04.04.2024

Our Ref: 35065-002-01
Your Ref: DA/4731

The Chief Executive Officer
Cook Shire Council
PO Box 3
COOKTOWN QLD 4895

Attn: Planning & Environment Department

Dear Planners,

Information Request Response
Development Application for Reconfiguring a Lot (1 lot into 2 lots)
47 Buhmann Street Cooktown – Lot 2 on SP319394

We act on behalf of the applicants D. & L. Miller in relation to the abovementioned Development Application which is currently before Cook Shire Council for assessment.

Reference is made to the Information Request issued by Council, dated 14 March 2024 and Further Advice Request dated 22 March 2024.

In accordance with section 13 of the *Development Assessment Rules*, we provide this written response to Council's Information Request. This correspondence constitutes a complete response to Council's Information Request. With respect to the matters raised in the Information Request, we advise as follows:

Effluent Disposal

1. *The subject site is located within the Duck Farm Sub-Artesian Area on the Water Resources Overlay Map. To enable assessment of the application additional information is required addressing how the proposal achieves compliance with the relevant provisions of the Reconfiguring a Lot Code (9.4.1) with regards to effluent disposal and impact on water quality, in particular AO6.1, AO6.2 and PO6 and the overall outcome (2)(c) impact on water resources and (2)(m)(e) impact on water quality effluent disposal.*

   The following information is needed to assess the application:

   Provide a site and soil evaluation report for proposed Lot 21 and 22 including but limited to the following;
   - *Daily Sewerage Flow*
   - *Location of Land Application Area*
   - *Setback Distances*
   - *Soil Classification and Soil Type*
   - *Type of Effluent Disposal System*

The report must address the required effluent disposal system and how the proposal will achieve compliance with the relevant provisions of the Reconfiguring a Lot Code (9.4.1) for the Duck Farm Sub-Artesian Area.

Response

An Effluent Disposal Report for proposed Lot 22 is included within *Attachment A.* The report demonstrates that the site can accommodate an appropriate effluent disposal system. With the boundary of proposed Lot 21 located no less than 50m from the sampling undertaken within proposed Lot 22, it would be expected that proposed Lot 21 would have similar soil characteristics and would be able accommodate the same disposal system detailed for proposed 22 within the attached report.

With an area of 2,051m^2, proposed Lot 21 has sufficient area to site a dwelling and the required disposal area of 45m^2. The proposed reconfiguration can be appropriately conditioned that an Effluent Disposal Report be provided at the time of building approval for proposed Lot 21.

The proposed reconfiguration demonstrates compliance with AO6.2 in that the proposed will not result in additional groundwater extraction as the site will be connected to Council's reticulated water supply network and that the proposed lots can accommodate appropriate effluent disposal systems. It can be noted that the land subject to this application does not have any bores onsite or the ability to directly infiltrate the artesian area.

The above demonstrates that Overall Outcomes (2)(c) & (2)(m)(e) can be meet in that the proposed reconfiguration does not impact on the Shire's water resources or impact on the natural environment having regard to water supply and water quality effluent disposal, potential erosion and natural habitat. Furthermore, it is noted that subject land is located on the outer extremities of land identified with the Duck Farm Sub-Artesian Resources Overlay Map.

2. *The Applicant is requested to demonstrate that the risk of flooding to proposed Lot 21 is low, or that the risk can be reasonably mitigated by minor filling of the building pad to achieve 300mm freeboard above the 1% AEP flood level.*

   Advice note: A review of the existing drain at the rear of proposed Lot 21 appears to indicate that the 1% AEP flows are contained, however needs to be confirmed.

Response

Photographic evidence provided by the applicants, included within *Attachment B*, taken during the flooding event of 17 December 2023 confirms that stormwater conveyed through the site, did not exceed the capacity of the drainage. The photographs were taken during the peak of the rainfall event. Upon the rain event easing the water level rapidly reduced back to the typical ankle-deep wet season runoff experienced within the site.

The contours included within the updated proposal plan included within *Attachment C,* confirm that both proposed lots have sufficient area to site a future dwelling and associated infrastructure outside of the area that contains the seasonal the drain.

Supporting Documents

Please see enclosed the following attachments to assist with Council's assessment of the application:

Attachment A: Effluent Disposal Report – Prepared by Earth Test
Attachment B: Photographs of Drainage with Site
Attachment C: Proposal Plan 35065/002B

We trust the enclosed information provided is to your satisfaction and look forward to your continued attention to this matter. In the meantime, should you have any further queries in relation to the information response please do not hesitate to contact the undersigned.

Yours Sincerely,

MICHAEL TESSARO
Senior Planner
Brazier Motti Pty Ltd

ATTACHMENT A

brazier motti

Site Classification

And

Wastewater Management System

For

Dustin Miller

At

17 Savage Street

Cooktown

Postal address: Earth Test, PO Box 1042, Tolga, Qld 4882. Phone: 4095 4734
e-mail: info@earthtest.com.au

INTRODUCTION:

Earth Test has been engaged by Dustin Miller to assess, design and report on Site Classification and a Domestic Wastewater Management System at 17 Savage Street, Cooktown.

It is understood the intention is to construct a new dwelling at the site.
A site and soil evaluation was carried out in July 2020.

SITE FACTORS:

The site was identified during a meeting with the owner on-site.
The lot is predominately covered with short grass and scattered trees.
The location of the proposed dwelling was identified.
The water supply for the dwelling will be reticulated
There were no water bores on the Lot.
Two Dynamic Cone Penetrometer tests were performed at locations DCP1 and DCP2, one borehole BH1, and one constant head soil permeability test P1 as shown on the site plan.
Atterberg Limits tests were performed on a disturbed sample from Borehole1.

BH1 being sampled at 17 Savage Street, Cooktown

SITE INVESTIGATION REPORT

BOREHOLE LOG

CLIENT: Dustin Miller. **PROJECT:** 17 Savage Street, Cooktown. **REPORT DATE:** 02/08/2020	**DATE SAMPLED:** 21/07/2020 **Sampled by:** G. Negri

BOREHOLE No: BH1

DEPTH (m)	DESCRIPTION	COMMENTS
0.0-0.2	Yellow-Brown Clay-Silt	Disturbed sample 0.6- 0.9m.
0.2-0.5	Grey-Brown Clay-Silt	Watertable not encountered.
0.5-1.0	Yellow-Brown Clay-Silt	
1.0-1.5	Brown Clay-Silt	
1.5-2.0	Orange-Brown Clay-Silt	

ATTERBERG LIMITS TEST REPORT

CLIENT: Dustin Miller

PROJECT: 17 Savage Street, Cooktown.

SAMPLE DETAILS: BH1 0.6-0.9m

REPORT DATE: 02/08/2020

SAMPLE No: SI 381-20

DATE SAMPLED: 21/07/2020

Sampled by: G. Negri

Tested By: P. Weigand

TEST METHOD	RESULT
Liquid Limit: AS 1289.3.9.2	27%
Plastic Limit: AS 1289.3.2.1	16%
Plasticity Index: AS 1289.3.3.1	11%
Linear Shrinkage: AS 1289.3.4.1	6.5%
Length Of Mould:	250.1mm
Cracking, Crumbling, Curling, Number Of Breaks:	Nil
Sample History:	Air Dried
Preparation Method:	Dry Sieved
Insitu Moisture Content:	13.0%
% Passing 0.075mm:	

DYNAMIC CONE PENETROMETER REPORT
AS 1289.6.3.2

CLIENT: Dustin Miller.

SAMPLE No: SI 381-20

PROJECT: 17 Savage Street, Cooktown.

DATE SAMPLED: 21/07/2020

SAMPLE DETAILS: Sites "DCP1 & DCP2." as per site plan.

Tested By: G. Negri

REPORT DATE: 02/08/2020

DEPTH (Metres)	Site: DCP1	Site: DCP2
	No Blows	No Blows
0.0 – 0.1	8	9
0.1 – 0.2	6	6
0.2 – 0.3	10	8
0.3 – 0.4	7	8
0.4 – 0.5	8	8
0.5 – 0.6	10	7
0.6 – 0.7	11+	8
0.7 – 0.8		9
0.8 – 0.9		8
0.9 – 1.0		8
1.0 – 1.1		8+
1.1 – 1.2		
1.2 – 1.3		
1.3 – 1.4		
1.4 – 1.5		
1.5 – 1.6		
1.6 – 1.7		
1.7 – 1.8		
1.8 – 1.9		
1.9 – 2.0		

SITE CLASSIFICATION

17 Savage Street, Cooktown.

The Dynamic Cone Penetrometer test results indicate adequate allowable bearing pressure to 1.5m.

The Atterberg Limits test results indicate a slightly reactive soil.

The characteristic surface movement (y_s) is estimated to be in the $0 < y_s \leq 20$mm range. According to TABLE 2.3 of AS 2870-2011 the site must be classified **CLASS-"S".**

It is noted that some trees are to be removed from the footprint of the dwelling, it must be ensured that all roots must be removed from the footprint of the dwelling and any fill material be replaced in accordance with AS3798.

To comply with the "Building Services Board Subsidence Policy" advice should be sought from a Registered Professional Engineer for footing design.

All site works must be carried out in accordance with AS 3798-2007 "Guidelines on earthworks for commercial and residential developments"

If the depth of any cut exceeds 0.5m or uncontrolled fill exceeds 0.4m the classification shall be reconsidered.

Because this investigation is limited in scope and extent, it is possible that areas may exist which differ from those shown on the test hole records and used in the site classification. Should any variation from the reported conditions be encountered during excavation work, this office must be notified immediately so that reappraisal of the classification can be made.

Gavin Negri
Earth Test

SITE AND SOIL EVALUATION

17 Savage Street, Cooktown.

The site and soil evaluation carried out on 21/07/2020 provided the following results.

Site Assessment

Site Factor	Result
Slope	Level Pad – 1 degree in LAA
Shape	Linear Planar
Aspect	North East
Exposure	Moderate to Good
Erosion/land slip	Not noted.
Boulders/rock outcrop	Not noted.
Vegetation	Grass and scattered trees
Watercourse	As shown on the site plan
Water table	Not encountered during investigation.
Fill	None.
Flooding	Not likely.
Channelled run-off	Not found
Soil surface conditions	Firm, Moist.
Other site specific factors	Not noted

Soil Assessment

Soil Property	Result
Colour	Brown
Texture	Clay-Loam with Gravel
Structure	Moderate
Coarse Fragments	Nil
Measured Permeability Ksat (m/d)	P1=0.6
Dispersion	Slakes
Soil Category	4
Resultant Design Load Rating, DLR (mm/d)	20

WASTEWATER MANAGEMENT SYSTEM

An "All-Waste" septic tank discharging into an "Advanced Enviro-Septic" bed is considered suitable for this site.

This system has been designed to conform to the requirements of the following codes, acts, regulations and standards. All work to be carried out in accordance with the following codes.

- AS/NZ 1547:2012 On-site domestic-wastewater management.
- Queensland PLUMBING AND DRAINAGE ACT 2018.
- Queensland STANDARD PLUMBING AND DRAINAGE REGULATION 2019.
- Queensland PLUMBING AND WASTEWATER CODE.

SYSTEM SIZING FACTORS.

A population equivalent of six (6) persons has been chosen for the proposed four bedroom dwelling.

The residence is connected to a reticulated water supply system.

Standard water-reduction fixtures must be used to ensure the integrity of the system.
They shall include:-

- Dual flush 6/3 Litre water closets.
- Shower-flow restrictors.
- Aerator faucets (taps).
- Water-conserving automatic washing machines.

Note: - Garbage grinders are not permitted.

As per AS/NZ 1547:2012 Appendix H, Table H1 the "Typical wastewater design flow" for a "Reticulated water supply" gives a flow allowance of 150 L/Person/day.

The daily flow for the dwelling (6 persons @ 150 L/person/day) will be 900 L/day.

From AS/NZ 1547:2012 Table J1 the minimum capacity of the All-Waste septic tank required is 3000 L.
The tank must NOT be fitted with an outlet filter.

LAND-APPLICATION SYSTEM

DISPOSAL AREA SIZING

From AS/NZ 1547:2012 APPENDIX L, L4 DESIGN AREA SIZING, L4.2 Sizing

L = Q / (DLRxW)

Where:

L = length in m
Q = design daily flow in L/day
DLR = Design Loading Rate in mm/d
W = Width in m

L = 900/20*2.88
= 15.6m.

Use one 15.6m wide by 2.88m long advanced enviro septic bed.
See site plan and detail cross-section.

Its recommended that 1kg gypsum per m² be applied to the scarified base before laying the sand

SYSTEM SAND

All Advanced Enviro-Septic systems require the use of "system sand" surrounding the pipe. This sand, typically washed coarse sand, must adhere to the following specification.

AS Sieve Size (mm)	Percent Passing %
9.50	100
4.75	95-100
2.36	80-100
1.18	50-85
0.600	25-60
0.300	5-30
0.150	0-10
0.075	0-2

If there is any doubt if the sand media proposed for use will meet the requirements please contact Earth Test for further advice.

SYSTEM INSTALLATION

The entire bottom of the bed should be scarified a minimum of 200mm deep parallel to the AES pipes.

Avoid compaction by keeping people and machinery off the finished trench or bed floor. The system shall be installed by a licensed plumber in accordance with the manufacturer's recommendations and the relevant Australian Standards.

Operation and Maintenance

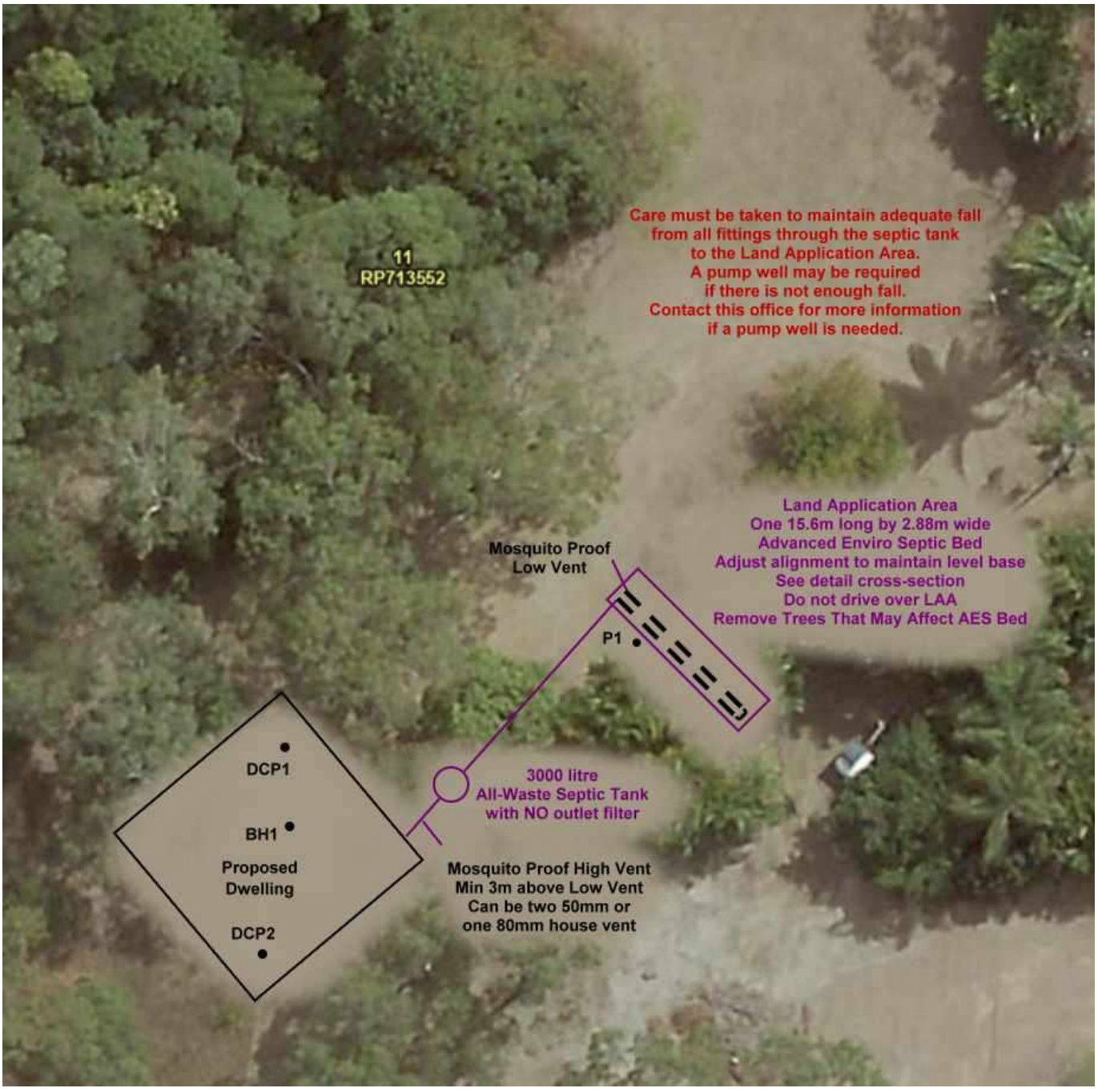
Homeowners should be fully informed of the proper operation and maintenance requirements of the on-site wastewater system.

Gavin Negri
Earth Test

SITE PLAN

17 Savage Street, Cooktown.

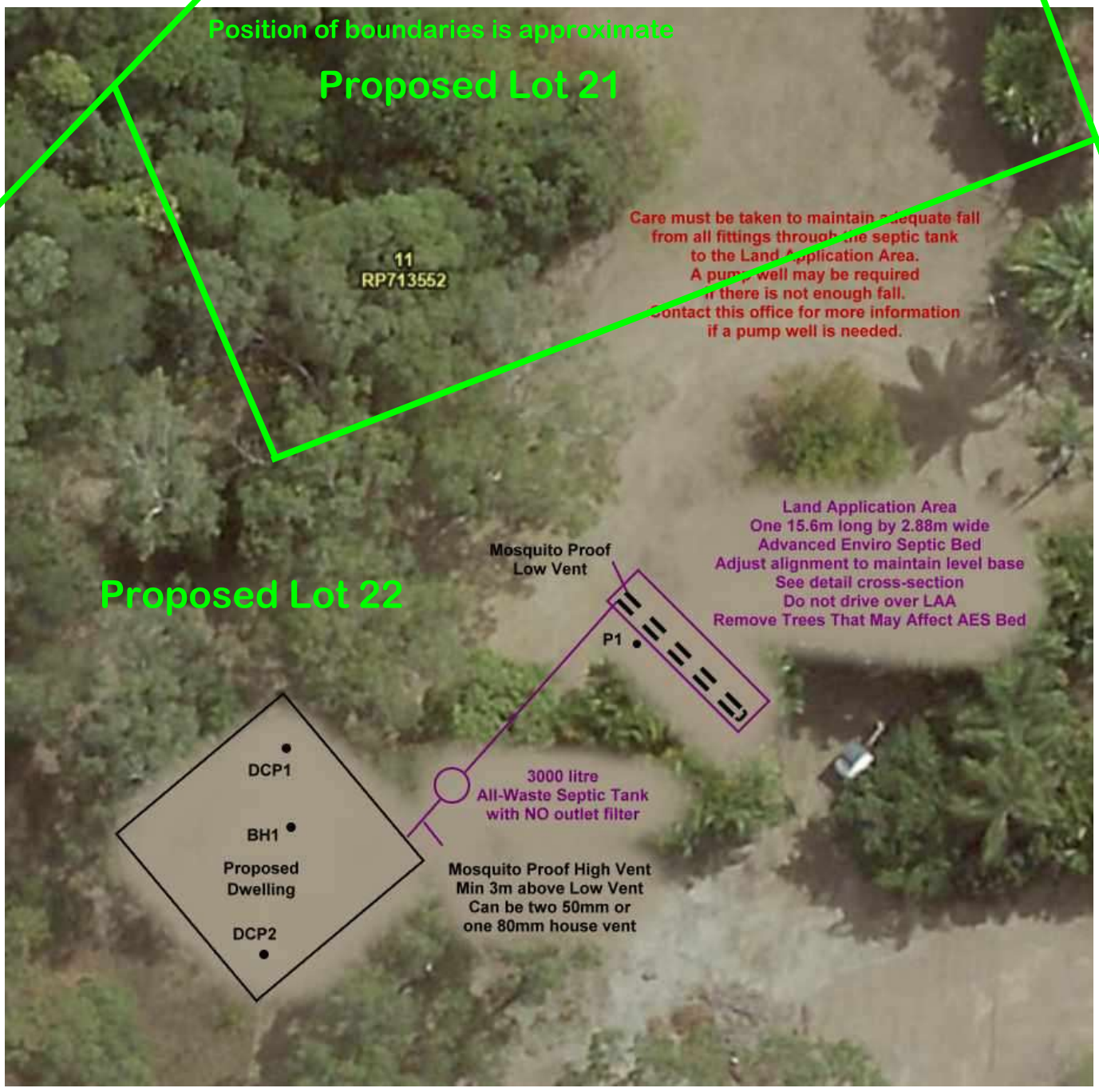
NOT TO SCALE

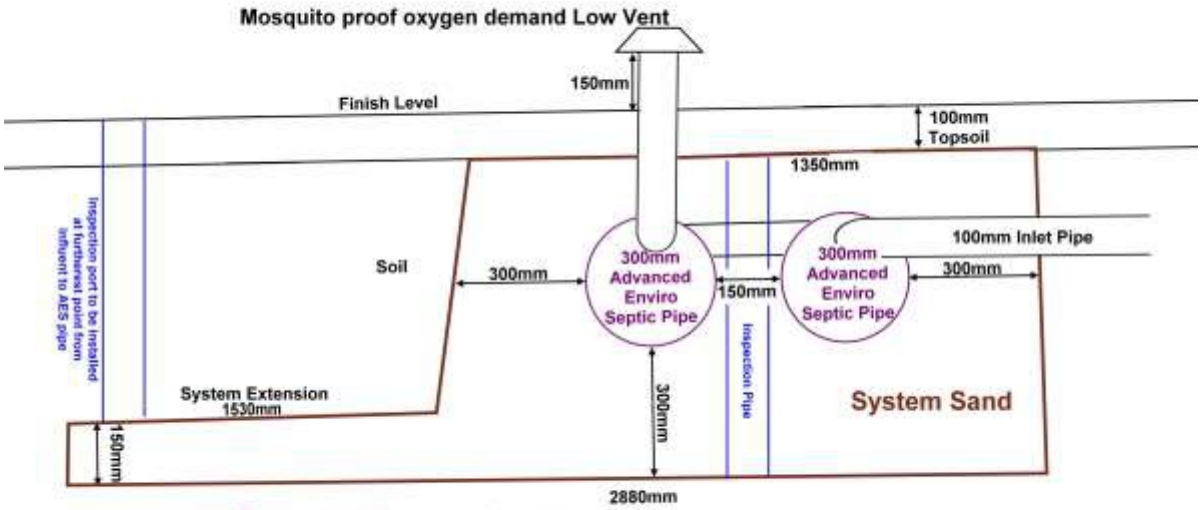


SITE PLAN

17 Savage Street, Cooktown.

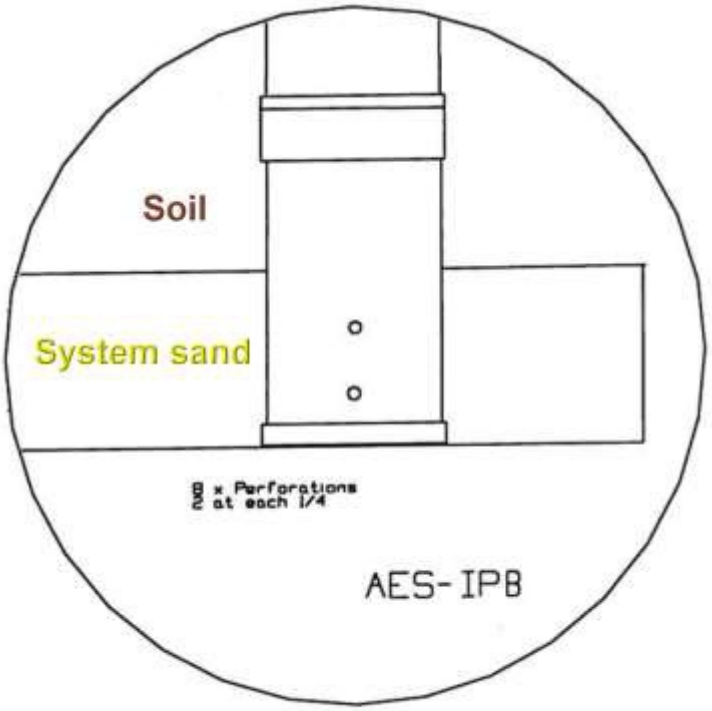
NOT TO SCALE



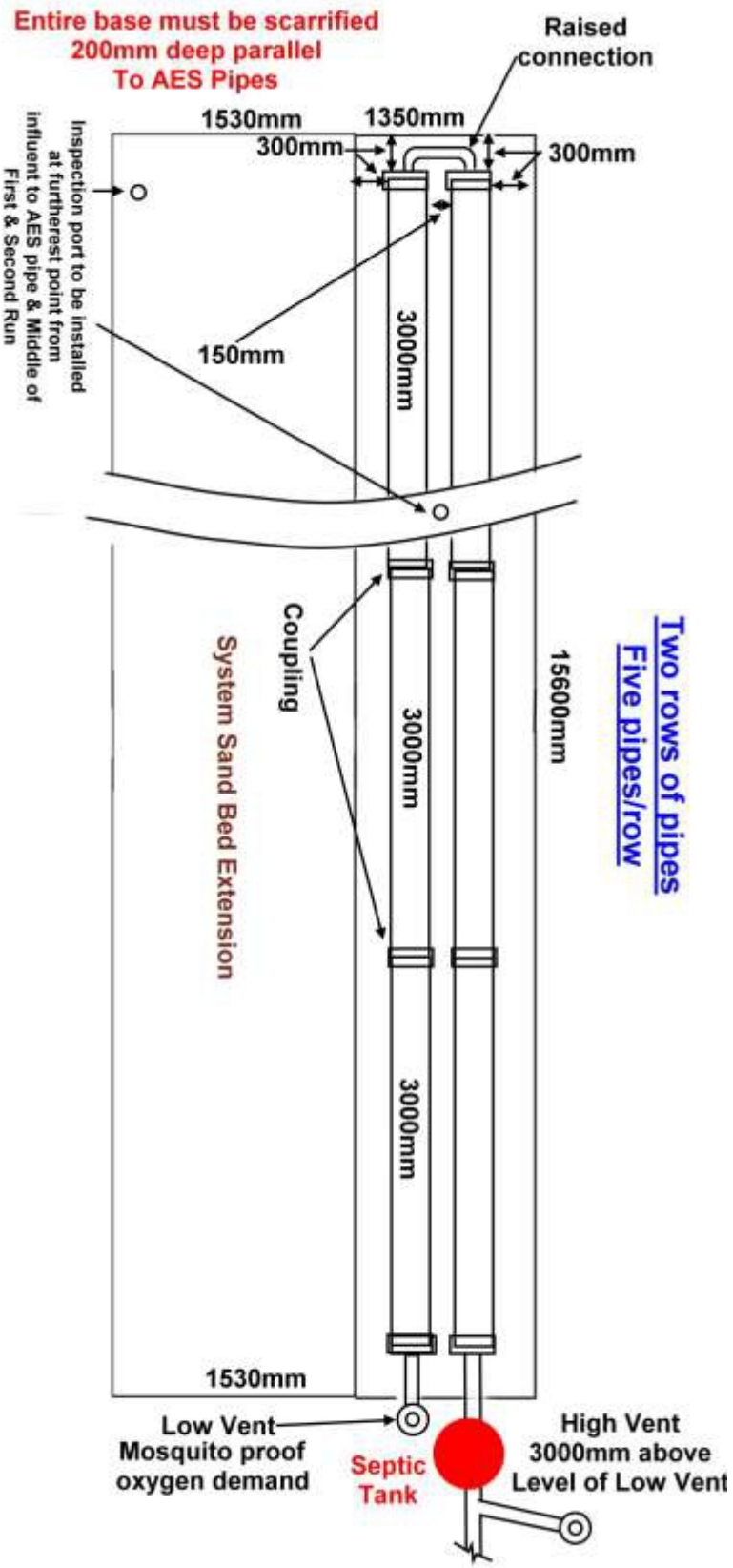


Base must be scarrified 200mm deep. Parallel to AES Pipes

2880mm Wide Two Pipe
Advanced Enviro-Septic Cross-Section



AES Inspection point detail


Entire base must be scarified
200mm deep parallel
To AES Pipes
Raised
connection
1530mm
1350mm
300mm
300mm
Inspection port to be installed
at furtherest point from
influent to AES pipe & Middle of
First & Second Run
150mm
3000mm
Coupling
System Sand Bed Extension
3000mm
15600mm
Two rows of pipes
Five pipes/row
3000mm
1530mm
Low Vent
Mosquito proof
oxygen demand
Septic
Tank
High Vent
3000mm above
Level of Low Vent

ATTACHMENT B

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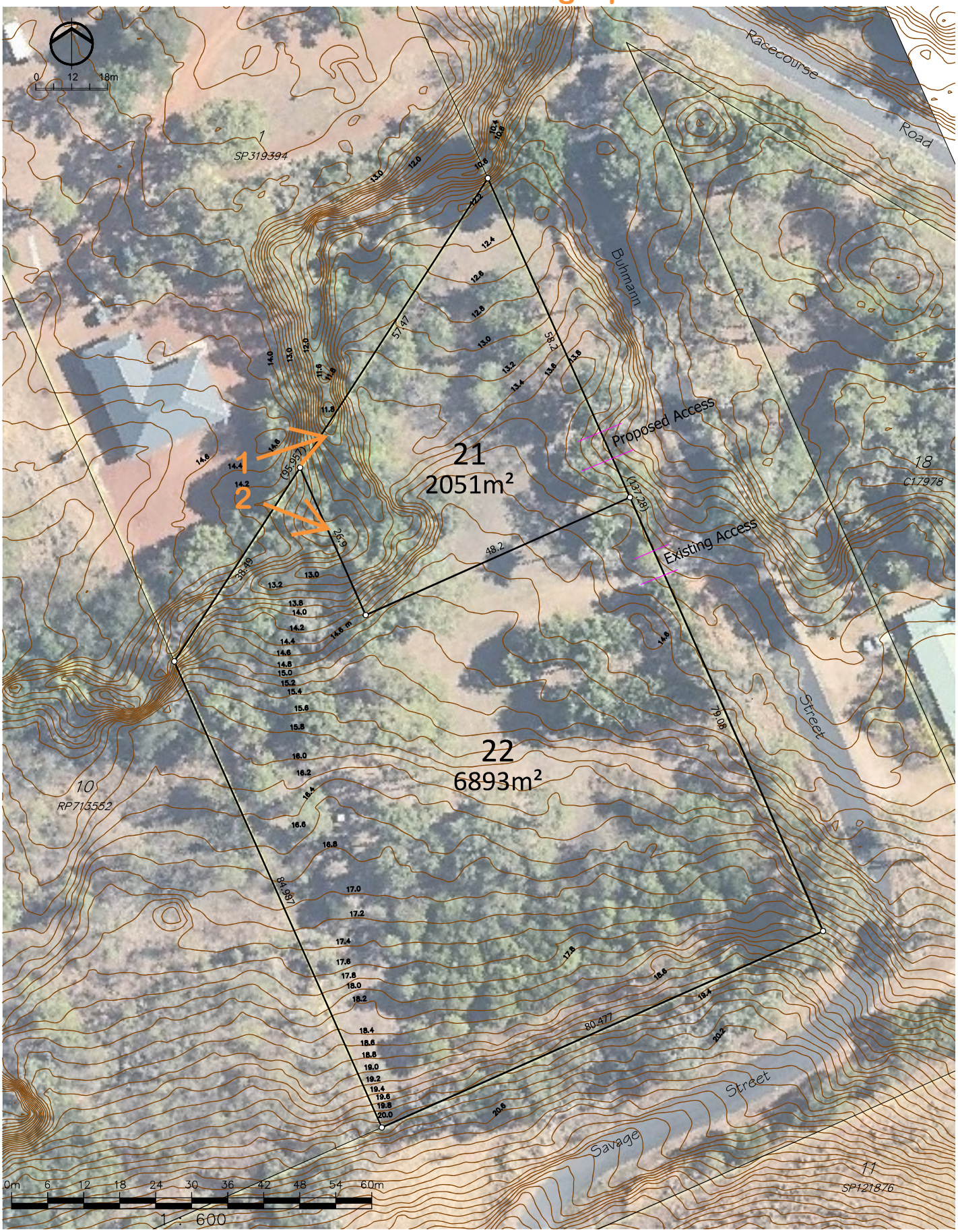
Direction of Photographs



PROPOSED RECONFIGURATION

Lots 21 & 22

Cancelling Lot 2 on SP319394

Date: 25/03/2024	
Scale: 1:600	A3
Drawn: WCHO	
Job No: 35065/002-01	
Plan No: 35065/002 B	

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SURVEYING
TOWNPLANNING
PROJECTMANAGEMENT
MAPPING&GIS

75 YEARS

This plan is conceptual and for discussion purposes only. All areas, dimensions and land uses are preliminary, subject to investigation, survey, engineering, and Local Authority and Agency approvals.

Photo 1

Photo 2

ATTACHMENT C

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PROPOSED RECONFIGURATION

Lots 21 & 22

Cancelling Lot 2 on SP319394

Date: 25/03/2024	
Scale: 1:600	A3
Drawn: WCHO	
Job No: 35065/002-01	
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