4850 Channel Hwy Gordon
 Local authority Huon Valley Council

Assess. Date 12-Jan-26
 Ref. No.
 Site(s) inspected 30thDec 2025
 Assessed by J Parkinson

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and system 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 = 1.8
 Total phosphorus (kg/year) generated by wastewater = 1.8

Climatic assumptions for site

(Evapotranspiration estimated using mean max. daily temperatures)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)												
Adopted rainfall (R, mm)	60	55	40	55	40	45	50	40	50	55	60	80
Retained rain (Rr, mm)	51	47	34	47	34	38	43	34	43	47	51	68
Max. daily temp. (deg. C)	25	25	22	17	15	12	10	15	16	17	20	22
Evapotrans (ET, mm)	93	80	69	49	43	43	37	56	58	63	72	82
Evapotr. less rain (mm)	42	33	35	2	9	5	-5	22	15	16	21	14
Annual evapotranspiration less retained rain (mm) =												210

Soil characteristics

Texture = Loam
 Adopted permeability (m/day) = 1.5
 Category = 3
 Thick. (m) = 1
 Adopted LTAR (L/sq m/day) = 25
 Min depth (m) to water = 6

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:
 The preferred type of above-ground secondary treatment: None
 Site modifications or specific designs: Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) = 9
 Width (m) = 2
 Depth (m) = 0.6
 Total disposal area (sq m) required = 18
 comprising a Primary Area (sq m) of: 18
 and a Secondary (backup) Area (sq m) of:

Sufficient area is available on site

Comments

AN AWTS IS PROPOSED FOR A MAX 5 PERSONS WITH A CONVENTIONAL BED LAA OF 9M X 2M X 0.6M
 AN AREA OF 18SQM
 SEE SITE PLAN AND SPECIFICATIONS FOR FURTHER INFORMATION

Onsite Wastewater Solutions
Land suitability and system sizing for on-site wastewater management
Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report
Onsite Wastewater System

Assessment for G McRea & T Wilkie
C/- Arkular L2- 65 Murray St Hobart
Assessed site(s) 4850 Channel Hwy Gordon
Local authority Huon Valley Council

Assess. Date 12-Jan-26
Ref. No.
Site(s) inspected 30thDec 2025
Assessed by J Parkinson

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		Remarks
					Trench	Amended	
AA	Expected design area	sq m	45		Very high		
A	Density of disposal systems	/sq km	30		High		
	Slope angle	degrees	8		Low		
	Slope form	Straight simple			Low		
	Surface drainage	Mod. good			Low		
	Flood potential	Site floods <1:100 yrs			Very low		
	Heavy rain events	Rare			Low		
A	Aspect (Southern hemi.)	Faces SE or SW			High		
	Frequency of strong winds	Infrequent			Moderate		
	Wastewater volume	L/day	600		Moderate		
	SAR of septic tank effluent		1.2		Low		
	SAR of sullage		1.5		Low		
	Soil thickness	m	1.0		Low		
	Depth to bedrock	m	3.0		Very low		
	Surface rock outcrop	%	0		Very low		
	Cobbles in soil	%	0		Very low		
	Soil pH		6.5		Very low		
	Soil bulk density	gm/cub. cm	1.6		Moderate		
	Soil dispersion	Emerson No.	4		Moderate		
A	Adopted permeability	m/day	1.5		High		
	Long Term Accept. Rate	L/day/sq m	25		Moderate		

Comments

Onsite Wastewater Solutions
 Land suitability and system sizing for on-site wastewater management
 Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report
Onsite Wastewater System

Assessment for G McRea & T Wilkie
 C/- Arkular L2- 65 Murray St Hobart
 Assessed site(s) 4850 Channel Hwy Gordon
 Local authority Huon Valley Council

Assess. Date 12-Jan-26
 Ref. No.
 Site(s) inspected 30thDec 2025
 Assessed by J Parkinson

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		Remarks
					Trench	Amended	
A	Cation exchange capacity	mmol/100g	50			High	Factor not assessed
A	Phos. adsorp. capacity	kg/cub m	0.5			High	
	Annual rainfall excess	mm	-210			Very low	
	Min. depth to water table	m	6			Very low	
	Annual nutrient load	kg	3.7			Very low	
	G'water environ. value	Agric non-sensit				Low	
	Min. separation dist. required	m	3			Very low	
	Risk to adjacent bores						
	Surf. water env. value	Agric non-sensit				Low	
AA	Dist. to nearest surface water	m	50			Very high	
A	Dist. to nearest other feature	m	15			High	
	Risk of slope instability		Very low			Very low	
	Distance to landslip	m	200			Low	

Comments

CONSTRUCTION AND SPECIFICATIONS WASTEWATER SYSTEM & DRAINAGE

G McRea & T Wilkie 4850 CHANNEL HWY GORDON

- The Raised Bed irrigation area to be a minimum of 18M² (see detail attached)
- Construct the Raised Bed for the land application area 9M (L) x 0.8M (D) x 2.0M (W) on a level base
- It is recommended that the building contractor construct the raised bed structure
- The Raised Bed to be constructed by a qualified builder: -
TP Sleepers 200mm x 50mm x 3.0m to be secured to either Galv posts or TP Posts at approx 3.0m spacings with a min 300mm depth conc. Footing
- Line the inside of the raised bed prior to filling with a heavy duty fortecon material
- Braces may be required to be attached across the bed top to prevent spreading eg 10mm galv rod
- Provide 500mm depth of suitable medium washed filter sand, (0.25-1.0mm grain size with a uniformity coefficient <4), for LAA bed e.g. medium washed sand supplier eg Hazells Lesley Vale , a sieve analysis certificate to be gained from the sand supplier with a copy given to the designer prior to his certification of completed installation:
Note: Hazells have a crushed glass product that's suitable for this use:
- The distribution pipe consists of a 25mm pvc perforated pipe inside a 100mm pvc perforated pipe. Details attached
- The distribution pipe to be bedded in 200mm of 12mm clean aggregate.
- Cover with a Geofabric and place 100mm of good quality sandy clay free topsoil over
- Plant native groundcovers & grasses to finish off
- Install a 32mm delivery from AWTS to feed a 25mm manifold distribution pipe system inside the 100mm pvc - see detail attached
- Install a flush point at the end of the distribution system as detailed and finish with a hose connection for easy flushing
- Provide a suitable in line Filter as required to irrigation pump line e.g. 38MM 120 mesh or disc filter
- Irrigation system to be installed by a licensed and registered plumbing contractor experienced and accredited in treated effluent irrigation systems
- **Irrigation system to be commissioned and made operational by the installer to ensure that even distribution of effluent occurs over the entire irrigation area.**
- THE CONTRACTOR TO LIAISE WITH THE DESIGNER AS NECESSARY IF HE HAS ANY QUERIES WITH THE SPECIFICATIONS ABOVE
- **CONTRACTOR TO PRODUCE PHOTOS OF ALL STAGES OF BED CONSTRUCTION**
- **Final Certification cannot be issued without all photos being submitted to the Designer with the Plumbers Certification Form 71B & an as constructed plan**

PLUMBING AND DRAINAGE

- ALL PLUMBING AND DRAINAGE TO COMPLY WITH PLUMBING DRAINAGE STANDARDS AS/NZS 3500-2021 AND THE NCC Vol 3 & PLUMBING REGULATIONS
- SEWER & STORMWATER DRAINS TO BE 100MM PVC
- PROVIDE SUITABLE RAINHEADS TO BOX GUTTERS WITH OVERFLOWS
- BOXGUTTERS TO BE MIN 300mm WIDE WITH A MIN FALL 1:200
- DOWNPIPES TO BE A MIN 90MM DIA AND 100X90 REDUCERS TO BE FITTED TO THE STORMWATER DRAIN AT GROUNDLEVEL& SOLVENT WELD SEALED
- STORMWATER INSTALLATION & ROOF PLUMBING TO COMPLY WITH ASNS3500:3:2021
- STORAGE TANK OVERFLOWS TO CONNECT TO THE ROCK LINED TABLE DRAIN AS INDICATED (subject to Council approval)
- ALL HOT AND COLD WATER INTALLATION TO COMPLY WITH ASNZS 3500. AND TO BE INSULATED AS NECESSARY
- SEE LOCAL AUTHORITIES PLUMBING PERMIT FOR FURTHER COMPLIANCE
- PROVIDE A TAP OVER THE OVERFLOW RELIEF GULLY (ORG) FOR PRIMING PURPOSES IFCESSARY, ALL OTHER OUTSIDE TAPS TO BE LOCATED AS PER OWNERS' REQUIREMENTS.
- ENSURE THAT THE WASTEWATER TREATMENT UNIT IS ACCESSIBLE AT GROUND SURFACE LEVEL FOR MAINTENANCE PURPOSES
- Note Water Storage Tanks to be installed with the same height levels with the top of each tank finishing min 300mm below the roof gutter base.