ON-SITE WASTEWATER REPORT

Lachlan and Laura Joyce

14 Batchelors Road – Sandfly

CKDesign Reference: ***CKD-CIV-093***

Date:15/11/2024

Rev 1 For Approval

TABLE OF CONTENTS

1. INTRODUCTION AND SCOPE OF ENGAGEMENT

Fysh Design have been engaged to provide a design for an on-site wastewater system for the proposed dwelling at 14 Batchelor's Road – Sandfly

It is proposed a new 3-bedroom dwelling will require a new wastewater system on the proposed test land area

The following report outlines the methodology and assumptions used for the proposed wastewater system.

2. WASTEWATER DESIGN

Site Conditions

Client: Lachlan and Laura Joyce

Address: 14 Batchelor's Road – Sandfly

Site Area – Approx 371,003 m2

Building Type –Residential Dwelling

Drainage lines & Water Courses – Moist to wet soil encountered with overland flow run off directly from the **North.**

Vegetation – Mixed native grass species, native trees, bushland

Rainfall in the previous month – 65.8mm (Grove Weather Station)

Average slope approx. Near level site gradient (7%) to the south

Wind Classification

Region – A

Wind Classification N3

Domestic water supply – Rainwater tank water supply

Background Information

Mapped Geology – Mineral Resources Tasmania 1:250,000

Rock Type – Jurassic Dolerite and related rocks

Soil Depth – 2.0m (BH03)

Landslide Zoning – None

Local Rainfall Data – 2022 Annual rainfall approx. 724.90mm (Grove Weather station)

Local Services – Onsite wastewater disposal, Rainwater Tank supply

A site and soil report were conducted by Enviro-Tech Soil Consultants on the 17th of November 2023 (see attached with compiled documents) Figure 1 below displays the soil profile and properties analysed by Enviro-Tech Soil Consultants.

Four auger holes were completed to identify the profile and variation in soil materials on site. Test Hole BH03 was drilled within the approximate location where the proposed wastewater bed is to be located and classified in accordance with AS1547.2012 (refer to figure 04)

enviro·tech CONSULTANTS

ASSESSMENT: Foundation Classification
STRUCTURE: Driveway Work
EASTING: 514104 **HORIZONTAL**
NORTHING: 5239746 **ACCURACY:** 1.24m

HOLE ID NO.: BH06
DATE TESTED: 28/06/2024
LOGGED BY: M. Scalisi
ELEVATION: 338.000

LOCATION: 14 Batchelors Road - Sandfly
CLIENT: Lachlan Joyce

EQUIPMENT: Power Auger
NATURAL SURFACE (RL):

DEPTH (m)	GRAPHIC	DESCRIPTION	LAYER	DENSITY CONSISTENCY STRENGTH	MOISTURE INDEX	SAMPLES	TEST	Cu (kPa)	UCS (kg/cm²)	BLOW COUNT	blows/100mm 0 5 10 15 20
0.0	CI	SOIL & COBBLES: Silty CLAY, dusky red, medium plasticity, with sand, trace roots, 5 % roots, 5% DOLERITE cobbles	1		Moist						
0.5	CH	SOIL & COBBLES: CLAY, pale brown, mottled dark greyish green, high plasticity, trace roots, 5 % roots, 5% DOLERITE cobbles	3		Slightly Moist						
1.0	CI	Silty Sandy CLAY trace gravel, olive brown, medium plasticity, fine to medium grained sand	7		Slightly Moist	DS	PP		1.5		
1.5		Direct Push Sampler Refusal on Silty Sandy CLAY trace gravel End of borehole at 1.5m depth.									

GROUNDWATER: Not Encountered
TESTING: Permeameter: AS 1289.6.7.3
Where blows per 100mm are less than 1, distance travelled per penetrometer blow is measured and converted to blows per 100mm

PAGE 1 of 1

Figure 2, Bore Hole BH06 Soil Profile data

Figure 3 – Bore Hole Soil Samples

Figure 4 – Bore Hole Locations

Wastewater Loading Certificate for system design (As per Clause 7.4.2(d) of AS1547/2012)

System Capacity – 6 people @ 120L/Person/Day

Summary of Design Criteria – DLR 5/m2/day (Primary Treatment Rate) (conservative)

Q = Design Flow = 720L/Day

Q/(DLRxMound Width)

720 / (5 DLR x 1.5m Wide) = 96m Long (minimum)

This calculation based on imported layer of sandy loam replacing existing clay below as shown (Category 5)

DLR rate of 5 (Primary conservative treatment rate)

Water Supply – Rainwater Tank

Reserve area use - (lower paddock area)

Consequences of changes in loading capacity – 3250L Bloo Septic tank and below ground evapotranspiration beds have some redundancy, however area within property is available for reserve area and additional treatment beds.

Consequences of overloading the system – 3250L Bloo Septic tank and below ground evapotranspiration beds have some redundancy, however area within property is available for reserve area and additional treatment beds.

Consequences of underloading the system – No odour should occur due to permeability rate of soil profile within the mound.

Consequences poor maintenance or attention – Refer to maintenance section of report.

Other Design considerations

- Use water saving fixtures.
- Remove excess fats and grease from kitchen dishes.
- Ensure no solids are put into the system.
- Food disposal system not to be used.
- Do not dispose of sanitary nappies or napkins to the system.
- Use biodegradable detergents.
- Do not dispose of powerful chemicals, bleaches, or whiteners etc down drain system.
- Spread load of washing machine and dishwasher routines throughout the day

Wastewater Classification and Recommendations

According to AS1547.2012 for on- site wastewater management the soil in the property is classified as Clay **(Category 5).**

Table J1 of AS1547.2012 indicates based on 3 bedroom for the proposed dwelling. A conservative population of up to 6 people loading has been adopted. A 3250L Bloo dual purpose septic treatment system will be used with a max output of 720L / Per day.
Sizing is based on design flows based on Table J1 of AS1547.2012 of a conservative 120L per person per day conservative to allow a minimum of 720L of settling flow, and 2650L scum and sludge storage capacity) (rainwater tank supply)

A DLR of 5L/m2/day (primary treatment rate), Category 5 rating has been applied to this rating due utilizing the existing clay layers below the sand filled beds. Due a category 5 rating
6 x 1.5m wide x 15.4m long below ground evapotranspiration treatment bed system filled with clean washed sand (2-5mm particle size) with an overall treatment area of 150m2 (rounded). It is proposed all outflow from the dwelling is connected to a 3250L Bloo dual purpose septic treatment system then then outflows via a DN100 gravity fed line to approved gas tight sealed distribution boxes (one per 4-5 beds), outflowing to 2 PVC lines connecting to DN40 perforated dosing lines within the beds. For calculations, please refer to the trench summary reports.
Please see design / construction details at the end of the report for further details on below ground evapotranspiration treatment bed.

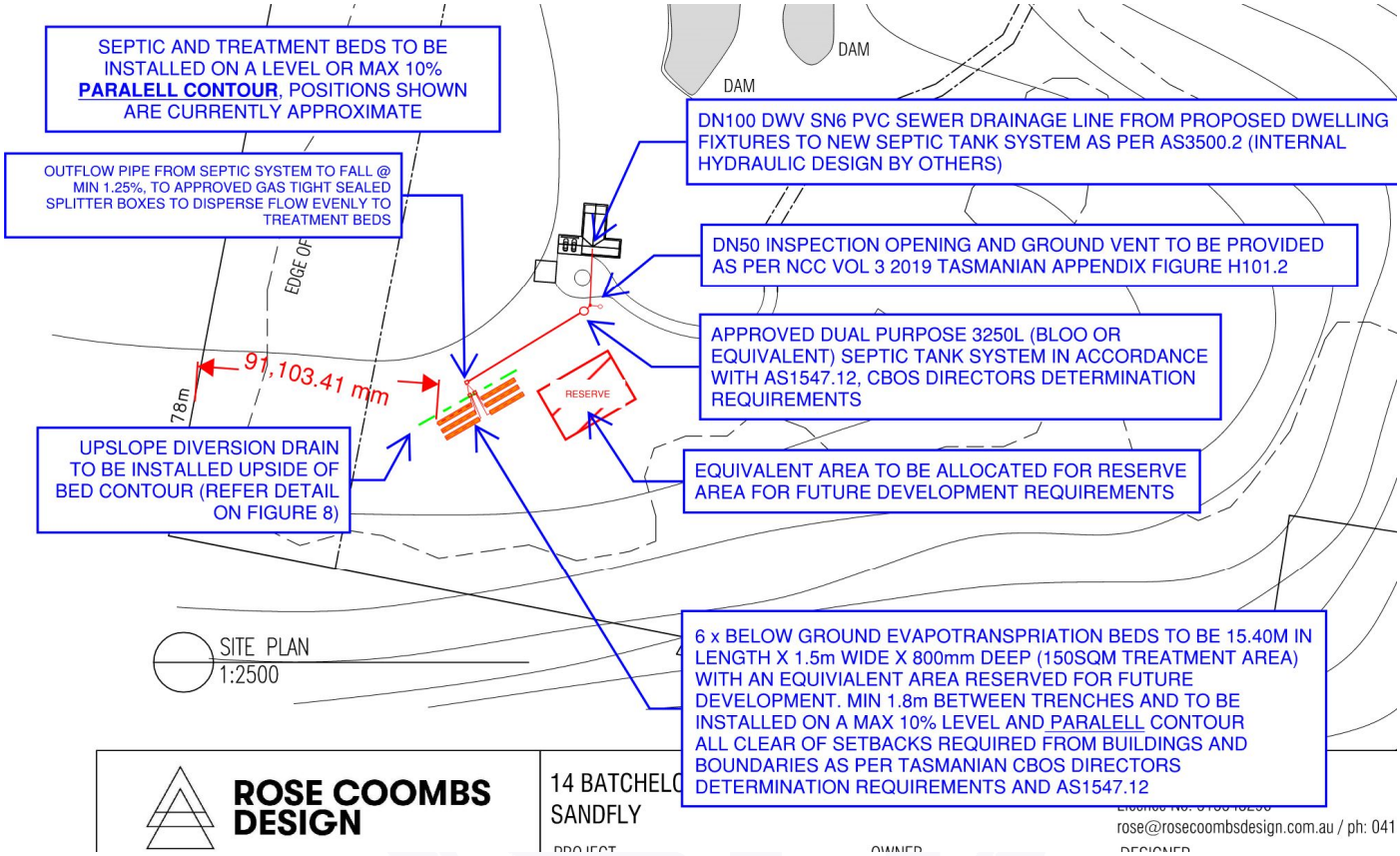
A cut off drain will be required (as per detail) upslope of the raised absorption area, and the area to be excluded from traffic or any future building works. A 100% reserve area should be set aside for any future wastewater expansion requirements.

I recommend during construction, any major variations in the soil or wastewater loadings that I be notified as shown in this report.

A 100% reserve area will also need to be set aside from development for any future wastewater requirements.

Wastewater Site Layout

Figure 4: PROPOSED WASTEWATER SITE LAYOUT



3. TRENCH 3 REPORTING

Ckemp Design

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report

Wastewater Design

Assessment for	Lachlan and Laura Joyce 14 Batchelors Road - Sandfly	Assess. Date Ref. No.	3-Jun-24 CKD-HYD-093
Assessed site(s)	14 Batchelors Road - Sandfly	Site(s) inspected	3-Jun-24
Local authority	Huon Valley Council	Assessed by	Chris Fysh

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 = 720 (using the 'No. of bedrooms in a dwelling' method)
Septic tank wastewater volume (L/day) = 240
Sullage volume (L/day) = 480
Total nitrogen (kg/year) generated by wastewater = 12.3
Total phosphorus (kg/year) generated by wastewater = 7.9

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)	40	45	43	45	69	69	66	87	74	70	56	61
Adopted rainfall (R, mm)	40	45	43	45	69	69	66	87	74	70	57	61
Retained rain (Rr, mm)	36	41	39	41	62	62	59	78	67	63	51	55
Max. daily temp. (deg. C)	24	23	21	18	15	13	12	14	16	17	19	21
Evapotrans (ET, mm)	153	135	124	66	32	16	23	36	55	91	99	133
Evapotr. less rain (mm)	**117**	**95**	**86**	**25**	**-30**	**-46**	**-36**	**-42**	**-12**	**28**	**48**	**78**

Annual evapotranspiration less retained rain (mm) = 311

Soil characterisitics

Texture = Light Clays Category = 5 Thick. (m) = 2
Adopted permeability (m/day) = 0.06 Adopted LTAR (L/sq m/day) = 5 Min depth (m) to water = 50

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 dual purpose septic tank(s)
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Evapotranspiration bed(s)
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) =	96
Width (m) =	1.5
Depth (m) =	0.8
Total disposal area (sq m) required =	150
comprising a Primary Area (sq m) of:	150
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

LTAR is based on primary treatment effluent (5DLR) Based on a 3 bedroom with a conservative rate of 6 people at 120L per day secondary treatment on rainwater tank water supply

Figure 5: WASTEWATER ASSESSMENT REPORT

Ckemp Design

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report

Wastewater Design

Assessment for	Lachlan and Laura Joyce 14 Batchelors Road - Sandfly	Assess. Date	3-Jun-24
		Ref. No.	CKD-HYD-093
Assessed site(s)	14 Batchelors Road - Sandfly	Site(s) inspected	3-Jun-24
Local authority	Huon Valley Council	Assessed by	Chris Fysh

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
AA	Expected design area	sq m	150		Very high		
	Density of disposal systems	/sq km	1		Very low		
	Slope angle	degrees	3		Very low		
	Slope form	Convex spreading			Very low		
	Surface drainage	Imperfect			Moderate		
	Flood potential	Site floods <1:100 yrs			Very low		
	Heavy rain events	Infrequent			Moderate		
	Aspect (Southern hemi.)	Faces N			Very low		
	Frequency of strong winds	Common			Low		
	Wastewater volume	L/day	720		Moderate		
A	SAR of septic tank effluent		3.2		High		
AA	SAR of sullage		7.4		Very high		
	Soil thickness	m	2.0		Very low		
	Depth to bedrock	m	2.0		Low		
A	Surface rock outcrop	%	5		High		
	Cobbles in soil	%	5		Low		
	Soil pH		4.5		Moderate		
	Soil bulk density	gm/cub. cm	1.2		Very low		
	Soil dispersion	Emerson No.	4		Moderate		
	Adopted permeability	m/day	0.06		Very low		
	Long Term Accept. Rate	L/day/sq m	5				

Figure 6: SITE CAPABILITY REPORT

Ckemp Design

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report

Wastewater Design

Assessment for	Lachlan and Laura Joyce 14 Batchelors Road - Sandfly	Assess. Date	3-Jun-24
		Ref. No.	CKD-HYD-093
Assessed site(s)	14 Batchelors Road - Sandfly	Site(s) inspected	3-Jun-24
Local authority	Huon Valley Council	Assessed by	Chris Fysh

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
A	Cation exchange capacity	mmol/100g	50		High		
	Phos. adsorp. capacity	kg/cub m	1		Moderate		
	Annual rainfall excess	mm	-311		Very low		
	Min. depth to water table	m	50		Very low		
AA	Annual nutrient load	kg	20.1		Very high		
	G'water environ. value	Indust non-sensit			Very low		
A	Min. separation dist. required	m	40		High		
	Risk to adjacent bores						Factor not assessed
	Surf. water env. value	Indust non-sensit			Very low		
	Dist. to nearest surface water	m	500		Low		
	Dist. to nearest other feature	m	100		Low		
	Risk of slope instability	Very low			Very low		
	Distance to landslip	m	300		Very low		

Figure 7: ENVIROMENTAL SENSITIVITY REPORT

4. TRENCH DETAIL

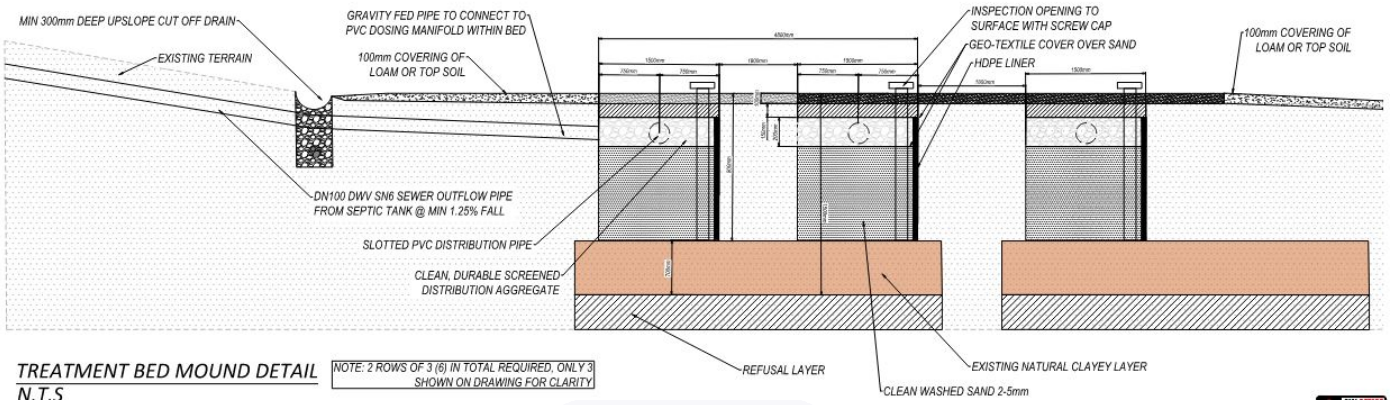


Figure 8: TREATMENT BED DETAIL

- Treatment dimensions of up to 6 x 15.4.0m long x 1.5m Wide x 0.8 deep (2 rows of 3 beds) below ground bed, 1m apart installed on a layer of existing clayey loam layer parallel on contour shown in layout, levelled out with 0% slope.
- Base of Trench to be excavated level and spearing and compaction MUST be avoided.
- All works onsite to comply with AS3500.2, NCC2022, AS1547.2012 and all council regulations.

Tasmanian directors' determination guideline requirements for on-site wastewater management – building extensions, alterations, or outbuildings.

- A2 acceptable solution has been satisfied due to a new treatment system within the existing site (New Dwelling)

Tasmanian directors' determination guideline requirements for Wastewater (standards for wastewater land application areas)

- A1 acceptable solution has been satisfied by treatment bed being 1000m from a downslope building.
- A2 acceptable solution has been satisfied with over 1000m distance to a downslope waterway.
- A3 acceptable solution has been satisfied with over 80m distance to a downslope boundary.
- A4 acceptable solution has been as no water bore detected on site. (Ref Enviro-tech Report)
- A5 acceptable solution has been satisfied as site is free draining and no ponding groundwater on site due to soil properties
- A6 acceptable solution has been satisfied as vertical separation between limiting layer of 1.5m to refusal

5. INSTALLATION AND COMMISIONING

- the site conditions detailed in the plumbing permit are consistent with the conditions where the OWMS is to be installed. If a variation exists the plumber must consult the designer for written instructions and seek approval from the permit authority to vary the permit (inspecting the site before quoting is highly recommended to avoid delays);
- when the absorption trenches or other types of land application area are excavated, the walls of the trenches must not be smeared (which reduces the soil permeability). Particular attention is required in wet soils with a high clay content;
- pipe work is installed correctly to ensure that wastewater is evenly distributed throughout the land application area;
- the stamped plumbing permit and conditions are on-site when works are occurring;
- before commencing work check that the proposed LAA will fit where designed;
- the LAA is protected from damage during construction;
- the trenches are excavated to the required depth and into the soil profile specified by the designer (refer to figure 1);
- if there is insufficient fall to the wastewater treatment unit or land application area, the plumber must stop work and consult the designer to determine if the land application area can be excavated deeper or if a pump chamber needs to be installed. A variation to the permit is required and the plumber must obtain authorization from the permit authority;
- after installation that the pump chamber and the wastewater treatment unit contain sufficient water to prevent hydrostatic uplift;

- an 'as constructed' plan has been prepared and for the permit authority to complete an inspection at all mandatory notification stages;
- records have been kept of each installation including photographs of the land application area when excavated and before backfilling so that a permit authority or designer can verify that the system has been installed correctly. This will also provide a level of protection for the plumber if the system fails and doubts are raised about incorrect installation.

6. MAINTENANCE AND MONITORING

Maintenance requirements for wastewater septic tanks and treatment beds

Visual inspection is to be performed annually, and pumped out regularly, once scum and sludge occupy two thirds of the tank volume and reduces settling volume below 24 hours retention, at no less than 2.5 - 3-year intervals.

Treatment Beds or trenches are to have grass mowed regularly avoiding damage to treatment shrubs planted within the bed area, all excess weeds to be removed regularly from the treatment bed area whilst maintaining shrub health.

Any visible wet spots or uneven grass colour can show signs of pipe blockage, blocked or damage irrigation lines shall be replaced if required.

7. CONCLUSION

This report has demonstrated that the proposed development at 14 Bachelors Road, Sandfly complies with the onsite wastewater quality conditions of Huon Valley Council plumbing and environmental requirements.

Please contact cfysh@fyshdesign.com.au if you require any additional information.

Yours sincerely

Chris Fysh

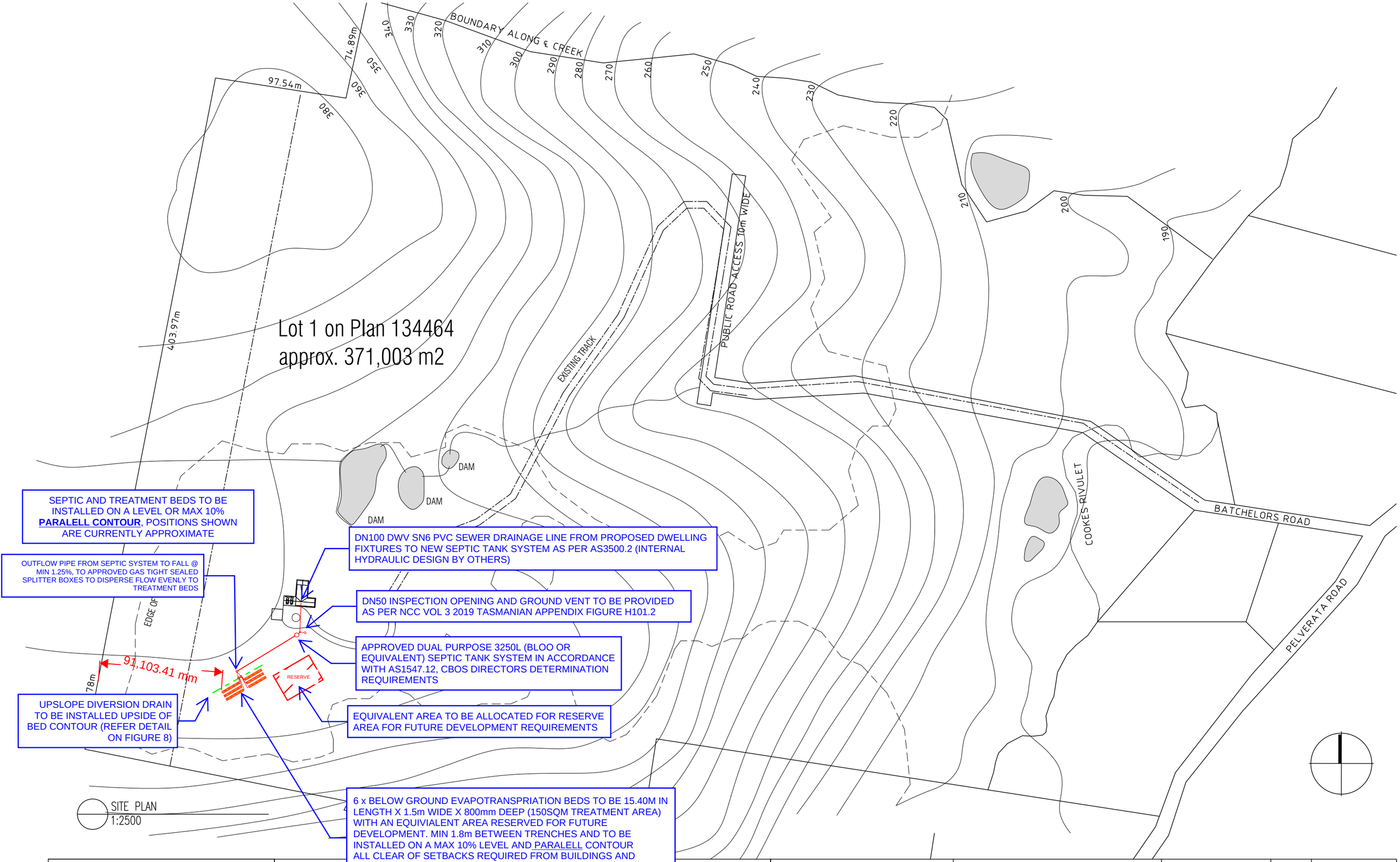
Director

Fysh Design

Building Services Designer Licence: 479819732

Mob: 0414 149 394

Email: cfysh@fyshdesign.com.au



ROSE COOMBS DESIGN

14 BATCHELO
SANDFLY
PROJECT

OWNER

Licence No. 0
rose@rosecoombsdesign.com.au / ph: 0418531372
DESIGNER

SITE PLAN 1:2500
DRAWING

REV

DB / CB

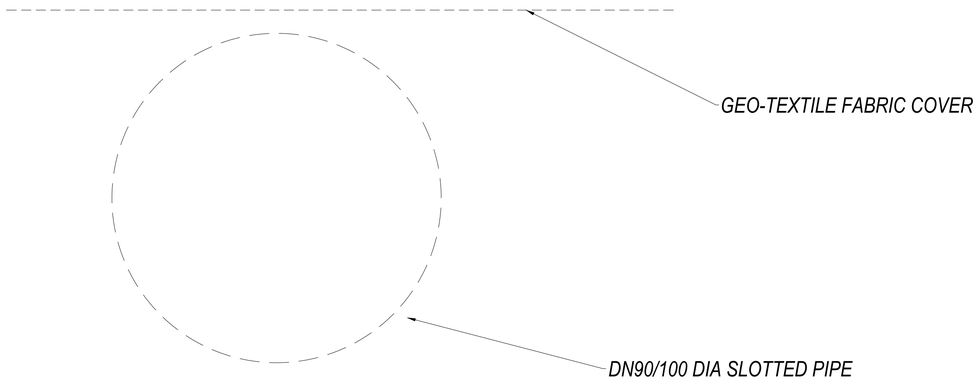
20.9.2023
ISSUE DATE

A3
1:2500
SCALE

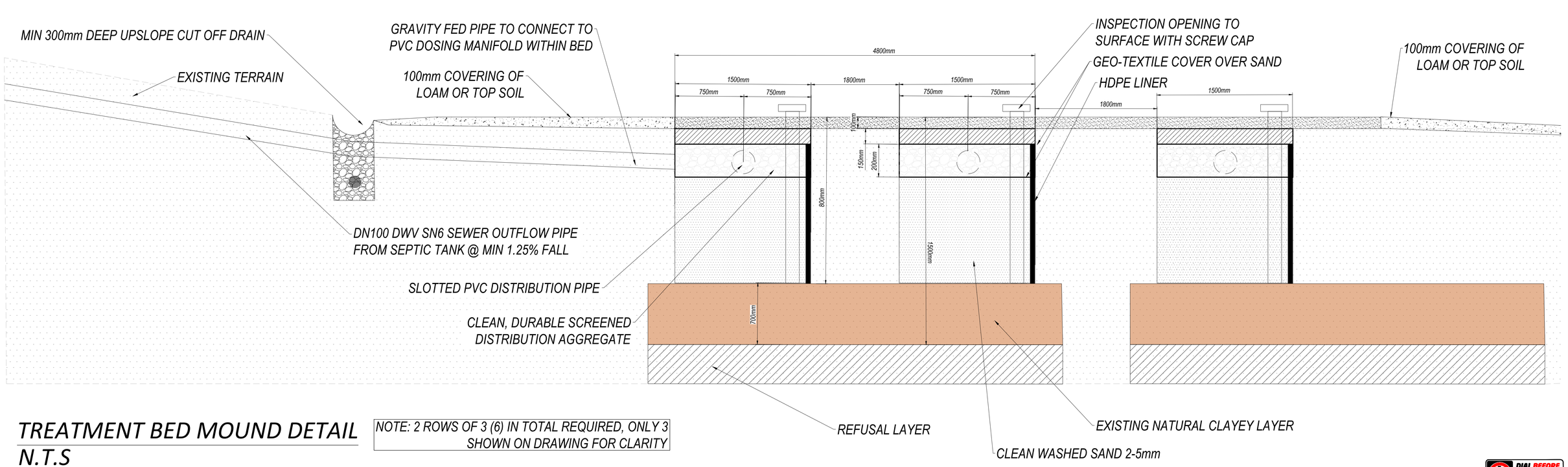
AA-01
DWG NO.

DESIGN NOTES:

1. ABSORPTION BED DIMENSIONS OF UP TO 10m LONG BY 0.8 DEEP VY 1.5m WIDE
   BASE OF THE BED TO BE EXCAVATED LEVEL MIN 200mm INTO NATURAL SOILS. SMEARING AND COMPACTION TO BE STRICTLY AVOIDED
   LOWER 450mm OF BED TO BE FILLED WITH 2-5M OF CLEAN WASHED SAND AND DRILLED 90mm DISTRIBUTION PIPES PACKED INTO UPPER 100mm LEVEL OF SAND.
2. GEOTEXTILE FOR FILTER CLOTH TO BE PLACED OVER THE DISTRIBUTION PIPES TO PREVENT CLOGGING OF THE PIPES AND AGGREGATE - THE SIDES OF THE BED SHOULD ALSO BE LINED WITH HDPE LINER
3. FINIAL FINISHED SURFACE WITH SANDY LOAM TO BE A MINIMUM OF 150mm ABOVE AGGREGATE WITH TURF COVER OR MULCHED WITH APPROPRIATE VEGETATION (EG NATIVE GRASSES AND SMALL SHRUBS AT 1 PLANT PER 1m2)
4. THE TURF OR VEGETATION IS AN ESSENTIAL COMPONENT OF THE SYSTEM AND MUST BE MAINTAINED WITH REGULAR MOWING AND OR TRIMMING AS NEEDED
5. THE DISTRIBUTION PIPE GRID MUST BE ABSOLUTELY LEVEL TO ALLOW EVEN DISTRIBUTION OF EFFLUENT AROUND THE ABSORPTION AREA - IT IS RECOMMENDED THAT THE LEVEL BE VERIFIED BY RUNNING WATER INTO THE SYSTEM BEFORE BACKFILLING AND COMMISSIONING TRENCH
6. ALL WORKS ON SITE TO COMPLY WITH AS3500, AS1547.2012, NCC VOL 3 2019
7. PUMP TO BE CAPABLE OF DELIVERING THE TOTAL FLOW RATE REQUIRED AT ALL LATERALS WHILST PROVIDING A 1.5m RESIDUAL HEAD (SQUIRT HEIGHT) AT THE HIGHEST ORIFICE (WITH NO MORE THAN 15% VARIATION IN SQUIRT HEIGHT ACROSS THE ENTIRE BED
8. FOR BEDS WITH INDIVIDUAL LATERALS, NO MORE THAN 15m LONG, IT IS ACCEPTABLE TO ADOPT A FLOW RATE 4-5L/MIN/LINEAL METER. TOTAL DYNAMIC HEAD (INCLUDING FRICTION LOSS) WILL NEED TO BE DETERMINED ON A SITE- SPECIFIC BASIS
9. INDIVIDUAL FLUSH POINTS MUST BE INSTALLED FOR EACH LATERAL. THIS MAY BE A SCREW CAP FITTING ON A 90 DEGREE ELBOW LEVEL WITH THE BED SURFACE OR PRESSURE CONTROLLED FLUSH VALE INSIDE AN IRRIGATION BOX



DISTRIBUTION PIPE DETAIL
N.T.S



TREATMENT BED MOUND DETAIL
N.T.S

NOTE: 2 ROWS OF 3 (6) IN TOTAL REQUIRED, ONLY 3 SHOWN ON DRAWING FOR CLARITY

DIAL BEFORE YOU DIG

REV	DESCRIPTION	DATE
0	FOR APPROVAL CF	23/10/2023

REV	DESCRIPTION	DATE

FYSH DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 479819732

PROPOSED WASTEWATER SYSTEM

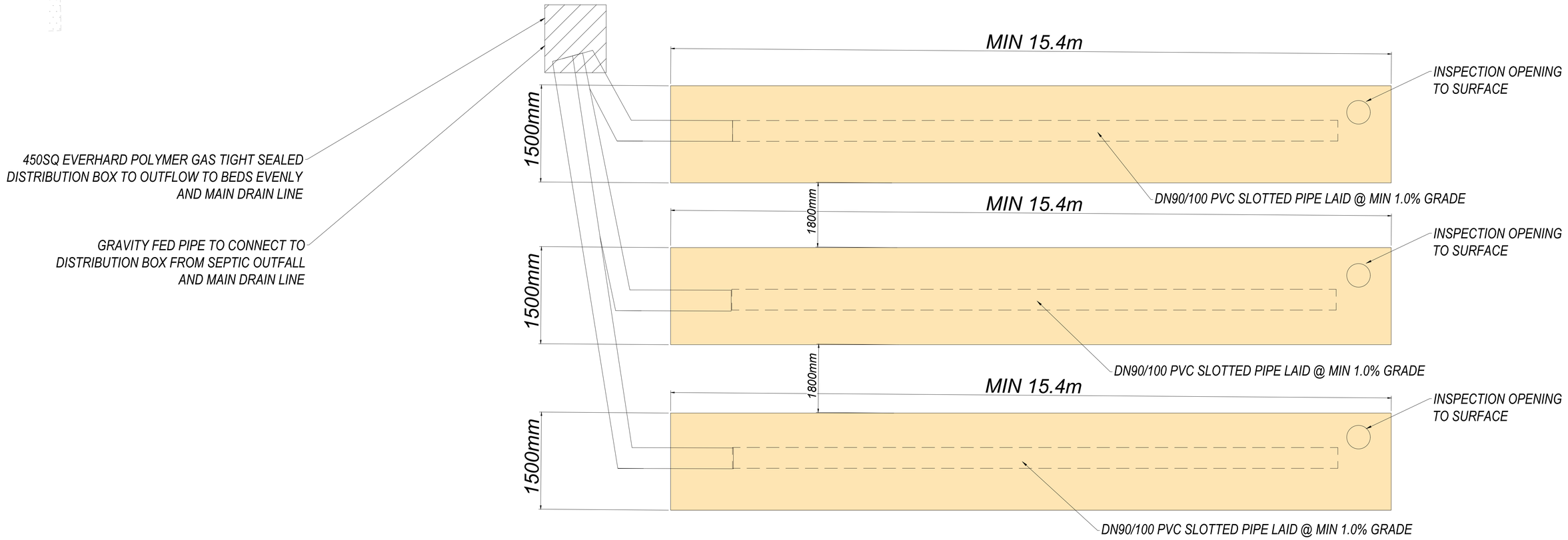
CLIENT: LACHLAN AND LAURA JOYCE
14 BATCHELORS ROAD, SANDFLY

DRAWING TITLE

ONSITE WASTEWATER CROSS SECTION

SCALE 1:100

DESIGNED	DRAWN	SCALE
CF	CF	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-CIV-093	H01	0



DIAL BEFORE YOU DIG

REV	DESCRIPTION		DATE	REV	DESCRIPTION	DATE
0	FOR APPROVAL	CF	23/10/2023			

FYSH DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 479819732

NORTH

PROPOSED WASTEWATER SYSTEM

CLIENT: LACHLAN AND LAURA JOYCE
14 BATCHELORS ROAD, SANDFLY

DRAWING TITLE

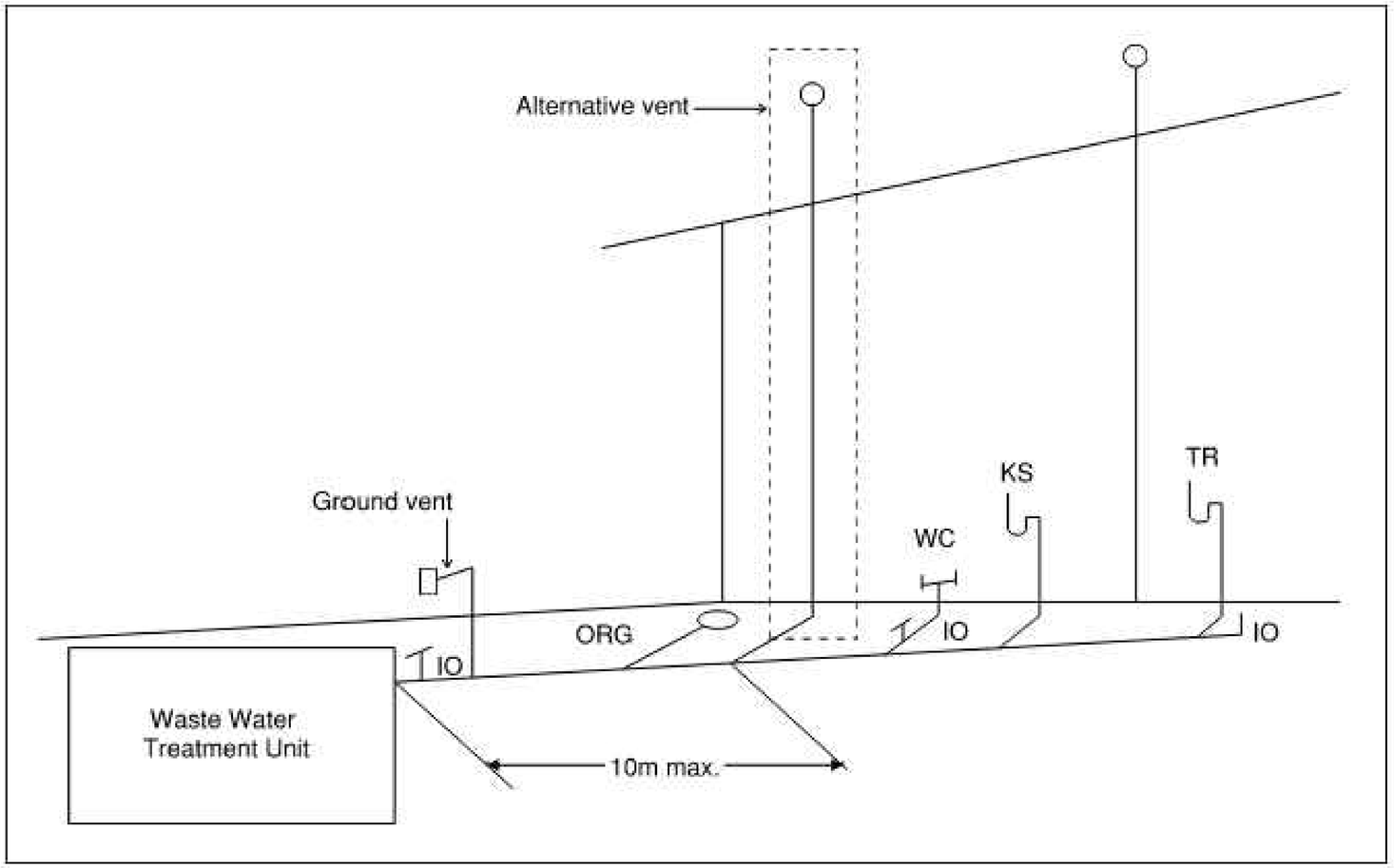
ONSITE WASTEWATER CROSS SECTION

SCALE 1:100

DESIGNED	DRAWN
CF	CF
PROJECT	SHEET NO.
CKD-CIV-093	H01

SCALE 1:100 @ A1

REVISION 0



TAS FIGURE H101.2 ALTERNATIVE VENTING ARRANGEMENTS

VENTS MUST TERMINATE IN ACCORDANCE WITH AS3500.2

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 ONSITE WASTEWATER MANAGEMENT SYSTEM. USE OF A GROUND VENT IS NOT RECOMMENDED

INSPECTION OPENINGS MUST BE LOCATED AT THE INLET TO AN ONSITE WASTEWATER MANAGEMENT SYSTEM TREATMENT UNIT AND THE POINT OF CONNECTION TO THE LAND APPLICATION SYSTEM AND MUST TERMINATE AS CLOSE AS PRACTICAL 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 UNITS MUST TERMINATE AT OR ABOVE FINISHED SURFACE LEVEL

ALTERNATIVE VENT IS THE PREFERRED ARRANGEMENT WHERE POSSIBLE.

TASMANIAN WASTEWATER VENTING REQUIREMENTS DETAIL

REV	DESCRIPTION	DATE
0	FOR APPROVAL CF	23/10/2023

REV	DESCRIPTION	DATE

FYSH DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 47981973Z

NORTH

PROPOSED WASTEWATER SYSTEM

CLIENT: LACHLAN AND LAURA JOYCE
14 BATCHELORS ROAD, SANDFLY

DRAWING TITLE
ONSITE WASTEWATER CROSS SECTION

SCALE 1:100

DESIGNED	DRAWN
CF	CF
PROJECT	SHEET NO.
CKD-CIV-093	H01

SCALE
1:100 @ A1

REVISION
0