

ONSITE WASTEWATER ASSESSMENT

14 Moodys Road

Allens Rivulet

February 2024



GEO-ENVIRONMENTAL

S O L U T I O N S

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Investigation Details

Client:	Dan Hasson
Site Address:	14 Moodys Road, Allens Rivulet
Date of Inspection:	14/08/2023
Proposed Works:	Alterations/Additions
Investigation Method:	Geoprobe 540UD – Direct Push
Inspected by:	M. Campbell

Site Details

Certificate of Title (CT):	202715/1
Title Area:	Approx. 929.7 m ²
Applicable Planning Overlays:	Biodiversity Protection Area Bushfire Prone Areas Scenic Landscape Area
Slope & Aspect:	Flat to <5% North facing slope
Vegetation:	Grass

Background Information

Geology Map:	MRT Kingborough sheet 1:50 000
Geological Unit:	Permian sediments
Climate:	Annual rainfall approx. 950mm
Water Connection:	Tank
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	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)	USCS	Description
0.00 – 0.30	0.00 – 0.10	SM	Brown Sandy SILT with GRAVELS : slightly moist loose consistency
0.30 – 3.0+	0.10 – 1.00	CL	Orange Brown Grey Silty CLAY , medium plasticity, slightly moist firm consistency
	1.00 – 2.0+	CH	Yellow Brown mottled Grey CLAY : medium to high plasticity, slightly moist firm to stiff consistency, lower boundary undefined.

Site Notes

The soils on site consist of a silty topsoil overlying deep highly reactive clay subsoils which have developed on Permian sediment deposits.

Wastewater Classification & Recommendations

According to AS1547-2012 (on-site waste-water management) the natural soil is classified as **LIGHT CLAY (category 5)**. The limited space onsite restricts the options for wastewater disposal and a boundary adjustment is currently underway to increase the amount of space at the rear of the property. It is assumed this will be finalised prior to installation of any onsite wastewater infrastructure. It is therefore proposed to install a package treatment system (e.g. AWTS such as Econocycle, Envirocycle, Ozzikleen etc) with the treated effluent applied through subsurface irrigation. A Design Irrigation Rate (DIR) of 3mm/day has therefore been assigned for secondary treated effluent.

The proposed four-bedroom dwelling has a calculated maximum wastewater output of 720L/day. This is based on a tank water supply and a maximum occupancy of 6 people (120L/day/person).

Using the DIR of 3mm/day, an irrigation area of at least 250m² will be required to accommodate the expected flows. This can be accommodated by subsurface irrigation under lawn (refer to the attached plan). Additional sandy loam (min 200mm) will need to be applied to the application area to facilitate even distribution from the irrigation lines.

A cut-off drain will be required upslope of the absorption area and the area excluded from traffic or any future building works.

The following setback distances are required to comply with both E23 of the Kingborough Interim Planning Scheme 2015 and Building Act 2016:

Buildings:	2m
Upslope or level boundaries:	1.5m
Downslope boundaries:	3.5m
Downslope surface water:	100m

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table. Compliance with E23 of the Kingborough Interim Planning Scheme 2015 is demonstrated below.

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

P1 Horizontal separation distance from a building to 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) be no less than 2m.	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.	N/A
(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;	
(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 3.5m required

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
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A5

Vertical separation distance between groundwater and a land application area must be no less than 1.5m.	Complies
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A6

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

During installation 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 Dan Hasson

Assess. Date 5-Feb-24

Ref. No.

Assessed site(s) 14 Moodys Rd Allens Rivulet

Site(s) inspected 14-Aug-23

Local authority Kingborough

Assessed by John Paul Cumming

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 = 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 = 2.6

Total phosphorus (kg/year) generated by wastewater = 1.3

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)	72	62	75	68	73	90	78	101	80	87	88	83
Adopted rainfall (R, mm)	72	62	75	68	73	90	78	101	80	87	88	83
Retained rain (Rr, mm)	64	56	68	61	66	81	70	91	72	78	79	74
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	66	54	23	2	-24	-51	-39	-49	-9	6	26	52
Annual evapotranspiration less retained rain (mm) =												57

Soil characteristics

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: Trickle irrigation

Site modifications or specific designs: Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) = 24

Width (m) = 10

Depth (m) = 0.6

Total disposal area (sq m) required = 250

comprising a Primary Area (sq m) of: 250

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

Using the DIR of 3 mm/day, an irrigation area of 250m² is required to accommodate the expected wastewater flow from the proposed development. Therefore the system will have the capacity to cope with predicted climatic and loading events.

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 Dan Hasson

Assess. Date 5-Feb-24

Ref. No.

Assessed site(s) 14 Moodys Rd Allens Rivulet

Site(s) inspected 14-Aug-23

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		Remarks
					Trench	Amended	
	Expected design area	sq m	5,000	V. high	Very low		
	Density of disposal systems	/sq km	10	Mod.	Very low		
	Slope angle	degrees	2	High	Very low		
	Slope form	Straight simple		High	Low		
	Surface drainage	Imperfect		High	Moderate		
	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	720	High	Moderate		
	SAR of septic tank effluent		1.0	High	Low		
	SAR of sullage		1.6	High	Low		
	Soil thickness	m	2.0	V. high	Very low		
	Depth to bedrock	m	3.0	V. high	Very low		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		5.5	High	Low		
	Soil bulk density	gm/cub. cm	1.4	High	Very 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 the capability to accept secondary treated wastewater

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 Dan Hasson

Assess. Date 5-Feb-24

Ref. No.

Assessed site(s) 14 Moodys Rd Allens Rivulet

Site(s) inspected 14-Aug-23

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		Remarks
					Trench	Amended	
	Cation exchange capacity	mmol/100g	100	High	Low	Moderate	
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-57	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	3.9	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	2	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
	Dist. to nearest surface water	m	150	V. high	Moderate		
	Dist. to nearest other feature	m	30	V. high	Moderate		
	Risk of slope instability	Very low		V. high	Very low		
	Distance to landslip	m	300	V. high	Very low		

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

Comments

Disclaimer

This Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the Client. To the best of GES's knowledge, the information presented herein represents the client's requirements at the time of printing of the Report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that discussed in this Report. In preparing this Report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this Report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible geotechnical parameter or the soil conditions over the whole area of the site. Soil and rock samples collected from the investigation area are assumed to be representative of the areas from where they were collected and not indicative of the entire site. The conclusions discussed within this report are based on observations and/or testing at these investigation points.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required.

No responsibility is accepted for use of any part of this report in any other context or for any other purpose by third a party.

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

Acceptable Solutions	Performance Criteria	Compliance
<p>A1</p> <p>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; or b) be no less than: <ul style="list-style-type: none"> (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. 	<p>P1</p> <ul style="list-style-type: none"> a) The land application area is located so that <ul style="list-style-type: none"> (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 	<p>Complies with P1</p> <p>Land application area will be located with minimum separation distance to proposed building of 2m as per compliance with E23 of the Kingborough Interim Planning Scheme 2015</p>
<p>A2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b)</p> <ul style="list-style-type: none"> (a) be no less than 100m; or (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 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. 	<p>P2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with all of the following:</p> <ul style="list-style-type: none"> 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. 	<p>Complies with A2 (a)</p> <p>Land application area located > 100m from downslope surface water</p>

<p>A3</p> <p>Horizontal separation distance from a property boundary to a land application area must comply with either of the following:</p> <p>(a) be no less than 40m from a property boundary; or</p> <p>(b) be no less than:</p> <p style="padding-left: 40px;">(i) 1.5m from an upslope or level property boundary; and</p> <p style="padding-left: 40px;">(ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or</p> <p style="padding-left: 40px;">(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>P3</p> <p>Horizontal separation distance from a property boundary to a land application area must comply with all of the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.</p>	<p>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</p> <p>Complies with A3 (b) (iii) Land application area will be located with a minimum separation distance of 3.5m of downslope property boundary</p>
<p>A4</p> <p>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</p> <p>Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable</p>	<p>Complies with A4 No bore or well identified within 50m</p>

<p>A5</p> <p>Vertical separation distance between groundwater and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.6m if secondary treated effluent</p>	<p>P5</p> <p>Vertical separation distance between groundwater and a land application area must comply with the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</p>	<p>Complies with A5 (b)</p> <p>No groundwater encountered</p>
<p>A6</p> <p>Vertical separation distance between a limiting layer and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.5m if secondary treated effluent</p>	<p>P6</p> <p>Vertical setback must be consistent with AS/NZS1547 Appendix R.</p>	<p>Complies with A6 (b)</p> <p>No limiting layer identified</p>
<p>A7</p> <p>nil</p>	<p>P7</p> <p>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</p>	<p>Complies</p>

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: 14 Moodys Road, Allens Rivulet

System Capacity: 6 persons @ 120L/person/day

Summary of Design Criteria

DIR: 3mm/day.

Irrigation area: 250m²

Reserve area location /use: Not assigned

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 areas 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.

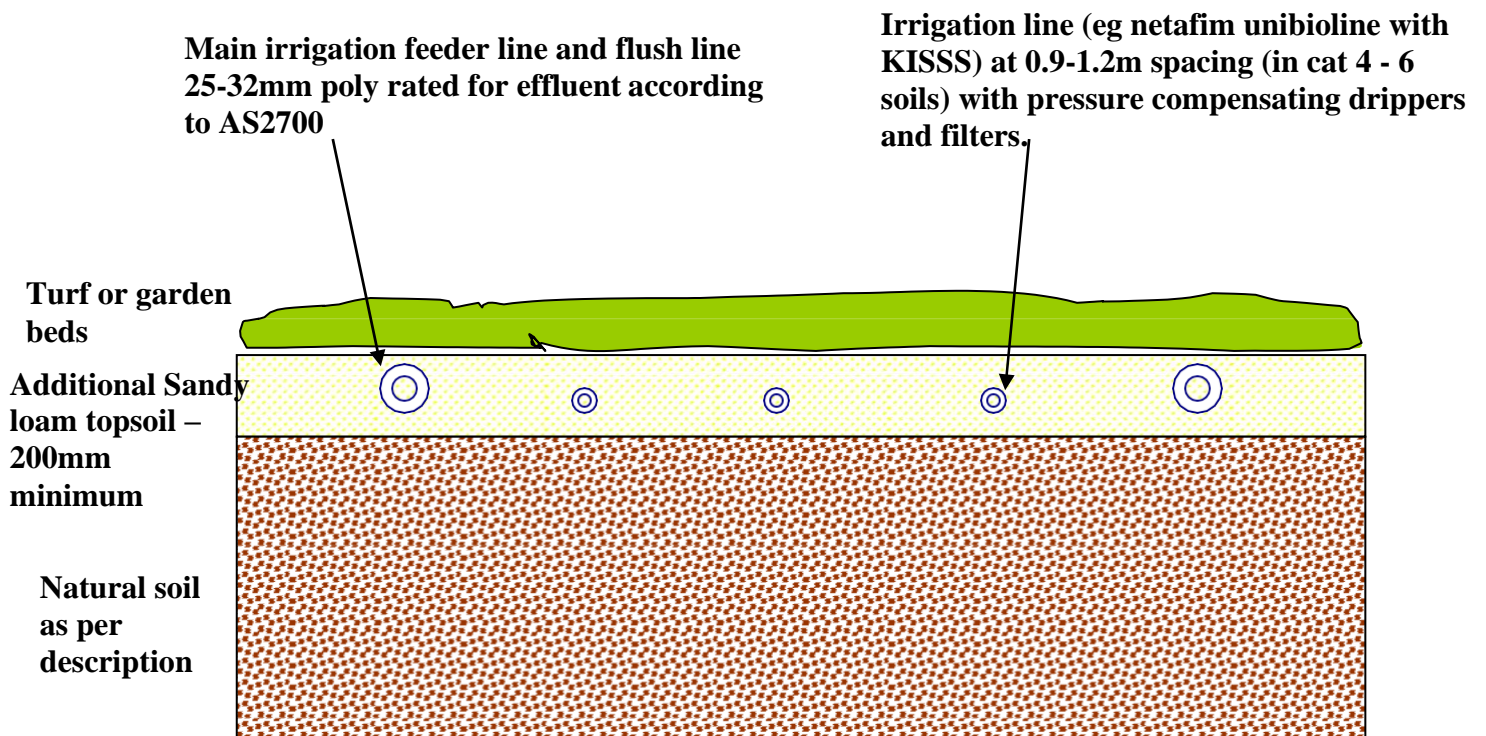
Figure 1

Subsurface irrigation design

To be used in conjunction with site evaluation report for construction of subsurface irrigation areas for use with aerated wastewater treatment systems (AWTS). On dispersive soils gypsum should be added to tilled natural soil at 1Kg/5m². The irrigation outlet line from the system or holding tank should utilize a 25-32mm main line out stepped down to a 11-16mm lateral drip irrigation lines in each irrigation row. If the final design is for shrubs/trees then a mounded row design is best employed with a nominal mound height of approximately 200mm.

Irrigation Area Cross Section

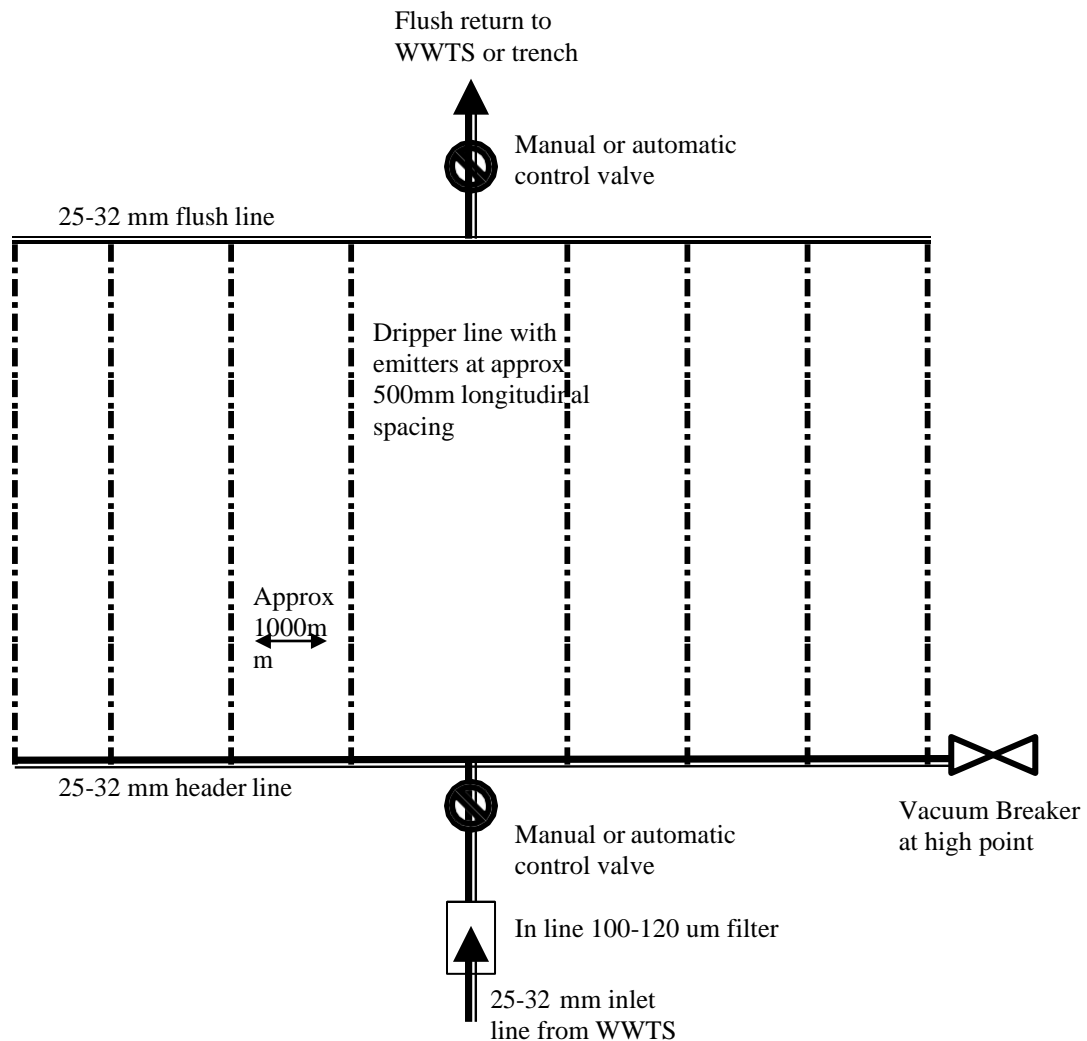
20



Note – the bedding sandy loam & topsoil/turf depths are minimum, with a maximum depth below surface of 100mm recommended (range 100-200mm).

- The existing surface of the site should be tilled to a depth of 100mm with a conventional plough, discs or spring tines to break down the turf matt and any large soil clods – all stones must be removed
- A minimum of 200mm of sandy loam should be added to the site to aid installation of the drip line into a suitable medium – the loam should be mixed into the exiting subsoil with another pass of the cultivating tines or similar
- Turf, seed or plants should be applied to the are as soon as practical after the laying of dripper line and commissioning of the system

Irrigation Area Plan View



Design specifications:

1. Manufacturer's recommendations for spacing of lateral irrigation lines should be followed (eg netafim unibioline with/without KISS) with commonly used with spacing of 0.3m (0.6m KISS) in highly permeable soils and 0.6m (1.0-1.2m KISS) in less permeable loams and clays.
2. Dependant 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.

WATER SUPPLY

ALL PIPING SHALL BE ADEQUATELY FIXED AT EACH FITTING INCORPORATING PROVISION FOR EXPANSION AND TO PREVENT MOVEMENT OF THE FITTING

ALL ABOVE GROUND WATER SUPPLY PIPES SHALL BE METAL

HOT WATER TO ALL FIXTURES USED FOR PERSONAL ABLUTIONS MUST BE FITTED WITH AN APPROVED TEMPERING VALVE TO LIMIT THE WATER TEMPERATURE TO A MAXIMUM 50° C IN ACCORDANCE WITH AS3500

INSTALL HOT WATER SYSTEM WITH TEMPERATURE VALVE SET TO 65° C. INSULATE HOT WATER PIPEWORK IN ACCORDANCE WITH NCC AND AS3500.4

DRAINER

SEWER PIPES TO COMPLY WITH AS 1260, WORKMANSHIP SHALL COMPLY WITH AS2032

DRAINAGE SYSTEM INSTALLATION, INCLUDING ORG'S, VENTS AND SEWER PIPE SIZES TO BE IN ACCORDANCE WITH AS/NZS3500.2 2021 - PLUMBING AND DRAINAGE

ALL SANITARY WASTES AND FITTINGS SHALL COMPLY WITH AS 1415. FINAL LOCATION TO BE DETERMINED ON SITE

ALL PIPING SHALL BE ADEQUATELY FIXED AT EACH FITTING INCORPORATING PROVISION FOR EXPANSION AND TO PREVENT MOVEMENT OF THE FITTING

CONNECT HOUSE DRAINS AND TEST ALL DRAINS, JOINTS CONNECTIONS ETC PRIOR TO COMPLETION. ARRANGE ALL STATUTORY INSPECTIONS AS REQUIRED BY THE COUNCIL

WASTE PIPE TO PASS THROUGH MIDDLE THIRD OF FOOTINGS AND TO BE LAGGED WITH 20mm FOAM LAGGING OR A SUITABLE SLEEVE WHICH PERMITS EQUIVALENT MOVEMENT

VENTS TO TERMINATE ABOVE ROOF WITH APPROVED COWL WITH WATERPROOF FLASHING

UNLESS SHOWN OTHERWISE PIPE GRADES SHALL BE:

Ø50 1:40 (1.25%)
Ø65 1:40 (1.25%)
Ø100 1:60 (1.65%)

LEGEND

BTH BATH
B BASIN
LT LAUNDRY TUB
FW FLOOR WASTE
SHR SHOWER
S SINK
WC WATER CLOSET

WASTE PIPE SIZES

BATH Ø50
BASIN Ø40
SINK Ø50
L TUB Ø50
SHR Ø65
WC Ø100
VENT Ø50

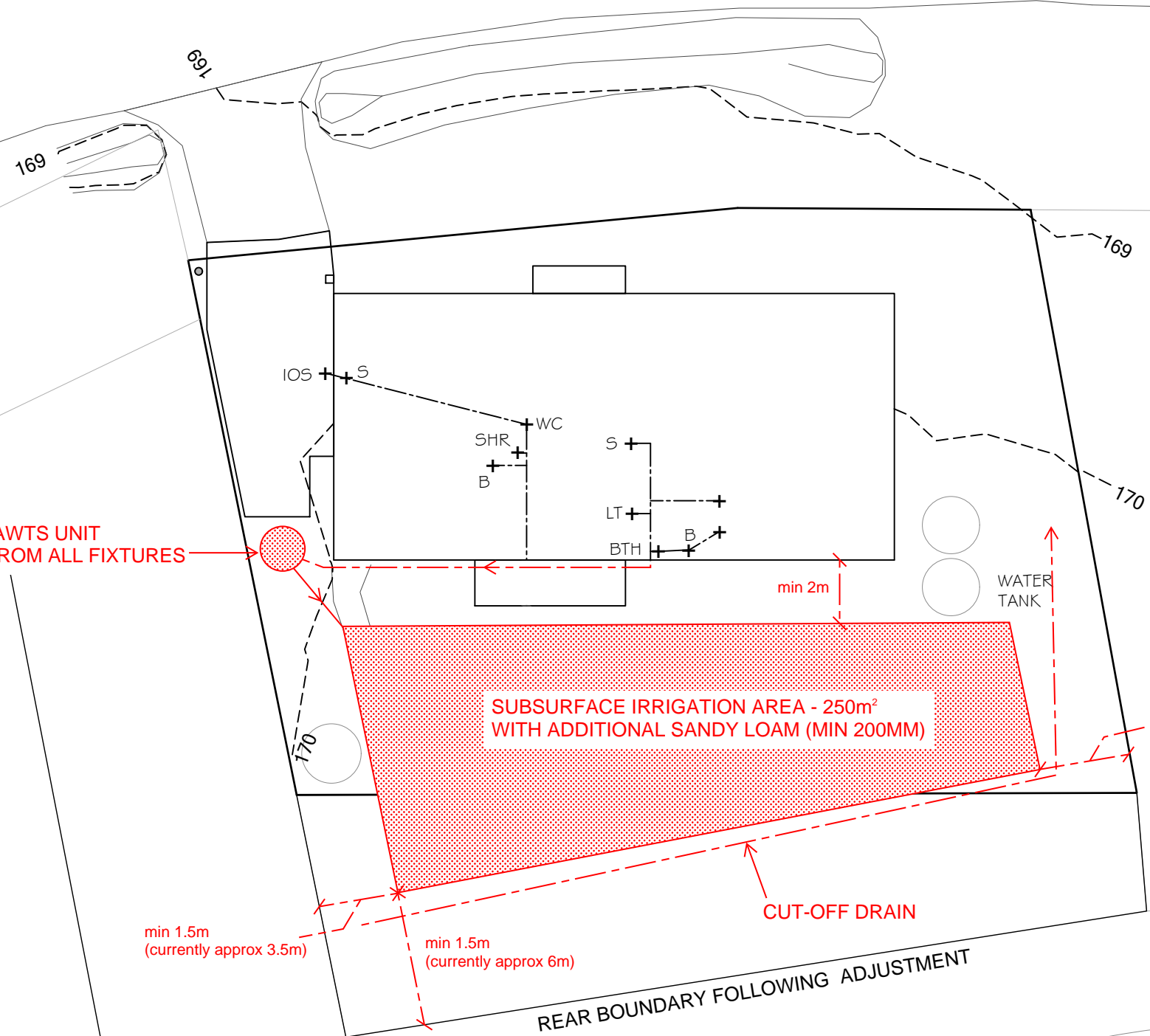
IO INSPECTION OPENING
VP VENT PIPE
ORG OVERFLOW RELIEF GULLY

CONTRACTORS AND SUB-CONTRACTORS SHALL ARRANGE FOR ALL INSPECTIONS AS MAY BE REQUIRED BY COUNCIL BUILDING AND PLUMBING APPROVALS

NOTE:
THIS PLAN TO BE READ IN CONJUNCTION WITH THE ENGINEERS ON-SITE DOMESTIC WASTEWATER MANAGEMENT REPORT INCLUDING ALL SPECIFIED REQUIREMENTS AND DETAILS NOTED

LOCATION OF SEPTIC TANK AND ABSORPTION TRENCHES INDICATIVE ONLY. EXACT LOCATION TO BE DETERMINED ON SITE AND CONFIRMED BY CONSULTING ENGINEER

MOODYS ROAD



**INDICATIVE LOCATION OF AWTS UNIT
MIN 1:60 FALL REQUIRED FROM ALL FIXTURES**

**SUBSURFACE IRRIGATION AREA - 250m²
WITH ADDITIONAL SANDY LOAM (MIN 200MM)**

min 2m

WATER TANK

NOMINAL ORG HEIGHT 138.65
ORG TO BE MIN 150mm BELOW FLOOR LEVEL OR 150mm BELOW THE LOWEST FIXTURE IF THE FIXTURE IS BELOW FLOOR LEVEL IN ACCORDANCE WITH AS3500.5

min 1.5m
(currently approx 4.5m)

CUT-OFF DRAIN

min 1.5m
(currently approx 3.5m)

min 1.5m
(currently approx 6m)

REAR BOUNDARY FOLLOWING ADJUSTMENT

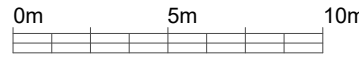
**- DRAFT -
NOT FOR
CONSTRUCTION**

**Philip Cuthbertson
BUILDING
DESIGN
SOLUTIONS**

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ABN 48 366 214 794
Bushfire Practitioner No. BFP-123
Building Accreditation No. CC2251 H

SCALE: 1:250 AT A3



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PROPOSED:
**SHED REFURBISHMENT
AND CHANGE OF USE**
DRAWING:
**SEWER HOUSE
DRAINAGE PLAN**

FOR:
**D HASSON and
E PATTERSON**
AT:
**14 MOODYS ROAD
ALLENS RIVULET**

JOB NO.:
**1588
SK-H-01**
OF 2 SHEET / S
DATE DRAWN:
JANUARY 2024

Wastewater system:

AWTS unit located to ensure min 1:60 fall from all fixtures. Vented according to NCC vol 3 Tas C2D6

Cut-off drain

Subsurface irrigation - 250m²
Additional sandy loam (min 200mm) to be applied within application area

Min 2m from buildings
Min 1.5m from upslope or level boundaries
Min 3.5m from downslope boundary
Min 100m from downslope surface water

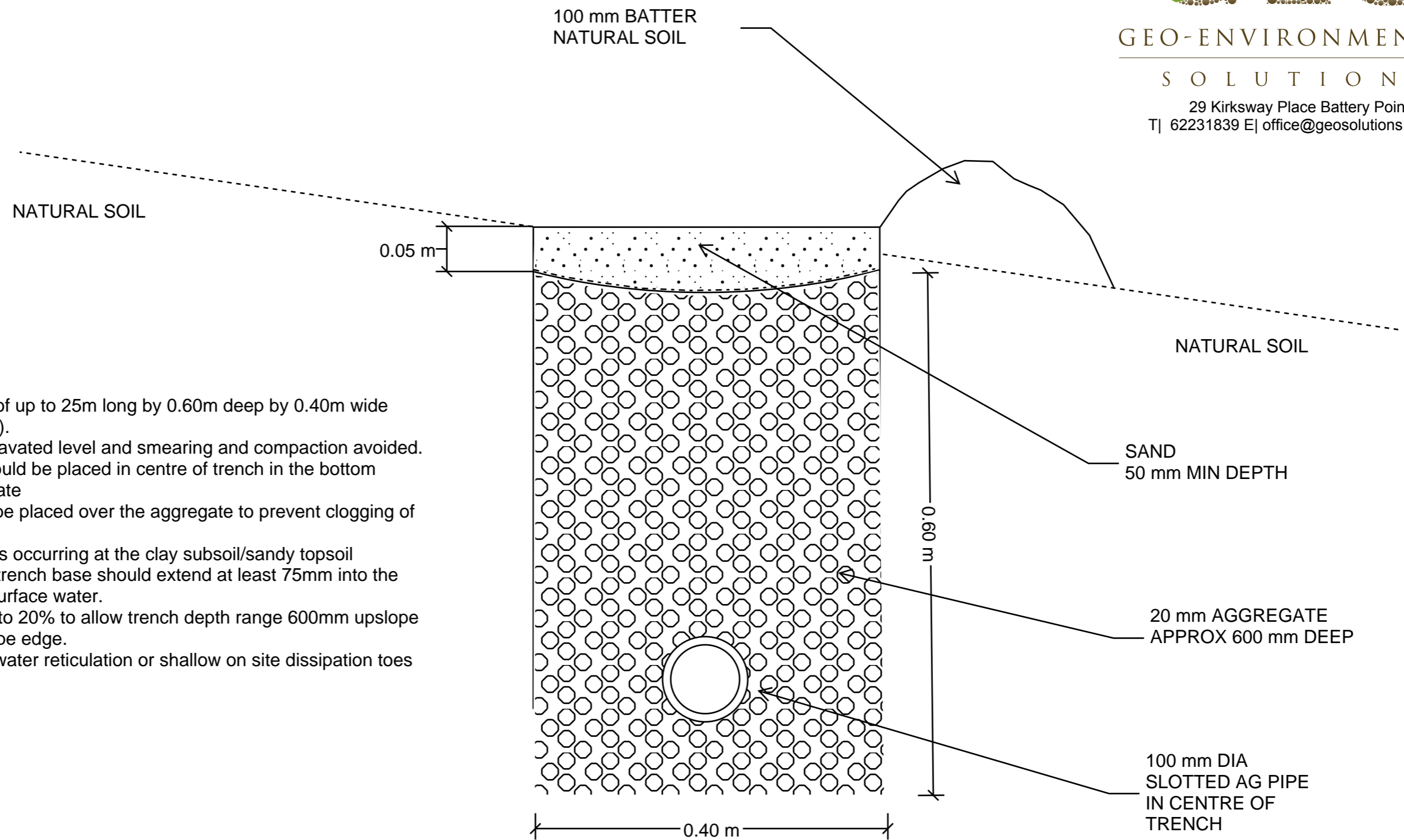
Refer to GES report

Dr. John Paul Cumming
Building Services Designer-
Hydraulic
CCC774A

GES
GEO-ENVIRONMENTAL
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29 Kirksway Place Battery Point
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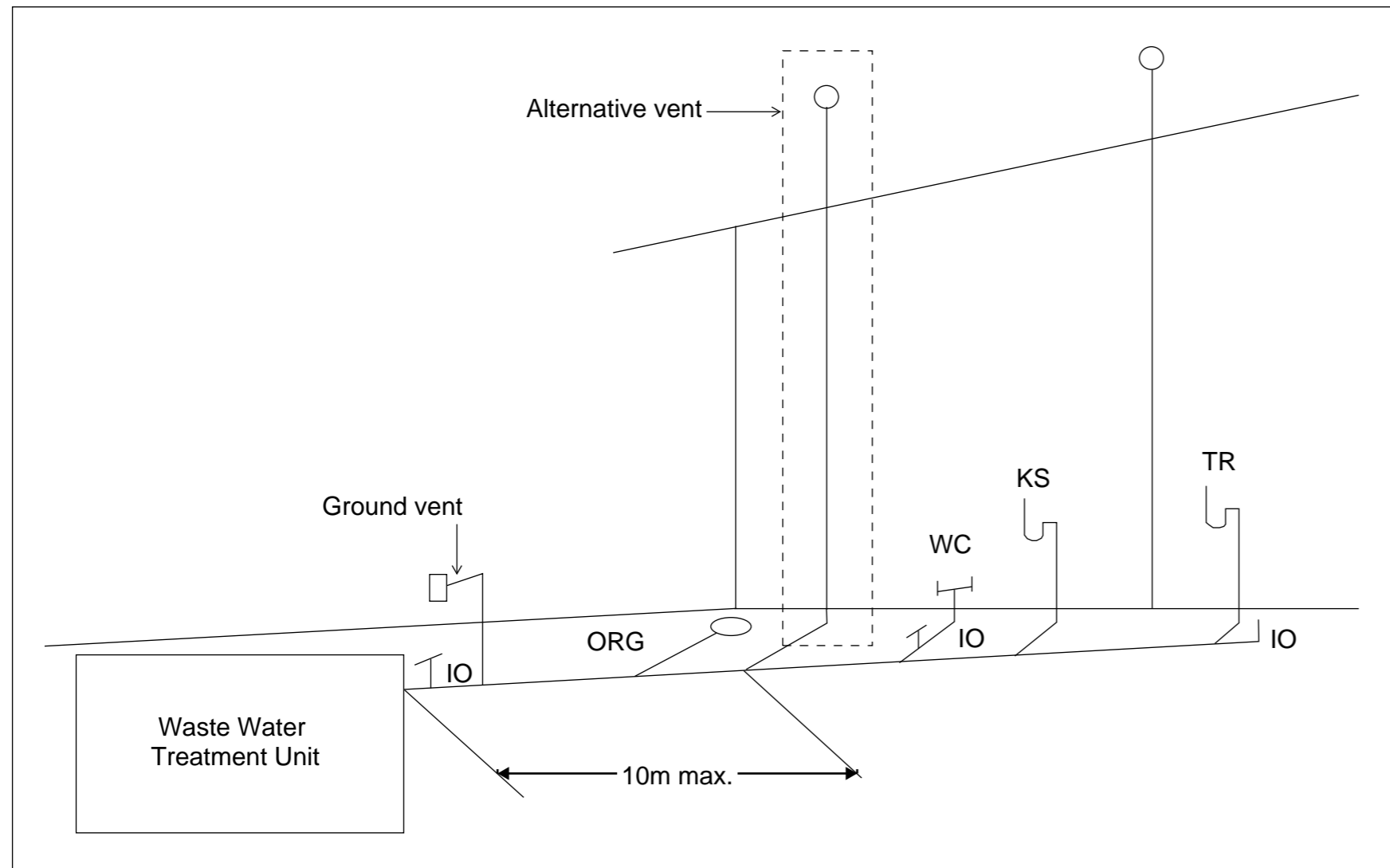
6/2/2024

PROPERTY DESCRIPTION
PID No 5789995
TITLE No 202715/1
CONTAINING 923 sqm



Design notes:

1. Cut-off trench dimensions of up to 25m long by 0.60m deep by 0.40m wide (depths and widths minimum).
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 100mm slotted ag-pipe should be placed in centre of trench in the bottom 100mm of the 20mm aggregate
4. Geotextile or filter cloth to be placed over the aggregate to prevent clogging of the pipes and aggregate
5. If shallow subsurface flow is occurring at the clay subsoil/sandy topsoil boundary (duplex soils), the trench base should extend at least 75mm into the subsoil clay to capture sub-surface water.
6. Construction on slopes up to 20% to allow trench depth range 600mm upslope edge to 400mm on down slope edge.
7. Trench discharge to stormwater reticulation or shallow on site dissipation toes across the contour.



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 is 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 units must terminate at or above finished surface level