

Tableland Wastewater Consultants Pty.
Ltd. T/As.

Wastewater Consultants

Email: wastewaterbrett@bigpond.com

46 Kennedy Highway,
Tolga. Qld. 4882
(P.O. Box 747, Tolga. Qld. 4882)
Phone:- (07) 40955 211
Fax:- (07) 40955 349

ABN-98 101 739 477
BSA Licence No-1032472

WASTEWATER DISPOSAL ASSESSMENT REPORT FOR A PROPOSED NEW RESIDENCE AT LOT 11 MILKY PINE ROAD

DAINTREE



Report No. WC 20705

SITE ASSESSMENT DATE: 16th October 2013

Prepared For:
Slavo Nitschneider
15 Bandanas Court
Stan Hope NSW 2768

23rd October 2013

**WASTEWATER
CONSULTANTS**
20 NOV 2013
BY:

www.wastewaterconsultants.com.au



☐ Providing Approved
Sewage, Wastewater & Water Services

☐ Site & Soil Assessment Reports,
Land Application Designs,
Subdivisional & Development Assessment
Reports,
Pre Purchase Reports.

☐ Domestic & Commercial Septic
Disposal Systems,
Domestic Wastewater Aerated Treatment
Systems,
Commercial Wastewater Aerated Treatment
Systems,
Domestic & Commercial Advanced
Secondary Systems,
Secondary Systems.

☐ Trench Systems or Trench Beds,
Evapo-Transpiration Trench Beds,
Recycling (CNL) Irrigation Networks.

☐ Domestic & Commercial Servicing &
Reporting,
Replacement New & Reconditioned
Compressors & Pumps,
Concrete & Polymer Septic Tanks & Grease
Traps,
Rain Water or Storage Water Tanks,
Chemical Storage or Dosing Tanks.

☐ Submersible Borehole Pumps,
Domestic or Commercial Pressure
Pumps,
Submersible Cutter / Macerator

☐ Water Analysis Services & Testing,
Filtration Systems & Replacement
Filters,
Chlorinator, RO and UV Filter Systems.

**ON-SITE SEWAGE DISPOSAL
SITE AND SOIL EVALUATION REPORT
WC20705**

Cairns Regional Council
Cairns Qld 4870

Attn: Cairns Regional Council
Re: Proposed wastewater disposal system.

This report is to determine and satisfy disposal of all on-site sewage & sullage waste for Lot 11 Milky Pine Road, Daintree.

On visiting and further inspection of this property it was noted a proposed 3-bedroom dwelling is to be constructed on this site, with further inspection it was noted that the property is surrounded by three seasonal watercourses / gullies, with one bordering the northern boundary and the other two bordering the southern and eastern boundaries, no other major water bodies, boreholes or seasonal intermittent watercourses were encountered on this property that would influence the recommended setback and separation distances for on site disposal.

It's proposed so as to satisfy the current regulations with on-site domestic wastewater and previous discussions with "CRC" primary septic system may be selected if all setback and separation distances can be achieved on site, therefore with our on site assessment and soil tests of this property primary treatment has been further investigated and can achieve the required setback and separation distances.

We have also further investigated the use of aerated secondary recycled treatment systems AWTS as it may also prove to be more economical with installation and provide the owners with 100% full reuse for irrigation disposal.

Therefore based on the soil permeability, associated health risks it is recommended if selecting primary treatment a minimum 3000 litre all-purpose septic tank which is to be installed with an approved solids outlet filter prior the proposed total 150m² ETA trench beds as to our following designs.

If opting for secondary treatment then a 10EP secondary wastewater treatment and recycling system (AWTS) with the minimum of 75m² of ETA trench beds or 262m² (CNL) irrigation disposal networks satisfying all setback and separation distances with AS1547-2012 shall further prove satisfactory.

Appropriate cover is required of the selected land application area such as turf or grass for ETA trench beds and mulch and bark cover for covered irrigation areas, other options with use of secondary treatment are possible and therefore if selecting other disposal methods the LAA shall be covered with appropriate and suitable cover as per AS1547-2012.

A: SITE EVALUATOR

Author: Brett Trebley

B: DESK TOP EVALUATION

Location Details:

Locality Address: **Lot 11 Milky Pine Road, Daintree**

Owner's Details: **Slavo Nitschneider**

Plan Details: **RP739106**

Lot No. 11

Local Govt: **"CRC"** Parish: **Alexandra** County: **Solander**

Site Plan Details: **Proposed Wastewater Disposal System**

Soil Type from Soil Maps, etc: **N/A.**

Climate (BOM * ESTIMATED PORT DOUGLAS)

Annual Rainfall: ***2000mm** Annual Evaporation: ***2400mm**

This site may experience heavier seasonal rainfall during December-March

Intended Water Supply Source:

- Reticulated Town Water Supply
- Reticulated Bore/Well
- On-Site Rainwater**
- Dam

Local Experience With Existing On-Site Disposal Systems In Area:

Type:

- Primary**
- Secondary**
- Advanced Secondary**

If known number of systems in locality: **3 +**

- Satisfactory**
- Failed
- Problems evident

C: SITE ASSESSMENT

Topography

Slope: **Sloping Site, LAA to be constructed basically level < 6%**

Ground Cover: **Sparse Grass / rainforest treed**

Geology: **N/A**

Drainage Patterns Contours: **Flow Over Land**

Available Clearances:

Boundaries: **> 4 M**

Non-Potable Bores, Wells and Watercourses: **50M**

Buildings: **2 M**

Embankments: **N/A**

Stand of Trees, Shrubs: **Existing**

Other _____

Site History (Previous Land Use) **Rainforest**

Environmental Issues: **N/A**

Site Stability: **Good**

Drainage Control

Depth of seasonal water table: (assumed greater than)

Winter: > 3.0M

Summer: > 3.0M

Need for groundwater cut-off drains? **No**

Need for surface water collection / cut-off drains? **No**

Availability of Reserve / Setback Areas

Reserve area available for disposal: **100%**

Assessment Photographs attached: **Yes**

D: SOIL INVESTIGATION

Method Of Tests:

- Test Hole / Pit**
- Soil Texture**
- Ribbon Test**
- Falling Water
- Site Exposure**
- Other (Soil Test Report)

Individual Soil Report:

By: _____ Report No. _____

Soil Category:

Description (TICK ONE ONLY)

- 1. Gravels and Sands
- 2. Sandy Loams
- 3. Loams
- 4. Clay Loams**
- 5. Light Clays
- 6. Medium to Heavy Clays

Reason for placing in Stated Soil Category: **On-Site Soil Test, Texture & Ribbon Test.**

Reason for Design Load Rate (DLR) & (DIR) recommendation: **Based on minimum of primary treatment and ETA trench beds, on-site soil tests and tactile ribbon tests, have assumed a DLR for primary treatment of 5mm/day and 10mm/day for secondary treatment for ETA beds and for secondary irrigation an adopted DIR of 20mm/week with a K-sat rating assumed at 0.06 - 0.12m/day as to AS1547-2012.**

Need for groundwater protection: **No**

Type of disposal system best suited to site for Land Application:

- PRIMARY**
- SECONDARY**
- ADVANCED SECONDARY OR EQUIVALENT**

Evaluator's preliminary assessment of Land Application Area and best suited disposal option for site: **Primary treatment 150m² of ETA trench beds, Secondary treatment 75m² of ETA trench beds and 262m² of (CNL) drip irrigation networks.**

Estimated Daily Flow: **Based on proposed 3-bedroom dwelling = maximum 5 people x 150L/P/Day = 750 Litres**

Design Consideration: **3-bedroom dwelling, allowed with "standard reduction fixtures". No allowance for expansion or additional bedrooms allowed with this design.**

Any specific environmental constraints? **No**

Any specific public health constraints? **No**

If Yes see attached or reason: _____

Results of consultation or observations with any other interested parties: Neighbours, Local Council, Environmental agencies and or groups, etc:

- Neighbours**
- Local Council**
- Environmental Agencies and Groups**
- Not Applicable**
- Report Attached**

DISPOSAL SYSTEM for EFFLUENT from DOMESTIC PREMISES AS 1547-2012 SIZING of DISPOSAL AREA

REDUCTION FIXTURES REQUIRED: Yes

TYPE OF FLOW FIXTURES

	RETICULATED SUPPLY	ON-SITE RAIN WATER
<input type="checkbox"/> Normal Fixtures	180L/P/Day	140L/P/Day
<input type="checkbox"/> Standard Reduction	150L/P/Day	115L/P/Day
<input type="checkbox"/> Full Reduction	110L/P/Day	80L/P/Day
<input type="checkbox"/> Other / Type and Reason	_____	

Notes: These above flows are minimum rates unless actual flows from past experience can be demonstrated.

Standard water-reduction fixtures included the combined use of reduced flush 6/3 litre water closets, shower-flow restrictors, aerator faucets (taps) and water-conserving automatic washing machines.

Full water-reduction fixtures include the combined use of 6/3 litre water closets, shower-flow restrictors, aerator faucets, front load washing machines and flow /pressure control valves on all water-use outlets

ADOPTED DISPOSAL CONCLUSIONS:

- 1) ABSORPTION TRENCH BED: N/A
- 2) PRIMARY EVAPO-TRANSPARATION: m2 REQUIRED: **150m2**
- 3) SECONDARY EVAPO-TRANSPARATION: m2 REQUIRED: **75m2**
- 4) SECONDARY IRRIGATION AREA: m2 REQUIRED: **262m2**

EVALUATORS CONCLUSION:

As with the suitable setback and separation distances the silty clay loams at this property, options for installation of primary and or secondary treatment disposal systems, we have provided both suitable options for the owner and local government to further consider.

Therefore a **CONVENTIONAL SEPTIC DISPOSAL SYSTEM C/W APPROVED OUTLET FILTER AND ETA BEDS OR A SECONDARY AERATED WASTEWATER TREATMENT SYSTEM (AWTS WITH ETA BEDS OR IRRIGATION NETWORKS)** will prove satisfactory for on this site; there is sufficient area available for disposal of all treated effluent including a reserve land application area if required with both options.

Therefore it is our recommendation if selecting primary septic treatment a *3000 litre all-purpose septic tank c/w an installed and approved solids outlet filter and gravity feed to the minimum recommended 150m² (2 x 75m²) ETA trench beds as to our designs.*

If selecting secondary treatment a *10EP approved secondary AWTS with the minimum 75m² ETA trench beds or 262m² of covered irrigation networks* shall be installed, it's further recommended utilising a (CNL) drip irrigation network for the irrigation disposal system providing even distribution throughout the selected land application area/s.

Therefore these provided options are able to treat and dispose of all effluent and sullage waste generated on site in accordance with the requirements of the On-Site Sewerage Code, Plumbing and Drainage Act 2002 (Division 4), Standard Plumbing and Drainage Regulation 2003 (Part 2 -8B), (QPW) Queensland Plumbing and Wastewater Code, AS/NZS 1547:2000 & 2012, On-Site Facilities Guidelines - Effluent Quality (Jan 2004), Vertical and Horizontal Separation Distance (June 2002) and (DLGPS) Department of Local Government, Planning, Sport & Recreation.

RECOMMENDED DISPOSAL TYPE CALCULATIONS:

2a) PRIMARY EVAPO-TRANSPIRATION ABSORPTION AREA

B) ETA Absorption Trench Bed

$$A_w = q / LTAR$$

A_w = Wetted area in square metres
 q = Daily flow in litres
 $LTAR$ = Long term acceptance rate in litres per day

$$A_w = 750 \text{ litres per day} / 5$$

$$A_w = 150\text{m}^2 \text{ of wetted area required}$$

b) LENGTH OF TRENCH

$$L = A_w / b$$

L = Trench length in metres
 A_w = Wetted area in square metres
 B = trench width in metres

$$L = 150 / 2 / 4$$

$$L = 2 \text{ of } 18.75 \text{ metres long} \times 4 \text{ metres wide} \times 600\text{mm deep ETA absorption trench bed as to our designs.}$$

NOTE: Bed must be constructed level, inspection ports required on all 350mm trench arches as to AS/NZS1547-2000.

3a) SECONDARY EVAPO-TRANSPIRATION ABSORPTION AREA

B) ETA Absorption Trench Bed

$$Aw = q / LTAR$$

Aw = Wetted area in square metres
 q = Daily flow in litres
 $LTAR$ = Long term acceptance rate in litres per day

$$Aw = 750 \text{ litres per day} / 10$$

$$Aw = 75\text{m}^2 \text{ of wetted area required}$$

b) LENGTH OF TRENCH

$$L = Aw / b$$

L = Trench length in metres
 Aw = Wetted area in square metres
 B = trench width in metres

$$L = 75 / 4$$

$$L = 18.75 \text{ metres long} \times 4 \text{ metres wide} \times 600\text{mm deep ETA absorption trench bed as to our designs.}$$

NOTE: Bed must be constructed level, inspection ports required on all 350mm trench arches as to AS/NZS1547-2000.

4a) SECONDARY IRRIGATION AREA

$$Ai = Qw / DIR$$

Ai = Irrigation area required
 Qw = Quantity of effluent generated per week in litres
 DIR = Design irrigation rate in millimetres per week

$$Ai = 7 \times 750 / 20$$

$$Ai = 5250 / 20$$

$$Ai = 262\text{m}^2 \text{ of irrigation disposal area}$$

Preferred Wastewater Treatment Unit Options:

Three levels of effluent quality are identified and defined based on the level of treatment, primary, secondary and advanced secondary. The following highlighted parameters are the minimum required for this proposal and are as per the guidelines for effluent.

Parameter	Primary Effluent (g/m ³)	Secondary Effluent (g/m ³)	Advanced Secondary Effluent (g/m ³)
Biological Oxygen Demand	120 – 240	20	10
Total Suspended Solids	65 – 180	30	10
Thermo – Tolerant Organisms (org/100mg)	N/A	200	10
Suitable Treatment System	Septic Tank + Outlet Filter	Aerated Treatment System (AWTS)	Aerated Treatment System and or Nutrient Removal

Pollution Exclusion and Disclaimer:

Wastewater Consultants and its employees shall not be liable or responsible in respect of any claims for damage or damages to property or personal injury including costs and expenses incurred in preventing, removing, nullifying or clean up caused by arising directly or indirectly out of actual alleged or threatened discharge, dispersal, release or escape of waste materials, toxic chemicals, liquids or gases, smoke, fumes, soot, vapour's, acids, alkalis, or any other irritants, contaminants or pollutants into or upon any property, land, atmosphere or any water course or body of water including groundwater. Wastewater Consultants carries all required insurances and is exempt from private indemnity as to the BSA Building Services Authority.

On-Site Sewage Code Requirements:

Table 1 from the NRM code recommends the following horizontal separation distances for land application areas. Where indicated the table may also represent actual separation distances assumed and or measured on-site.

Feature	Recommended Horizontal Separation Distance	Measured Distance
Footings of Buildings	Boundaries of land application areas should be positioned at least 2.0M down slope, 4.0M upslope from the footing or where the site is flat, 2.0M from any point of the building footing.	2 M
Property Boundaries, Pedestrian Paths and Walkways, Recreation Areas.	Boundaries of land application areas should be positioned at least 2.0M down slope, 4.0M upslope from the feature in column one or where the site is flat, 2.0M from any point of the feature.	> 4 M
Retaining Wall Footings	Boundaries of land application areas should be positioned at least 2.0M down slope, 4.0M upslope from the retaining wall footings or where the site is flat, 2.0M from any point of retaining wall footings.	N/A
Inground Swimming Pools	Boundaries of land application areas should be positioned at least 6.0M down slope, 6.0M upslope from the swimming pool or where the site is flat, 6.0M from any point of the pool.	N/A
Inground Potable Water tanks	Primary effluent – 15M from the boundary of the land application area. Secondary effluent – 6M from the boundary of the land application area.	N/A
<p>Note: The separation distances are recommended only. The local government may upon considering the public health and environmental risks reduce or increase the distances given in table 1.</p>		

Recommended horizontal and vertical separation and setback distances Appendix R Table R1 need to be used in conjunction with Table R2 from AS/NZS1547-2012, R2 Application discusses minimum and maximum constraints for various properties and sites and in some cases the local government will have policy or guidelines that will override the R1 & R2 guideline distances suggested.

Table 3 from NRM Code recommends the following horizontal separation distances for sub-surface land application areas.

Feature	Recommended Separation Distances	Measured Distance
Top of bank of permanent water course; Top of bank of intermittent water course; Top of bank of a lake, top water level of a surface water source used for agriculture, aquaculture or stock purposes; Easement boundary of unlined open stormwater drainage channel or drain.	Primary effluent: 50M (Horizontal)	N/A
	Secondary effluent: 30M (Horizontal)	N/A
	Advanced secondary effluent: 10M (Horizontal)	
Bore or a dam used or likely to be used for human and or domestic consumption	Primary effluent: 50M (Horizontal)	N/A
	Secondary effluent: 30M (Horizontal)	N/A
	Advanced secondary effluent: 10M (Horizontal)	
Unsaturated soil depth to a permanent water table	Primary effluent: 1.2M (Vertical)	> 1.2 M
	Secondary effluent: 0.6M (Vertical)	> 0.6 M
	Advanced secondary effluent: 0.3M (Vertical)	
<p>Note: The separation distances are recommended and the local government may upon considering the public health and environmental risks reduce or increase the given in table 3</p>		

In accordance with table 3 of the On-site sewage facilities – guidelines for Vertical and Horizontal separation distance, the Vertical separation requirement for the minimum selection of primary treated effluent is 1.2M. The groundwater is not expected to rise within approximately 3.0 metres of natural ground surface on the proposed allotments.

Therefore by adopting the selected disposal methods all horizontal and vertical separation distances as recommended in the NRM guidelines can be achieved for on these proposed allotments.

ON-SITE ASSESSMENT PHOTOS



LOOKING OVER PROPERTY, BUILDING LOCATION AND DISPOSAL LAND APPLICATION AREA, ONE OF THREE SOIL TESTS AND SAMPLES TAKEN ON SITE.

NOTICE TO LAND OWNER

Your sanitary drainage installation consists of a septic tank and or an on-site aerated wastewater treatment system and land application disposal system. To ensure the operational effectiveness of this installation the following advice should be adhered to.

OPERATION AND MAINTENANCE:

On-site sewerage systems and the associated land application facilities are complex systems that are prone to failure if operated and maintained incorrectly. All on-site sewerage facilities require a high degree of user dedication in terms of operation and maintenance to ensure that the design performance of the facility is achieved for the expected life of the facility.

All on-site sewerage facilities or components of the facility have an infinite life. For instance, septic tanks may have an expected life of 25 years, whilst the associated land application facility may have an expected life of 5 to 15 years depending on the nature of the specific site.

OPERATION & MAINTENANCE PROCEDURES

Operation and maintenance procedures are undertaken to a regular schedule appropriate to the nature and type of treatment and land application facility and in accordance with any manufacturers instructions and continuity of operation and maintenance is achieved throughout changes of ownership and /or changes in use or development of the site.

Practice water conservation and avoid exceeding the hydraulic capacity of the facility.

Minimise the input of cleaning agents, detergents, disinfectants, bleaches, alkalis, oil petrol, acids, degreasers, Photography chemicals, cosmetics, lotions, pesticides and herbicides into the facility.

Do not place materials such as disposal nappies, female sanitary products, paper towels, cigarette butts, bones and coffee grounds into the facility.

Be observant regarding signs of unsatisfactory performance, including unusual odours, leaks from the facility or choking.

Be familiar with safety procedures and any supplied maintenance and operation manuals.

Establish a time pattern of desludging – pump-outs.

SEPTIC TANKS

It is recommended that septic tanks be inspected at two yearly intervals. The inspection should include an assessment of the sludge and scum levels and checking of the outlet and inlet square junctions for blockages.

Septic tanks should be deslugged when:

- The scum layer is within 100mm of the bottom of the inlet square junction or the sludge layer is within 200mm from the bottom of the inlet.
- The sludge occupies the basic allowance of the septic tank; or
- The sludge scum occupy two-thirds the volume of the tank (or first stage of a two stage system)

The desludging procedure should ensure that 400-500mm of liquid is retained in the tank and that the tank is immediately refilled with water to the outlet level.

ON-SITE WASTEWATER TREATMENT SYSTEMS

It is recommended and mandatory that most common secondary wastewater systems be serviced and maintained regularly at 3 monthly intervals by a licenced and approved service provider or agent.

Contact the service agent following observation of unsatisfactory performance or breakdown.

Keep the area in the vicinity of the on-site sewerage facility tidy to facilitate ease of operation and maintenance. Protect facility components from structural damage, such as from vehicles.

Where appropriate, or required by a condition of approval, enter into an annual service contract with an approved service provider or agent. The owner and any subsequent owners of all activities undertaken on the secondary wastewater system and disposal facility should keep all the records of the services and maintenance records.

LAND APPLICATION SYSTEMS

Regular visual checking of correct system operation by households, and an annual inspection by service contractors should be undertaken. Signs of system failure include:

- Surface ponding and run-off of treated effluent;
- Degrading of soil structure (Sheet or Rill erosion, surface crusts, hard surface);
- Poor vegetation growth; and
- Unusual odours

SUITABLE VEGETATION FOR WET SOILS
(Informative)

C1 SCOPE This Appendix sets out suitable vegetation for growing in wet soils e.g. through covered-surface disposal LAA, note: evapotranspiration beds require a finer selection and shallow rooted plants should only be selected, sub-surface irrigation networks shall only have turf or grass as listed check with local authorities prior selecting plants and grasses and for regional growing conditions.

C2 TYPES OF VEGETATION

(a) **CLIMBERS**

Bignonias	Kennedia
Clerodendrons	Lonicera Japonica
Hardengergia	Pandorea Jasminoides
Hibbertia Scandens	Passiflora Coccinea
Jasmin	Pyrostegia Ignea
	Tecomanthe Venusta
	Thunbergia Mysorensis

(b) **GRASSES**

Buffalo

(c) **GROUND COVER**

Acanthus Mollis	Hemigraphis
Acorus Grass	Liriope Muscari
Alternantheras	Mini Bamboos
Coleus	Ophiopogon
Cuphea	Russellia
	Torenia

(d) **PERENNIALS**

Canna X Generalis	Heliconia
Chrysanthemum Maximum	Salvia X Superba
Gingers	Viola Hederace

(e) **SHRUBS**

Abelia X Grandiflora	Golden Myrtle
Auriculate	Golden Penda cutting
Barlerias	Hebe Speciosa
Beacke	Japonicu
Brunsfelsia	Jasminum Mesnyi
Calliandras	Jasminum Officinale *
Citrinus	Jaminum Polyanthum
Callistemo	Justica
Caphea Ignea	Leptospermum Flavescens
Compact Lillypilly	Melalouca
Clerodendron	PhyllanthusJustica
Correa Alba	Plumbago Auriculate
Crotons	Pyracantha Fortuneana
Callistemon	
Euonymus	Thunbergia Alata
False Crotons	Westringia Fruticosa
Gardenias	
*Grandiflorum	

(f) **TREES**

Angophora Costata	Leptospermum Laevigatum
Ashoka	Lillypilly
Banksia Integrifolia	Leptospermum Petersonii
Callistemon Salignus	Melaleuca Armillaris – Sandy Soil
Callistemon Viminalis	Melaleuca Linariifolia – Clay Soil
Casuarina Glauca	Melaleuca Quinquenervia – Sandy Soil
Casuarina Stricta	Melaleuca Styphelioides – Clay Soil
Eucalyptus Botryoides	Michelia Champaca
Eucalyptus Robusta	Native Gardenia
Eucalyptus Robusta	Nyssa Sylvatica
Golden Penda seedling	Photinea X Frasieri 'Robusta'
Gustavia	Saraca
Hakea Salicifolia	Tristaniopsis Laurina

This report is based on the on-site assessment and conditions assessed and encountered on this site. Slavo Nitschneider provided the proposed positioning and all site locations including number of bedrooms for the proposed new dwelling. Should any aspect of this report change or differ from these indicated including soil types, Wastewater Consultants shall be contacted prior any proceedings as amendments to this design may be required. No allowances for additional bedrooms or numbers of permanent people have been allowed for expansion with this design and evaluation report.

SITE INVESTIGATORS:

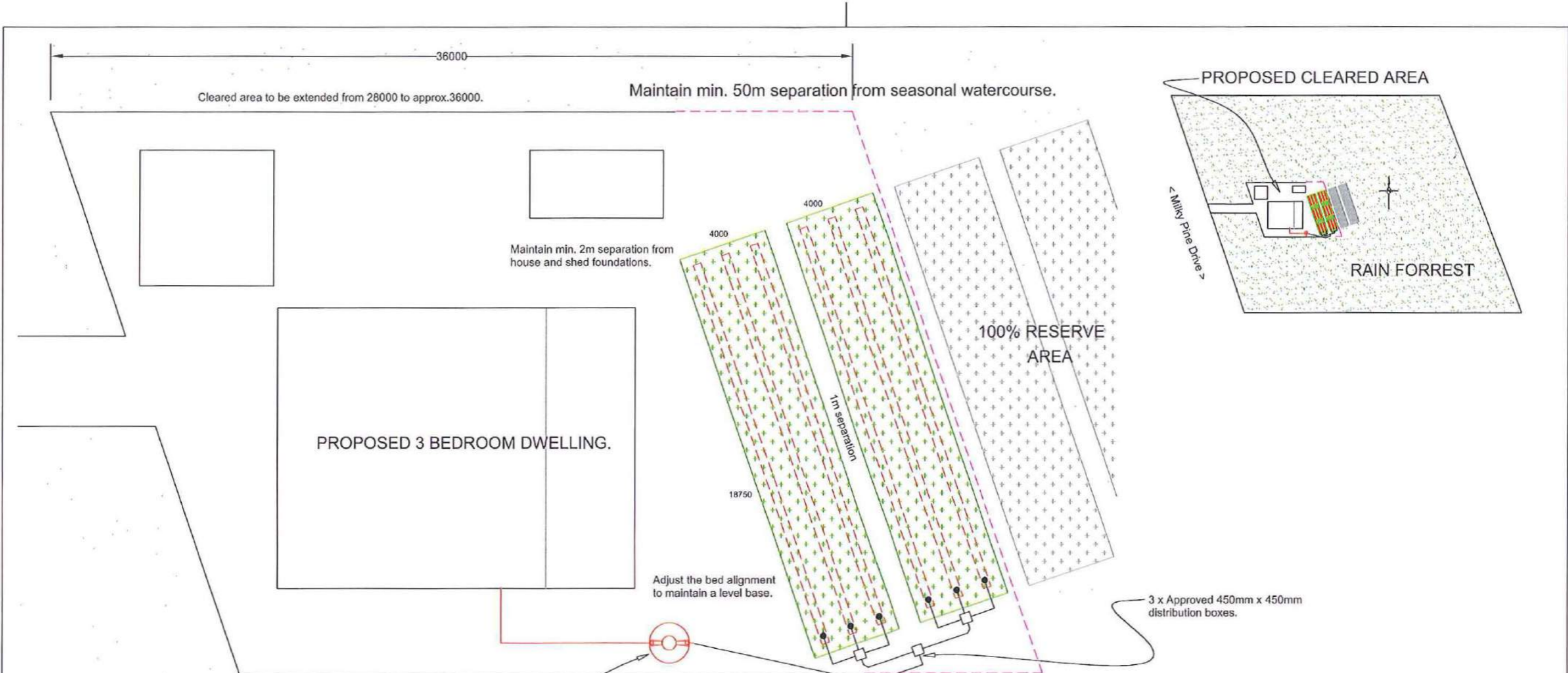
Wastewater Consultants
Brett Trebley & Kevin Boutell

Signature:



Date: 23.10.2013

**WASTEWATER CONSULTANTS
WASTEWATER MANAGEMENT SPECIALISTS**

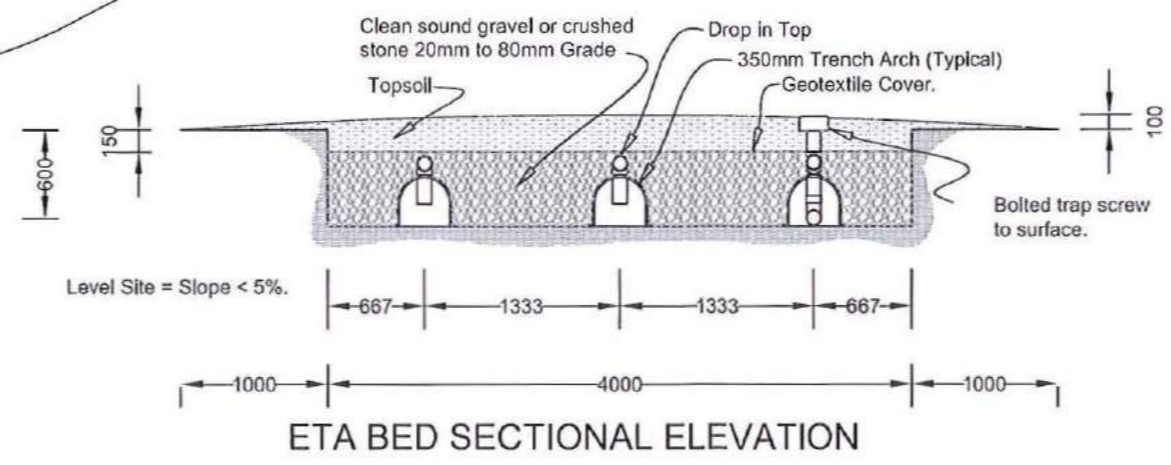


REQUIRED:
 3000 ltr Everhard (or equivalent) Primary Septic Tank complete with an approved outlet filter.
 Install 150m² of ETA beds to our Disposal Design.
 Installation to be to manufacturer's requirements and to AS/NZ 1547-2012 "On-Site Wastewater Management."

NOTE:
 Refer to report for Disposal Details.

As Constructed drawings are to be supplied to CRC on completion of any variations with this design.

NOTE:
 Tank invert height levels to be confirmed by builders plumber prior to installation of system.



NOTE:
 Eta Bed must be located so that for a substantial part of the day will receive sunlight.

NOTE:
 NO LIVESTOCK OR VEHICULAR TRAFFIC ALLOWED ON LAND APPLICATION AREA.

All Plumbing and Draining to comply with AS3500

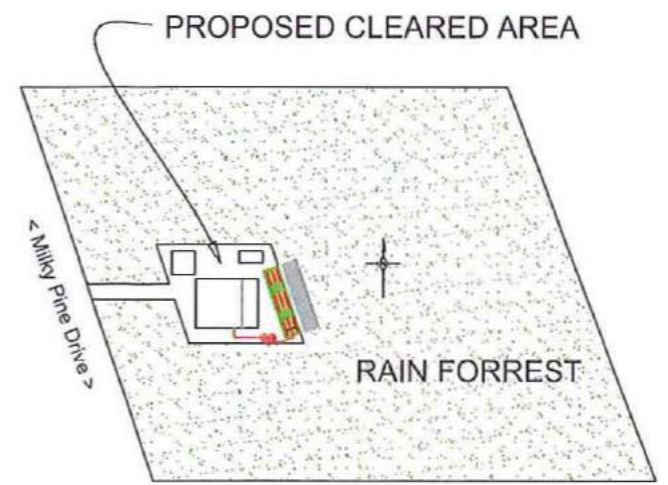
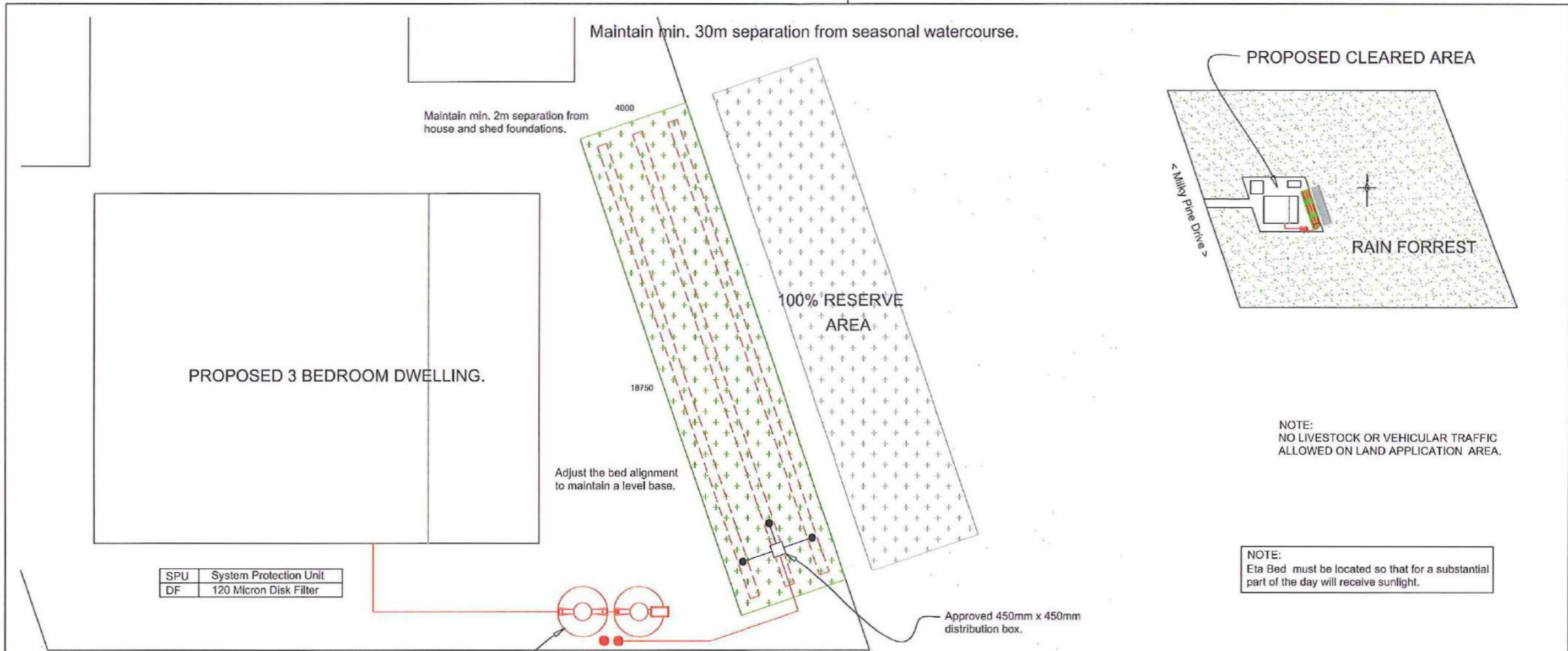
Real Property Description
 Lot 11 on RP739106.
 Parish of ALEXANDRA.
 County of SOLANDER
 Site Area: 1.266 Ha

Rev.	Date	Amendment	By



46 Kennedy Highway,
 Toowoomba, Qld. 4330.
 (PO Box 747, Toowoomba, Qld. 4330)
 Phone: (07) 40955 211
 Fax: (07) 40955 349
 A.B.N: 98 101 739 477
 BSA Licence No: 1032472

WASTEWATER DISPOSAL ASSESSMENT		Date	30/10/2013
For SLAVO NITSCHNEIDER		Scale	To Fit Page
At Lot 11 Milky Pine Rd. Daintree.		Drawing Title	Sheet No.
PRIMARY WASTEWATER SITE PLAN	WC 20705	02	Page 2 of 3
Drawn Stage	Report No.	Rev.	
KJB 1			

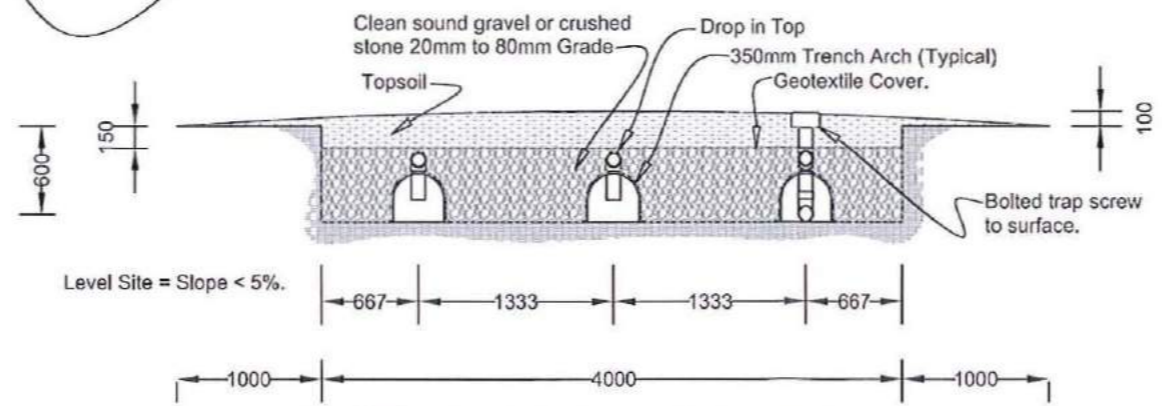


NOTE:
NO LIVESTOCK OR VEHICULAR TRAFFIC ALLOWED ON LAND APPLICATION AREA.

NOTE:
Eta Bed must be located so that for a substantial part of the day will receive sunlight.

Required: 10EP secondary wastewater recycling system with the minimum required 75m² of ETA Bed to our design. Or equivalent. Installation to be to manufacturer's requirements and to AS/NZ 1547-2012 "On-Site Wastewater Management."

Maintain min. 30m separation from seasonal watercourse.



ETA BED SECTIONAL ELEVATION

NOTE:
Refer to report for Disposal Details.

NOTE:
As Constructed drawings are to be supplied to CRC on completion of any variations with this design.

NOTE:
Tank invert height levels to be confirmed by builders plumber prior to installation of system.

All Plumbing and Draining to comply with AS3500

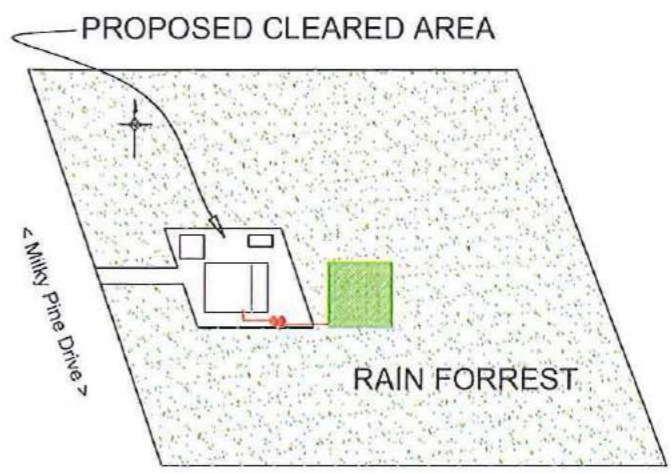
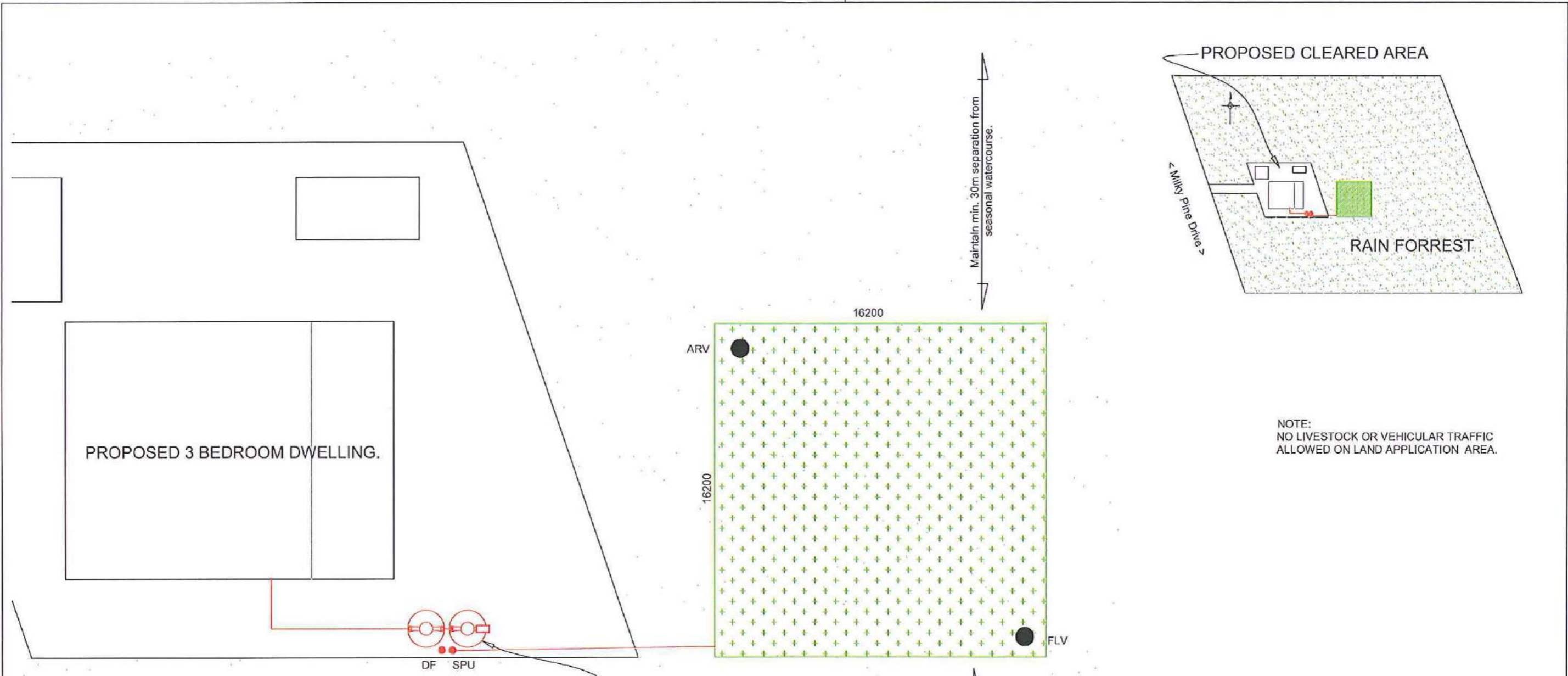
Real Property Description
Lot 11 on RP739106.
Parish of ALEXANDRA.
County of SOLANDER
Site Area: 1.266 Ha

Rev.	Date	Amendment	By



46 Kennedy Highway,
Tolga, Qld. 4882.
(PO Box 747, Tolga, Qld. 4882)
Phone: (07) 40955 211
Fax: (07) 40955 349
ABN: 98 101 739 477
BSA Licence No: 1032472

WASTEWATER DISPOSAL ASSESSMENT		Date	30/10/2013
For SLAVO NITSCHNEIDER		Scale	To Fit Page
At Lot 11 Milky Pine Rd. Daintree.		Drawing Title	WASTEWATER SITE PLAN
Drawn	Stage	Report No.	Sheet No.
KB	1	WC 20705	01
			Rev.
			Page 1 of 3



NOTE:
NO LIVESTOCK OR VEHICULAR TRAFFIC
ALLOWED ON LAND APPLICATION AREA.

PROPOSED 3 BEDROOM DWELLING.

FLV	Flush Line Valve
ARV	Air Release Valve
SPU	System Protection Unit
DF	120 Micron Disk Filter

Required:
10EP secondary wastewater AWTS
recycling system with the minimum required
262m² of Netafim Bio-Line (under mulch) covered
surface (CNL) 1.6 lph drip irrigation networks.
Or equivalent.
Installation to be to manufacturer's requirements
and to AS/NZ 1547-2012 "On-Site Wastewater
Management."

NOTE:
Refer to report for Disposal Details.

As Constructed drawings are to be supplied to CRC
on completion of any variations with this design.

NOTE:
Tank invert height levels to be
confirmed by builders plumber
prior to installation of system.

All Plumbing and Draining to
comply with AS3500

Real Property Description
Lot 11 on RP739106.
Parish of ALEXANDRA,
County of SOLANDER
Site Area: 1.266 Ha

Rev.	Date	Ammendment	By



46 Kennedy Highway,
Tolga, Qld. 4882.
(PO Box 747, Tolga, Qld. 4882)
Phone: (07) 40955 211
Fax: (07) 40955 349
ABN: 98 101 739 477
BSA Licence No: 1032472

WASTEWATER DISPOSAL ASSESSMENT		Date	30/10/2013
For SLAVO NITSCHNEIDER		Scale	To Fit Page
At Lot 11 Milky Pine Rd. Daintree.		Drawing Title	WASTEWATER SITE PLAN
Drawn	Stage	Report No.	Sheet No.
KB	1	WC 20705	03
Rev.	Page 3 of 3		