

**Our ref:** PR149569\_L80525

**Your Ref:**

Daniel Lamond

MCUI 2021\_4156/1 (1019300)

Date: 21 July 2021

135 Abbott Street  
Cairns QLD 4870  
T +61 7 4031 1336

Attn Daniel Lamond

Douglas Shire Council  
PO Box 723  
Mossman QLD 4873

[daniel.lamond@douglas.qld.gov.au](mailto:daniel.lamond@douglas.qld.gov.au)

Dear Sirs,

**MCUC 2021\_4156/1 Algona Developments Pty Ltd - Material Change of Use (Helicopter pad and pilots accommodation)**

**Information response (pursuant to Section 13.2 and 13.3 of the Development Assessment Rules)**

We refer to Council's information request, dated 22 June 2021 for the development application over the above site.

Pursuant to sections 13.2(a) of the *Development Assessment Rules* we provide our response to this information request below.

In accordance with Section 13.3 of the *Development Assessment Rules*, we confirm that this letter and attachments constitute our response to Council's information request. Accordingly, we advise that you must proceed with assessment of this development application.

## Information request

### Intended Use

1. The proposal details that the air services use is proposed for the storage of helicopters and pilots accommodation for the construction of the Wangetti trail. Detail what is intended for the use of the air services infrastructure on the land after the completion of the Wangetti trail construction and justify why the proposed use should not be given a temporary approval with a limited timeframe.

Concerns are raised with the future use of the site once the Wangetti Trail construction has been completed. The details of the application and the plans don't necessarily align with the purpose of the Wangetti trail construction timeline as the extent of infrastructure being proposed is significant compared to what would ordinarily be associated with a construction project.

### Response:

**Timeframe:** The Wangetti trail will always need helicopter support for ongoing maintenance as long as it exists for public use. Helicopters will provide the necessary lifting service needed to access the rugged terrain that exists all along the trail. The primary contract will take up to 3 years to build followed by a maintenance contract, likely to be an additional 2 years to begin with.

The Wangetti Trail is an "evolving development" by National Parks and State Government. It is not our intention to provide regular public transport services, we are essentially an "Charter/Airwork" operator, and we do not hold an approval to conduct a "Regular Public Transport" service.

Our intention is to provide Charter/Airwork services from the site. This does not include tourist operations.

### Proposal Plans

2. Provide a set of proposal plans inclusive of a site plan, elevation plans and floor plans for all buildings. Plans must be drawn to an appropriate scale and be dimensioned. In particular, floor plans should show the details of the pilots accommodation.

Response:

Detailed Plan of development including elevations, dimensioned and labelled is attached.

Refer also to **Attach A - Building Plans 2109 MOWBRAY HELIPAD 20.07.21 inc Elevations.**

### Landscaping

3. Provide a landscaping plan in accordance with the landscaping code and Planning Scheme Policy SC6.7. The landscaping plan should provide screening from view from the highway and be made up of species with high screening qualities.

Response:

Landscaping: Already there is a thick row of natural vegetation between the road and the proposed building site. Any visual gaps not acceptable by Council, we agree to plant out using native species suitable to the area and for the purpose of creating a visual barrier to the lot. We also share the view, we do not want a visual presence from the main road.

### Fuel Storage

4. Confirm the quantities of aviation gas to be stored at the premises and detail how the general environmental duty will be complied with for storage.

Response:

The proposed tank is to be provided by a National aviation fuel distributor "IOR" based in Cairns and will provide a 10,000 litre Jet A1 tank fully certified to AS. The tank is double-skinned manufactured from stainless steel with an integrated fall in the floor to a low point sump.

The tank is fully bunded and self-sufficient, with dimensions of 1.9w x 6.3l w by 1.2high.

Link: [https://www.ior.com.au/wp-content/uploads/2018/11/Introduction-to-IOR-Aviation\\_Combined](https://www.ior.com.au/wp-content/uploads/2018/11/Introduction-to-IOR-Aviation_Combined)

Refer to attached **Attach B - Fuel Tank documentation.**

### Helicopter flight movements

5. Detail how many times per day helicopters are proposed to take-off and land at the site.

Response:

Flight Path into/out of Lot 78: Our departure & arrival procedures will either be direct towards the sea, or parallel the coast to the SE. We will not require to overfly any houses on approach or departure, part of the reason we selected this site due to its remote location.

Flight Movements: We anticipate a maximum of 10 movements per day. Most likely much less, as many lifts will occur from other locations, such as the rifle range nearer Cairns.

Refer to attached **Attach C - PR149569-6-Proposed Flight Paths.**

Our ref: PR147460 L80525

### **Navigational Aid**

6. Detail whether any navigational aid infrastructure is required to be installed at the site or on surrounding landmarks such as ridge lines.

Response:

Navigation Aid Infrastructure: None required, all flights will be day light hours only based on Visual Flight Rules in accordance with CASA regulations.

### **Vegetation Management**

7. Confirm what vegetation on the site requires ongoing pruning or management to keep the flight path safe and free of obstruction. Nominate these areas on a plan drawn to scale.

Response:

The existing vegetation along the Captain Cook Highway will be retained.

The remaining area (which was used for rural purposes) will be kept slashed to a height of approx. 100 - 200mm and maintained in that state.

Refer to attached **Attach D - PR149569-5-Vegetation Retention and Maintenance Plan.**

### **On-site effluent disposal design**

8. Provide an on-site effluent disposal design report inclusive of a site classification test and design plans detailing any land application area proposed.

Response:

Effluent Design: **Refer to attach E - effluent design for the proposed development**

If you have any queries please contact the writer (contact details below) or Ian Doust on 0408216606.

Yours sincerely,  
for RPS Australia East Pty Ltd

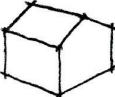


**Ian Doust**  
Principal  
ian.doust@rpsgroup.com.au

DEVELOPMENT APPROVAL

REVISIONS		
No.	Description	Date
A	DA SUBMISSION	20.07.21

DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING.  
CONTRACTOR TO VERIFY ALL DIMENSIONS AND APPLIANCES  
SETOUT ON SITE BEFORE CONSTRUCTION. INCONSISTENCIES  
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PROJECT NAME:  
MOWBRAY HELICOPTER SITE  
PROJECT ADDRESS:  
LOT 78 CAPTAIN COOK HWY, MOWBRAY, 4877 QLD  
CLIENT NAME:  
HELIBIZ

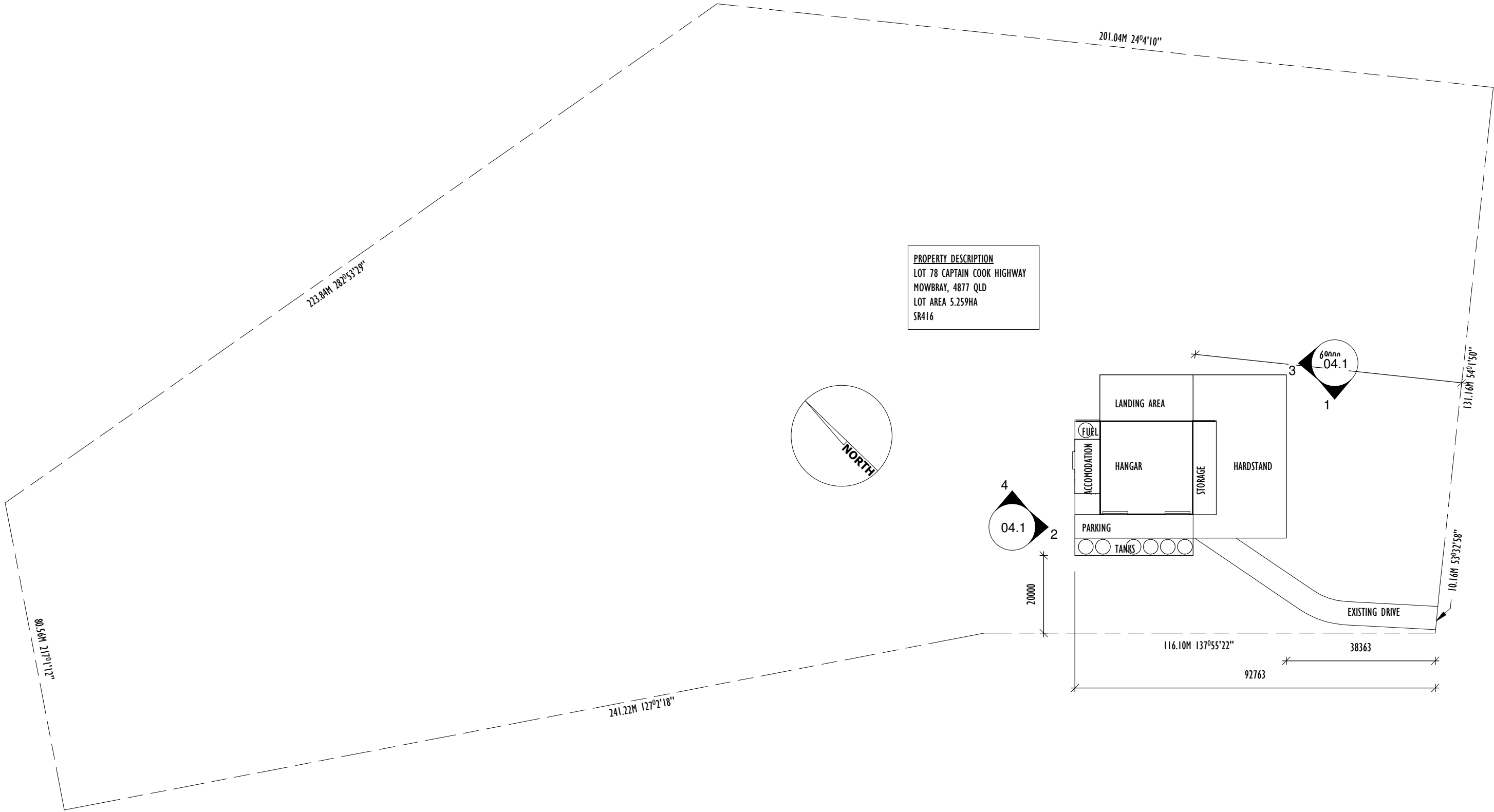
SITE PLAN

SCALE  
ISSUE DATE

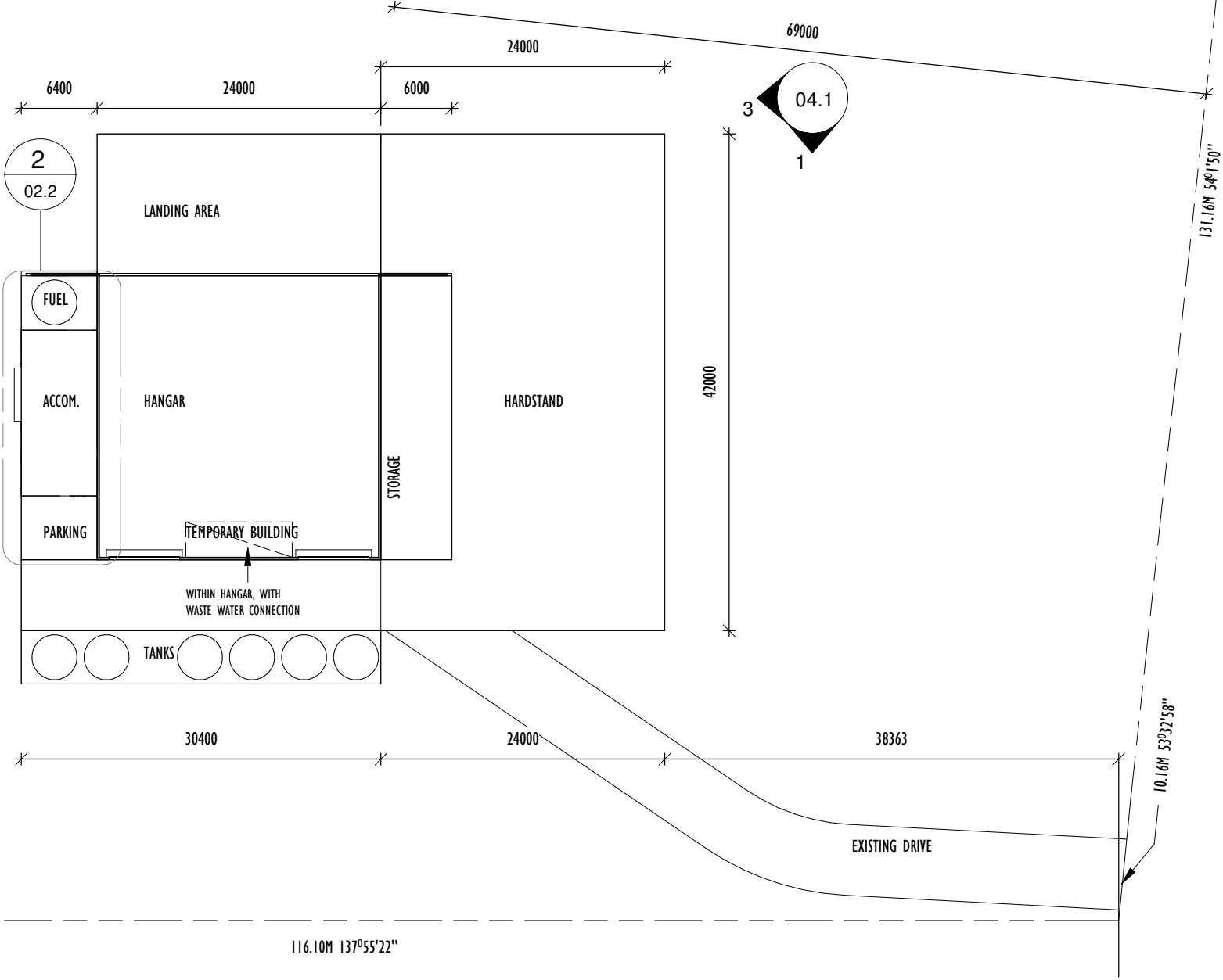
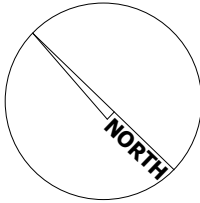
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20.07.21

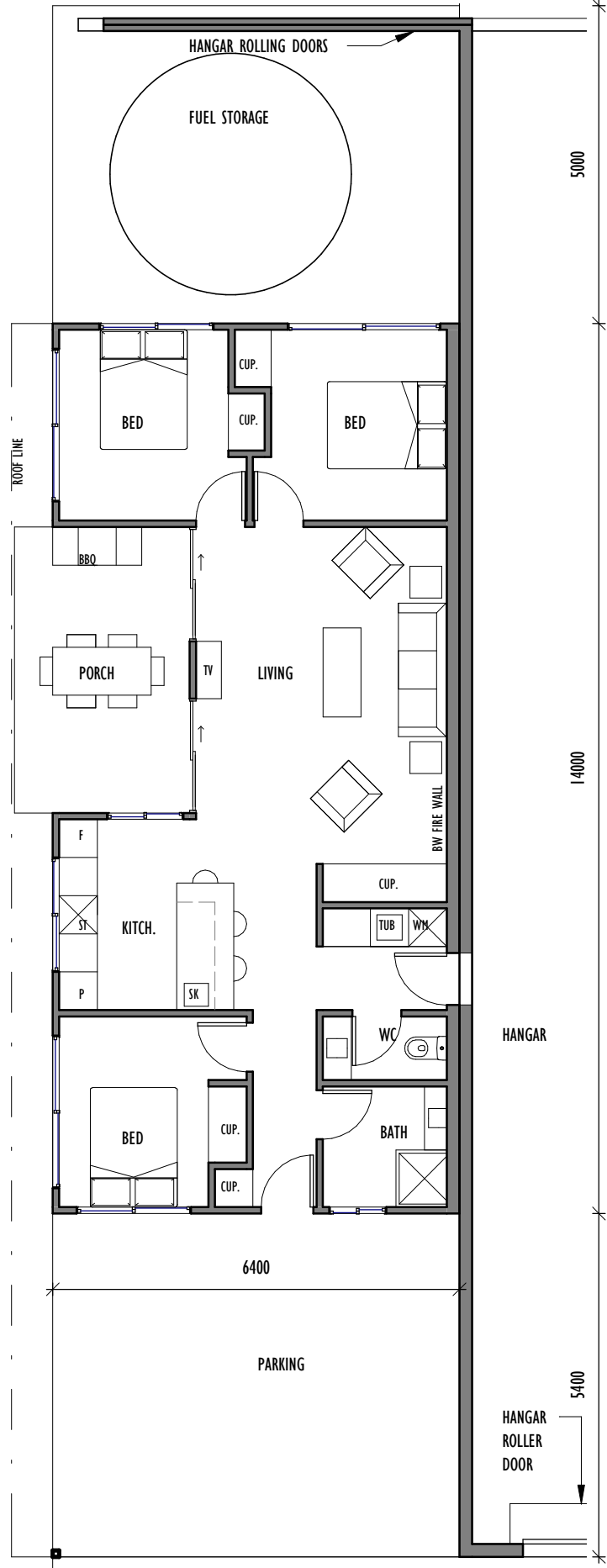
2109- 02.1



PROPERTY DESCRIPTION  
LOT 78 CAPTAIN COOK HIGHWAY  
MOWBRAY, 4877 QLD  
LOT AREA 5.259HA  
SR416



1 SITE PLAN 2  
04.1 1 : 500



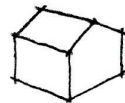
2 ACCOMODATION PLAN  
02.2 1 : 100

# DEVELOPMENT APPROVAL

## REVISIONS

No.	Description	Date
A	DA SUBMISSION	20.07.21

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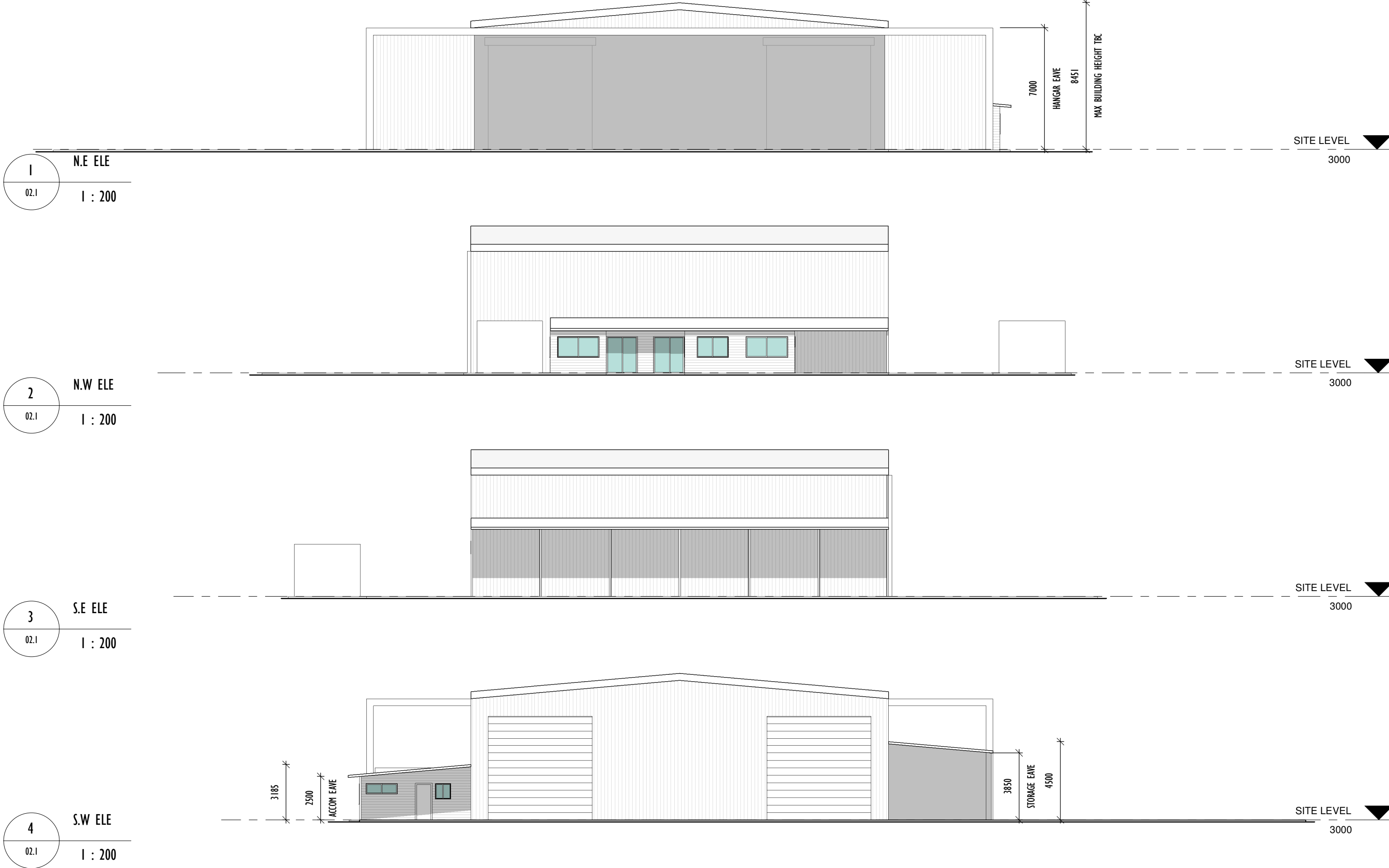
PROJECT NAME:  
MOWBRAY HELICOPTER SITE  
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LOT 78 CAPTAIN COOK HWY, MOWBRAY, 4877 QLD  
CLIENT NAME:  
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## PLAN VIEWS

SCALE As indicated @ A3  
ISSUE DATE 20.07.21

SHEET NUMBER 2109- 02.2

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DEVELOPMENT APPROVAL

REVISIONS		
No.	Description	Date
A	DA SUBMISSION	20.07.21

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LOT 78 CAPTAIN COOK HWY, MOWBRAY, 4877 QLD  
CLIENT NAME:  
HELIBIZ

ELEVATIONS

SCALE  
ISSUE DATE

SHEET NUMBER

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20.07.21  
2109- 04.1

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**IOR AVIATION**, the dedicated Aviation division of IOR Petroleum, supplies high quality Jet and Avgas fuels to the Australian Aviation industry. With capabilities encompassing supply, transport, logistics and fuel storage and management facilities, IOR Aviation is a logical partner to your aviation business.

IOR sources its high quality fuels from Australia's leading refiners and importers of aviation grade fuels. We operate a dedicated tanker fleet, eliminating switch loading and contamination risk during transport to your operations.

Unique within Australia, our tanker fleet are fitted with filtration systems ensuring that only the highest quality aviation fuels are discharged into your aircraft or local fuel storage tanks at the time of delivery. Additional features of our highly specified tanker fleet are:

- On board pumps, providing improved discharge times and option beyond gravity fed tanks only
- Certified metering systems to ensure accurate delivery volumes and billing
- Quality fuel control systems with dedicated Avgas and Jet trailers complete with filtration, limiting product contamination

Complementing IOR's ability to provide leading fuel management supply solutions is a comprehensive range of aviation ready fuel storage tanks and fuel management solutions. IOR's HyTank fuel tanks are available in on-ground portable configurations, all of which are self bunded. Each tank can be specified with dispensing and operational equipment options to ensure it is tailored to each customer's requirements.

Recognising the critical importance of secure fuel management and control, IOR developed HyDip and its HyTrak Fuel Management Systems. With over 100 unmanned diesel sites and 10 years accumulated operating experience, HyDip provides automated tank dipping which eliminates the need to climb on top of tanks to take measurements

and the corresponding safety risk with working at heights. Tank inventory levels can be read from the HyDip panel at the tank or via HyDip's web or mobile device Apps. Alerts can be set when fuel on hand falls below certain levels to prompt team members who have responsibility for re-ordering.

HyTrak builds on HyDip capability by adding IOR Tag secure access to each tank, IOR Tag is a small, robust dongle. Aircraft owners or operators that need access to the onsite tanks are allocated a unique IOR Tag. When Avgas or Jet A1 is required, simply swipe the tag at the tank control panel, enter a PIN number and Avgas or Jet A1 is safely and securely dispensed. Specific per fill maximum limits can be configured by tag for added security and control. HyTrak supports fuel re-supply ordering either by the customer with specified alerts prompting staff that re-supply is required or alternatively, IOR's Logistics Hub can fully manage the process on your behalf. IOR's Logistics Hub monitors tank inventory levels and offtake rates and schedules fuel deliveries based on pre-agreed minimum and maximum stock on hand targets.

Finally, transparent and timely reporting and administration of your fuel consumption is simplified with IOR's customer portal and customisable reporting. A comprehensive suite of reports have already been developed. IOR prides itself on being responsive to customer needs and its team can usually accommodate requests for some additional customer specific reporting.



# SPECIFICATIONS

- Storage tank of 11.5 kl capacity (Safe Fill Level). Tank is double skinned, with the inner tank manufactured from stainless steel. The inner tank has an integrated fall in the floor to a low point sump.
- A manual dip point is located in the tank. The tank includes integrated access steps to enable personnel access to the components located on the top of the tank
- Receipt valve and pipeline to the tank inlet with an integrated overfill protection valve that closes when the product level reaches the maximum allowable volume. The product receipt point has a camlock adaptor and cap (grade selective);
- Submersible pump mounted in the tank to transfer fuel to the dispensing station;
- Fuel dispensing station comprising of a Compac Dispenser (MR80S), Filter Monitor (Facet VFCS-21) and hose reel c/w 20 m of hose and dispensing nozzle;
- Bonding cable and reel;
- Closed Circuit Sampling cabinet containing a hand pump (for removing product sample from the tank low point sump), Aljac Sampling Jar, valving and sample return line back to the tank;
- Electrical switchboard c/w Emergency Stop button and status indicators;
- IOR AVIATION proprietary fuel management system, product level gauging, tank High-High and Low Level probes and alarm;
- Two (2) fire extinguishers;
- Skid frame – an integrated steel frame on which all components of the skid are mounted. The frame has pockets to enable lifting and placement with the use of a forklift truck of correctly rated capacity;
- AS/NZS 1940 The Storage and Handling of Flammable and Combustible Liquids
- AS/NZS 1657 Fixed Platforms, Walkways, Stairways and Ladders
- AS/NZS 1692 Tanks for Flammable and Combustible Liquids
- AS/NZS 3000 Electrical Installations
- AS/NZS 60079.10.1 Explosive Atmospheres



**HEAD OFFICE:** 1300 457 467

**EMAIL:** sales@ior.com.au

**WEBSITE:** www.ior.com.au

**iOR**  
AVIATION  
FUELLING AUSTRALIA

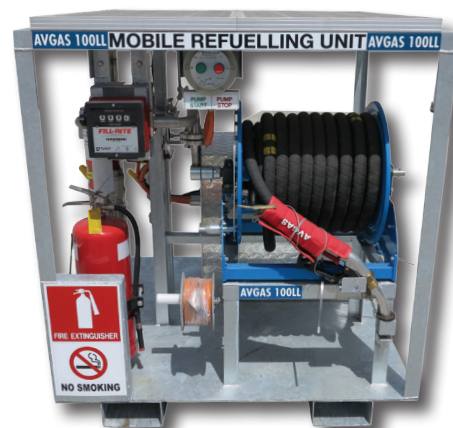




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IOR Aviation delivers the highest quality aviation fuels sourced from Australia's leading refiners and importers of aviation grade fuels.

Complementing IOR's ability to provide leading fuel management supply solutions is a comprehensive range of aviation ready fuel storage tanks and fuel management solutions. IOR's HyTank fuel tanks are available in on-ground portable configurations, all of which are self-bunded. Each tank can be specified with dispensing and operational equipment options to ensure it is tailored to each customer's requirements.



## SPECIFICATIONS

- Storage tank of 10 kl capacity (Safe Fill Level). Tank is double skinned, with the inner tank manufactured from stainless steel. The inner tank has an integrated fall in the floor to a low point sump. A manual dip point is located in the tank
- Receipt valve and pipeline to the tank inlet with an integrated overfill protection valve that closes when the product level reaches the maximum allowable volume. The product receipt point has a camlock adaptor and cap (grade selective)
- Bonding cable and reel;
- Closed Circuit Sampling system containing a hand pump (for removing product sample from the tank low point sump), Aljac Sampling Jar, valving and sample return line back to the tank
- Fire extinguishers
- Skid frame – an integrated steel frame - the frame has pockets to enable lifting and placement with the use of a forklift truck of correctly rated capacity
- Separate skid based Refuelling Unit comprising of a 24 volt pump, filtration, flow meter, and hose reel complete with refuelling hose & nozzle. The Refuelling Skid is powered by a 24 volt battery and solar panel. The Refuelling Skid is connected to the skid tank outlet with a 2 inch "Code Hose".
- AS/NZS 1940 - The Storage and Handling of Flammable and Combustible Liquids
- AS/NZS 1692 - Tanks for Flammable and Combustible Liquids
- AS/NZS 2809 - Road Tank Vehicles for Dangerous Goods

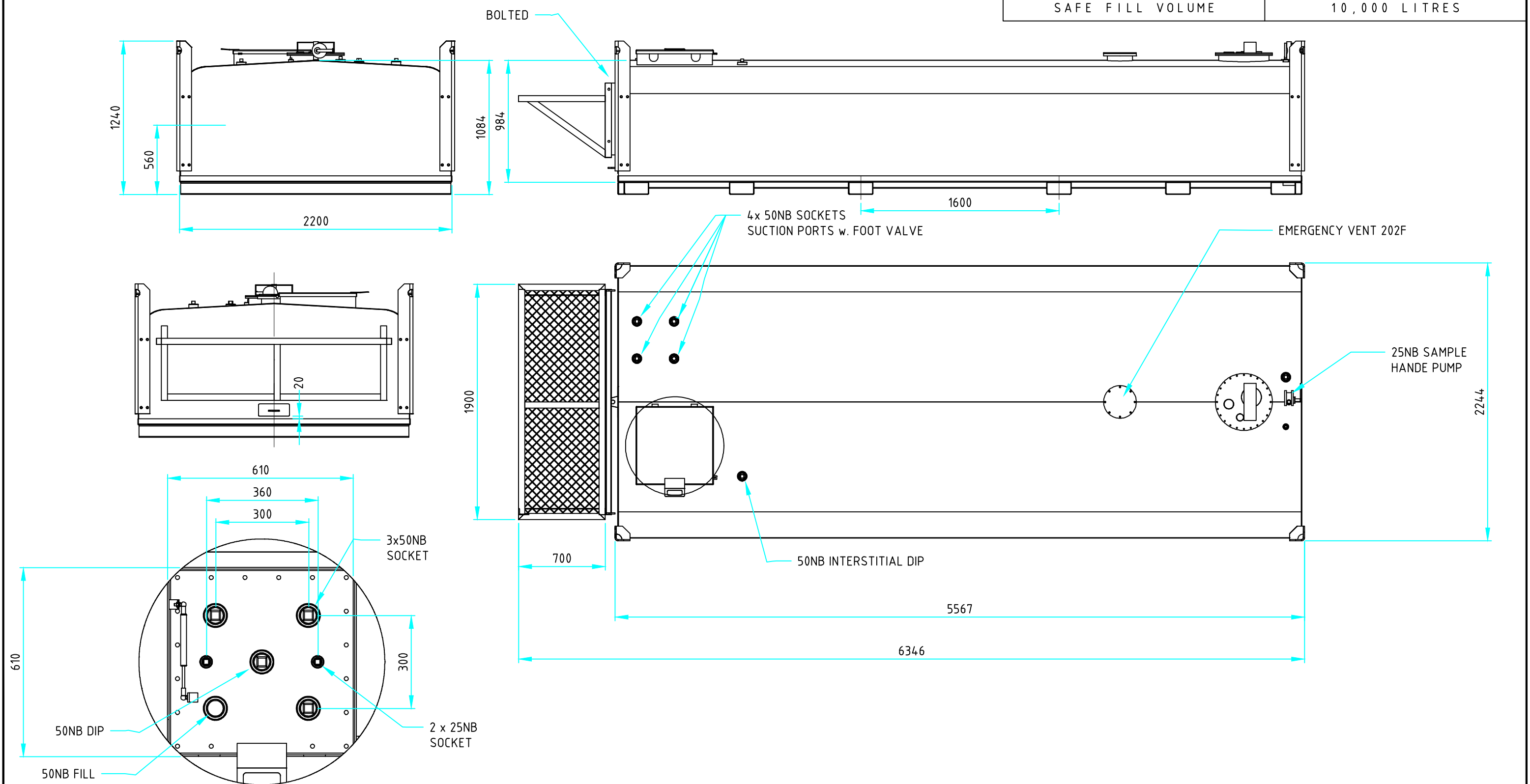
**HEAD OFFICE:** 1300 457 467

**EMAIL:** sales@ior.com.au

**WEBSITE:** www.ior.com.au

10000L AVIATION FUEL TANK

EXTERNAL SIZE (LWH)	5614x2244x1240 mm
INTERNAL SIZE (LWH)	5500x2178x970
TOTAL VOLUME	10,600 LITRES
SAFE FILL VOLUME	10,000 LITRES



REV	REV. BY	DATE	DESCRIPTION
A	CH	9.04.21	ORIGINAL CONCEPT

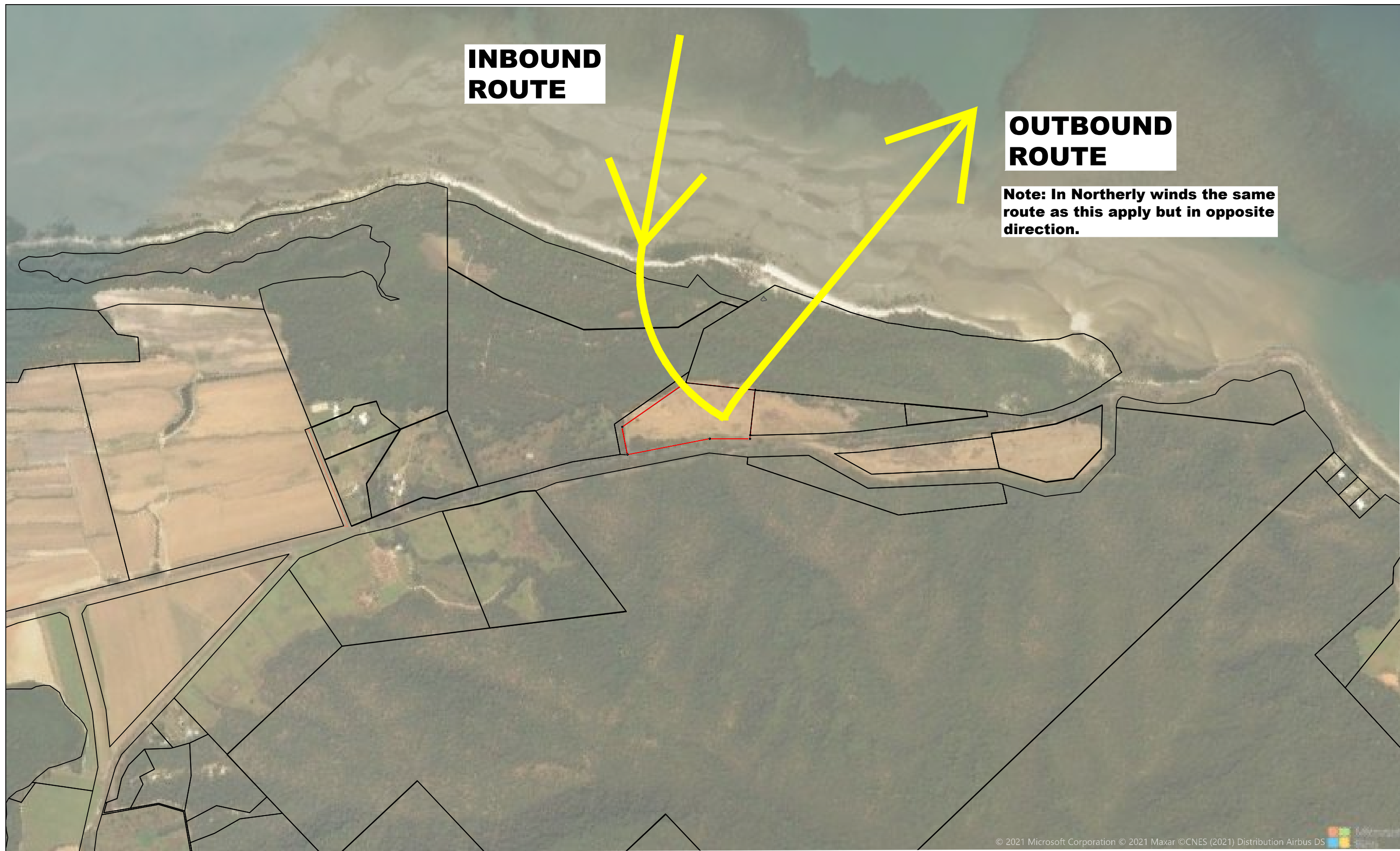
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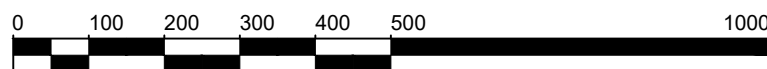
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DRAWING No.		TA10		CLIENT	-
				CONTRACT No.	-
TITLE				CUSTOMER NAME (TBA) SITE ADDRESS (TBA) 10000L AVIATION FUEL TANK GENERAL ARRNGEMENT	
				REV	
				SIZE	A3



**Mowbray Helicopter Site**  
Proposed Takeoff and Landing Flightpaths for Helipad  
lot 78 SR416 - Captain Cook Highway, Mowbray



PRELIMINARY - FOR DISCUSSION PURPOSES ONLY

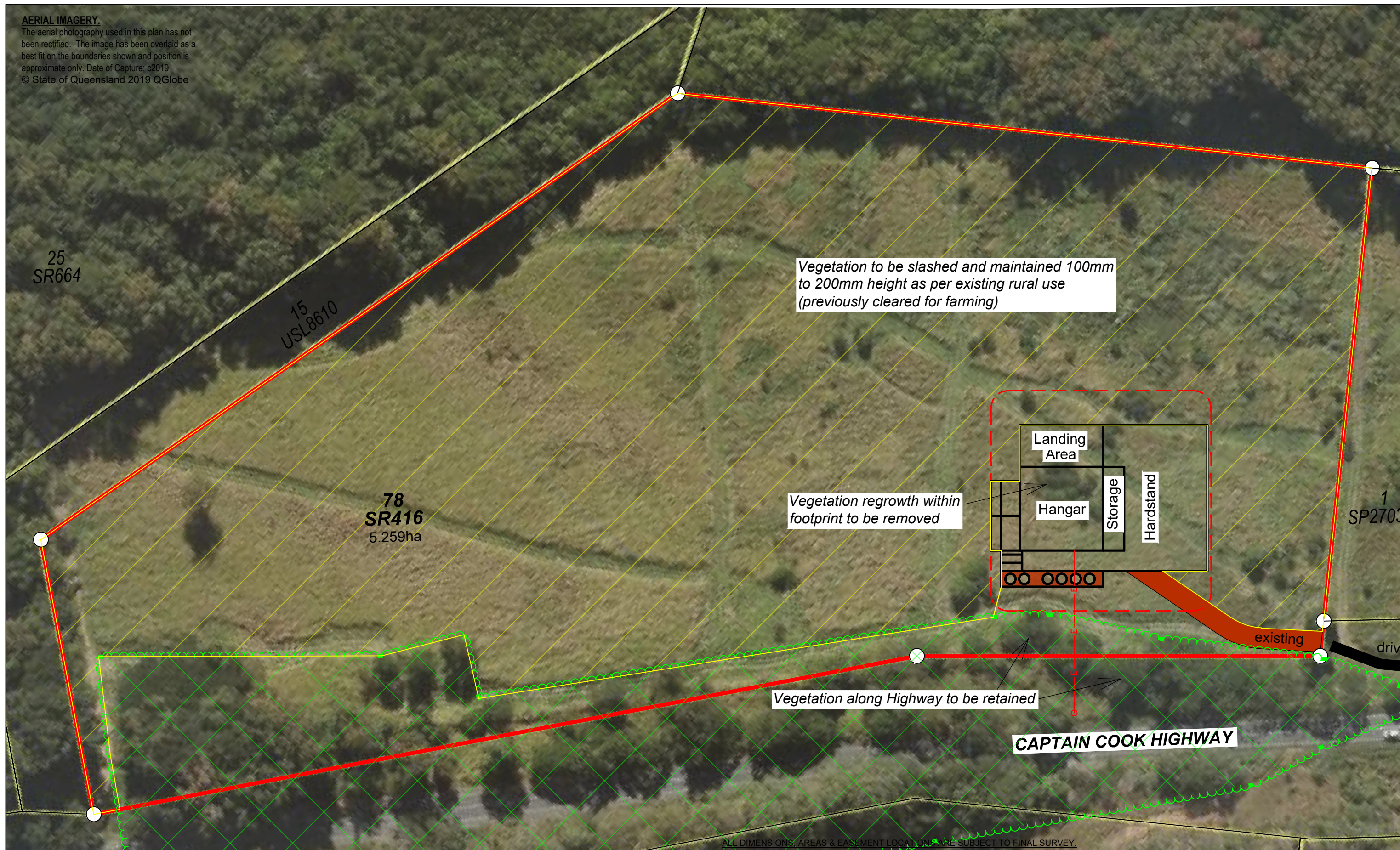
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PO Box 1949  
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W [rpsgroup.com](http://rpsgroup.com)



Datum: MGA94 Z55 | Scale: 1:1000 @ A3 | Date: 5-7-2021 | Drawing: PR149569-5



**AERIAL IMAGERY.**  
The aerial photography used in this plan has not been rectified. The image has been overlaid as a best fit on the boundaries shown and position is approximate only. Date of Capture: c2019  
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## Mowbray Helicopter Site

### Vegetation Retention and Maintenance Plan for Helipad

lot 78 SR416 - Captain Cook Highway, Mowbray



PRELIMINARY - FOR DISCUSSION PURPOSES ONLY

Datum: MGA94 Z55 | Scale: 1:1000 @ A3 | Date: 5-7-2021 | Drawing: PR149569-5

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# **DIRT PROFESSIONALS**

Email: dirtprofessionals@bigpond.com  
MOBILE 0417 647 477

Des Davey  
des@helibiz.com

Tandel Investments Pty Ltd  
QBCC No. 1173606

14 April 2021

Site Assessment and Design  
Lot 78 Captain Cook Highway  
Mowbray Old

**Job No 22499**

## **INTRODUCTION**

This report presents the results of a site assessment performed at Lot 78 Captain Cook Highway, Mowbray. The assessment is required to determine the method of effluent disposal, as per AS/NZS 1547:2012 and the Queensland Plumbing and Wastewater Code for on-site sewerage facilities.

## **EXISTING CONDITIONS**

At the time of the assessment the allotment was located in a rural subdivision consisting of acreage land. The allotment was grassed with some trees and sloped to the Northeast. The proposed 3 bedroom dwelling, with an attached workshop with 3 persons, is to be located approximately 20 m from the Southwest boundary and 38 m from the Southeast boundary. The location of the building area was approximately shown.

The proposed wastewater area was grassed and sloped approximately 3% to the Northeast. The proposed wastewater is to be situated to the Northwest of the proposed building area.

## **FIELD WORK**

To investigate subsurface conditions bore holes were excavated to a depth of 1.8 m. The holes were at the proposed wastewater area. A disturbed sample was taken for laboratory testing.

## **SOIL PROFILE**

The bore holes indicate similar soil profiles. There is a layer of clay loams with sands and gravels to the depth of the bore holes.

## **SOIL CATEGORY FOR DOMESTIC WASTEWATER**

The clay loams with sands and gravels are regarded as being an imperfectly drained material with a massive structure. The indicative permeability is 0.5 - 1.5 m/d. The soil category on the basis of visual inspection of the materials and AS/NZS 1547:2012, should be classified as a **Soil Category 4.**

It is proposed that an Advanced Secondary Treatment System is to be used for the dispersal of wastewater. There were no creeks, gullies or bores located within the wastewater disposal area. There was no water encountered at the depth of the bore holes.

A design loading rate of 30 mm/d should be used for the sizing of the wastewater area. This shall be designed by a qualified designer based on AS/NZS 1547:2012 and the soil assessment data in this report.

## **RECOMMENDATIONS**

**If the building area is to be excavated to form a level building area, care should be taken that sufficient fall is available so that the base of the wastewater system is no greater than 800 mm below ground level. If this cannot be achieved a pump well will need to be installed.**

**During construction rip and scarify the base of the bed to a depth of approximately 300 mm and apply gypsum at a rate of 1 kg/m<sup>2</sup> to prevent the clay dispersing. The bed shall be closed in, as soon as possible to protect the gypsum from raindrop impact.**

Care should be taken during the excavation of the wastewater area to ensure the system follows contours and is not subject to uneven distribution.

This company is not responsible for the building levels and falls to the wastewater system. These will need to be calculated prior to construction, to determine the building platform heights and allow for sufficient fall to the disposal area. Consideration should be given to how the plumber will run the pipes, as this will determine the platform height. If sufficient fall is not available to construct the system as designed, a pump well will need to be installed to distribute the wastewater.

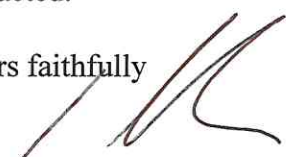
There will be no ponding of water during seasonal rains around the septic tank, distribution box and wastewater area. Diversion drains will need to be put in place to divert water from the wastewater area.

**The wastewater system must be installed as per the manufacturers specifications.**

## **VALIDITY**

The excavation of a limited number of holes does not preclude the possibility of some conditions on the site being different from those encountered in the holes. Should conditions be found which differ from those described in this report, then the recommendations are not valid and this organisation should be contacted.

Yours faithfully



Angelo Tudini

Director

Tandel Investments Pty Ltd T/as **DIRT PROFESSIONALS**

Attached:

Site Plan and Site Photo

AES Design Calculator, AES Pipe Layout Details & AES Cross-sectional Details



# **BORE HOLE LOGS**

## **TEST HOLE 1**

0.0 - 1.2 m      Clays Loams with sands and gravels - Brown

## **TEST HOLE 2**

0.0 - 1.8 m      Clay Loams with sands and gravels - Brown

## **TEST HOLE 3**

0.0 - 1.4 m      Clay Loams with sands and gravels - Brown

**Leader in Passive Solutions**

Site Address	Lot 78 Captain Cook Highway, Mowbray	State	QLD	Post Code	4877
Client Name	Des Davey	Date of Site Visit	14/4/21		
Designers Name	Angelo Tudini	Designers Ph Number	0417 647 477	Designers Lic Number	1173606
Plumber Name	TBA	Plumber Ph Number	TBA	Plumb / Drainer Lic Number	TBA
Council Area	Douglas Shire Council	Designers AES Cert Number	1372	Date	19/07/2021


**This Calculator is a guide only, receiving soil classification, surface water, water tables and all other site constraints addressed by the qualified designer.**

System Designers site and soil calculation data entry		IMPORTANT NOTES	
Enter AES L/m loading rate, "30" for ADV Secondary or "38" Secondary	30	>> This design is for an <b>ADVANCED SECONDARY</b> system	
Is this a new installation Y or N	Y	>> Minimum single vent size is 80mm or 2 x 50mm house vents a septic tank outlet filter is NOT RECOMMENDED	
Number of person	6		
Daily Design Flow Allowance Litre/Person/Day	150		
Number of rows required to suit site constraints	2	>>The maximum length of a single AES pipe run is 30 meters	
Infiltration surface Soil Cat as est by site/soil evaluation. CATEGORY	4	>> Catagory may require design considerations. Ref AS1547	
Design Loading Rate based on site & soil evaluation DLR (mm/day)	30	>> Soil conditioning may be necessary. Ref AS1547 & Comments.	
Bore log depth below system Basel area	1800	>>Min depth below basel area 600mm check water table/restrictive layer	
Enter System footprint Slope in % for std AES systems to calc extension	3	>>Consideration reqd for Sloping sites. Ref AS1547. refer comment.	
Is this design a gravity system with no outlet filter? Y or N	Y	>> A House Vent & LOW VENT required on this system	
PLEASE CHECK YOU HAVE FALL FROM TANK TO AES SYSTEM PIPES			

COMMENTS :- "The outcome must be important to everyone."

- Ripping of receiving surface required in clay soil structures in Cat 4,5,6. In addition refer to AS 1547. Always excavate & rip parallel to the site slope/AES pipe.
- Designers need to be familiar with special requirements of Local Authorities. IE - Minimum falls from Septic tank outlets to Land application areas. etc
- Plumbers are reminded to practice good construction techniques as per AS 1547 & as provided on AES installation instructions supplied with components.

AES System Calculator Outcomes			AES dimensions		
Total System load - litres / day (Q).	900	l/d		AES System	System Extension
Min Length of AES pipe rows to treat loading	15.0	lm	Lth m : (L)	15.6	15.6
Number of FULL AES Pipe lengths per row	5	lths	Width m:(W)	1.35	0.57
Total Capacity of AES System pipe in Litres	2120	ltr.	Sand Depth :	0.75	0.15
			Area m2	21.1	8.9
USE CUT LENGTHS OF PIPE IN THIS DESIGN? (ENTER Y)					
IF YOU WISH TO USE A TRENCH EXTENSION DESIGN OPTION ENTER "Y"			Enter Custom Width in metre		
AES INFILTRATION FOOT PRINT AREA - $L = Q / (DLR \times W)$			Minimum AES foot print required .		
for this Basic Serial design is			15.6	x	1.92
			= 30.0 m2 total		

Code	AES System Bill of Materials.		Chankar Environmental Use Only	
AES-PIPE	AES 3 mtr Lths required	10 lths	 Digitally signed by Steve Dennis DN: cn=Steve Dennis, o=Chankar Environmental, ou=Design Review, email=steve@enviro-septic.com.au, c=US Date: 2021.07.20 13:17:47 +10'00' Designreview@enviro-septic.com.au	
AESC	AESC Couplings required	8 ea		
AESO	AESO Offset adaptors	4 ea		
AESODV	AES Oxygen demand vent	1 ea		
AES-IPB	AES 100mm Inspection point base	2 ea		
AES Equ	AES Speed Flow Equaliser	ea		
AES DESC	Double Offset Adaptors	ea		
TOTAL SYSTEM SAND REQUIRED (Guide Only)			21	m3
PLEASE email your AES CALC and Drawings to DESIGNREVIEW@ENVIRO-SEPTIC.COM.AU				

> The AES Calculator is a design aid to allow checking of the AES components and configuration and is a guide only. Site and soil conditions referencing the AS 1547 standard are calculated and designed by a Qualified Designer.

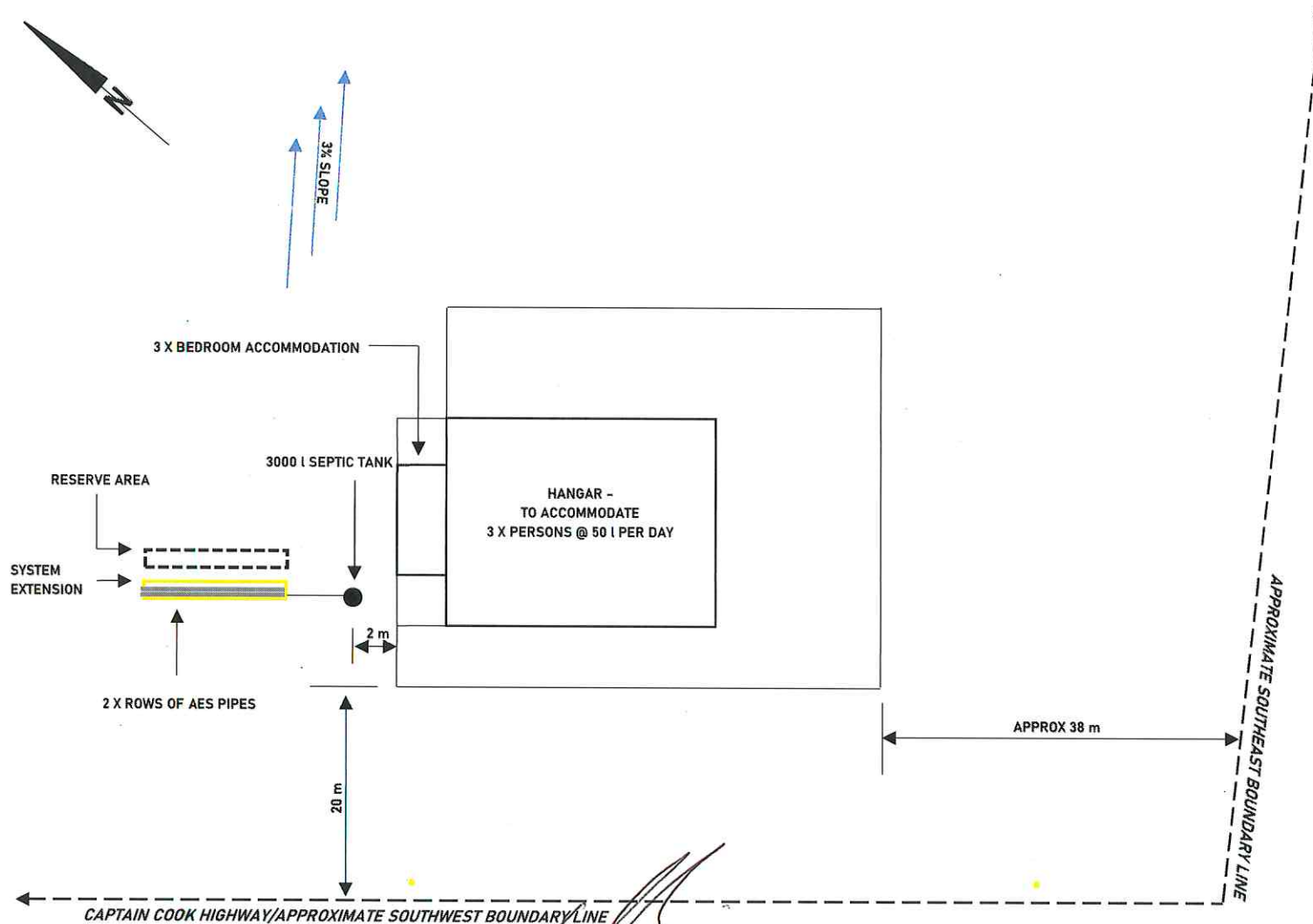
> Chankar Environmental has no responsibility for the soil evaluation, loading calculations or DLR entered by the designer for this calculator.

> AES pipes can be cut to length on site. They are supplied in 3 meter lths only.

NOT TO SCALE

# SITE LOCALITY PLAN

SECTION OF LOT 78 CAPTAIN COOK HIGHWAY, MOWBRAY



OVERALL AES SYSTEM DIMENSIONS  
MINIMUM AES FOOTPRINT REQUIRED  
15.6 m LONG X 1.92 m WIDE = 30.0 m<sup>2</sup>

AES PIPE SYSTEM DIMENSIONS  
15.6 m LONG X 1.35 m WIDE  
2 X ROWS OF AES PIPES  
5 X FULL AES PIPE LENGTHS PER ROW

AES SYSTEM EXTENSION DIMENSIONS  
15.6 m LONG X 0.57 m WIDE

## NOTES

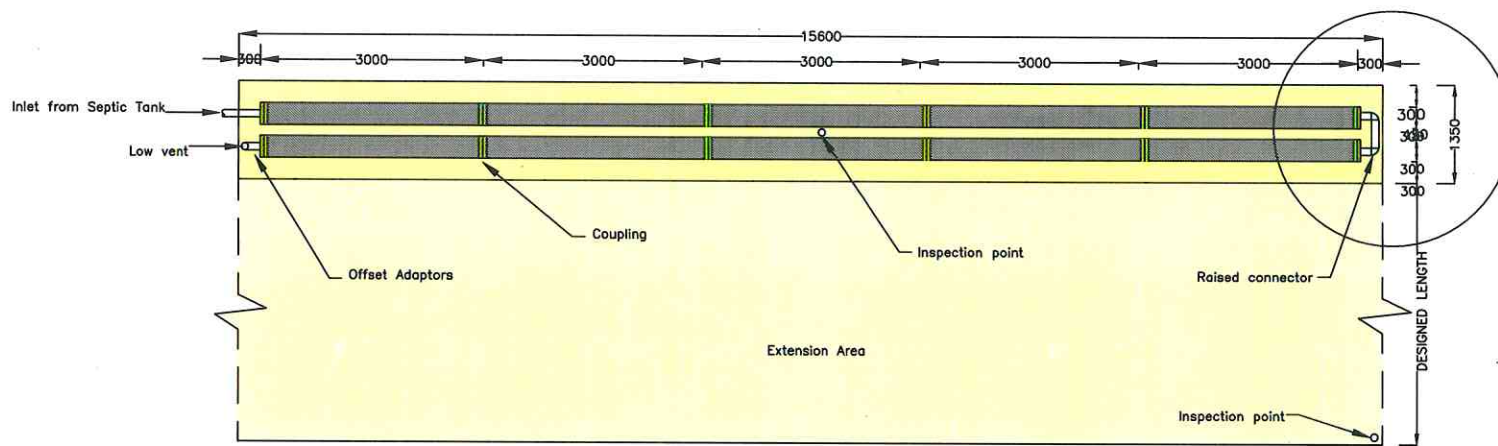
- THIS REPORT MUST BE READ IN ITS ENTIRETY PRIOR TO THE CONSTRUCTION OF THE WASTEWATER AREA.
- SUFFICIENT FALL TO THE WASTEWATER AREA MUST BE CALCULATED PRIOR TO CONSTRUCTION.
- DURING CONSTRUCTION RIP AND SCARIFY THE BED TO A DEPTH OF 300 mm AND APPLY GYPSUM AT 1 kg/m<sup>2</sup> TO THE BASE OF THE BED TO PREVENT THE CLAY DISPERSING.
- DIVERSION DRAINS WILL NEED TO BE PUT IN PLACE TO DIVERT WATER AWAY FROM THE WASTEWATER AREA.
- THE WASTEWATER SYSTEM MUST BE INSTALLED AS PER THE MANUFACTURERS SPECIFICATIONS.

CHECKED BY: A. TUDINI SIGNATURE: \_\_\_\_\_ DATE: 19/07/2021

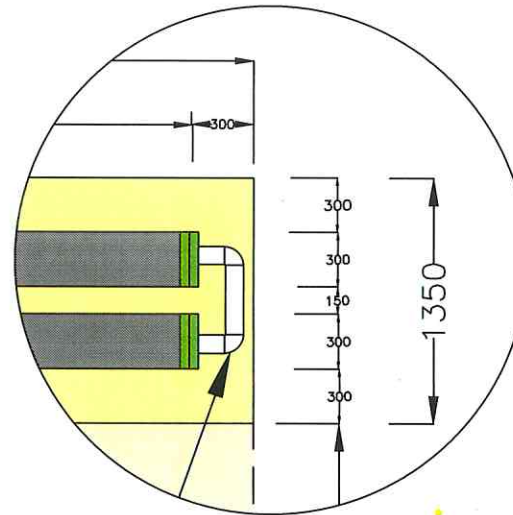
**DIRT PROFESSIONALS**

EMAIL: [dirtprofessionals@bigpond.com](mailto:dirtprofessionals@bigpond.com)



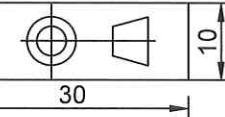


AES PIPE LAYOUT DETAILS



Pipe Spacing Details

## SCALE



ADVANCED ENVIRO - SEPTIC

OWNER / ENGAGED BY

**Des Davey**

**Site Address**

**Lot 78 Captain Cook Highway  
Mowbray**

## AMENDMENTS

ISSUE	DATE	SUBJECT	AUTHORISED

CHANKAR ENVIRONMENTAL PTY LTD  
T/A



QBCC LICENCE NUMBER  
150 238 31

Phone: +61 7 5474 4055  
Fax: +61 7 5335 1691  
Email : designreview@enviro-septic.com.au  
www.enviro-septic.com.au

**ADVANCED ENVIRO-SEPTIC PIPE  
LAYOUT DETAILS FOR TWO ROWS  
FIVE PIPES**

SCALE:

**1:100 (A4)**

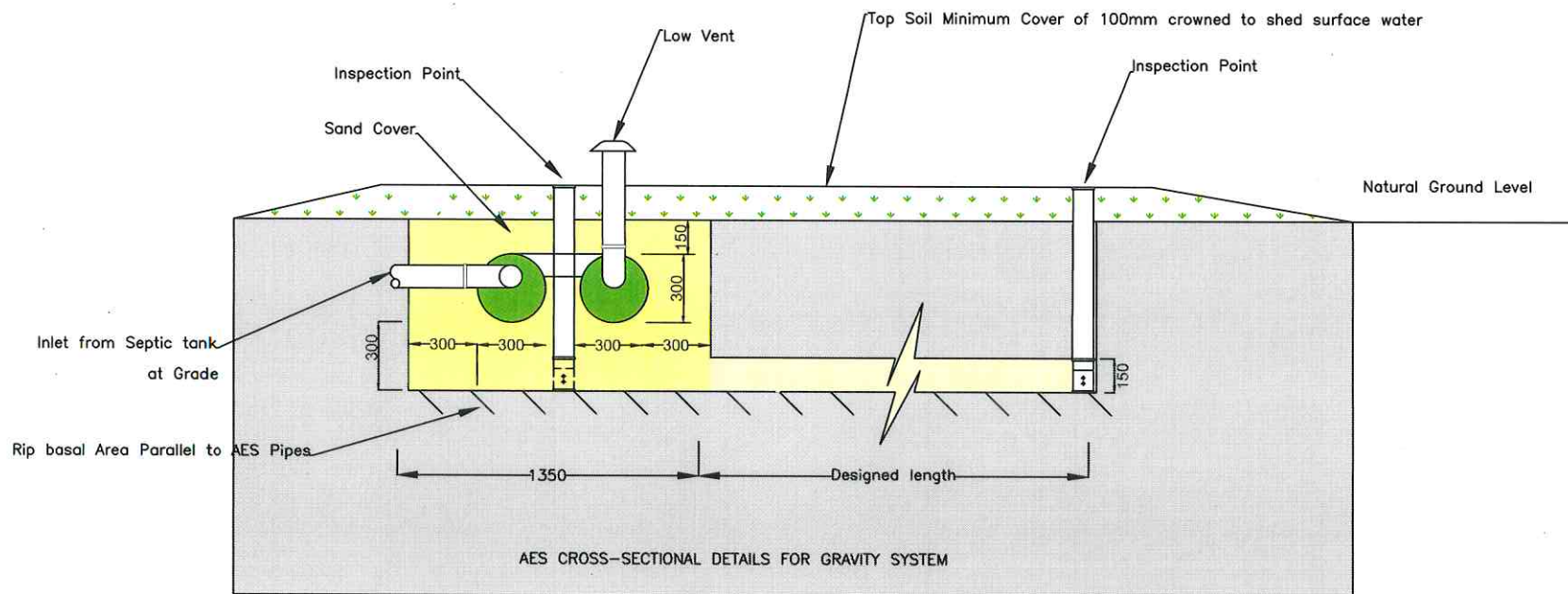
PROJECT JOB NUMBER

**Job No: 22499**

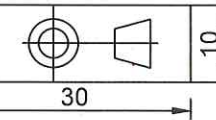
REVISION

SHEET NO

**Date: 19/07/2021**



SCALE



ADVANCED ENVIRO - SEPTIC

OWNER / ENGAGED BY

Des Davey

Site Address

Lot 78 Captain Cook Highway  
Mowbray

AMENDMENTS

ISSUE	DATE	SUBJECT	AUTHORISED

CHANKAR ENVIRONMENTAL PTY LTD  
T/A



QBCC LICENCE NUMBER  
150 238 31

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Fax: +61 7 5335 1691  
Email: designreview@enviro-septic.com.au  
www.enviro-septic.com.au

ADVANCED ENVIRO-SEPTIC CROSS  
SECTIONAL DETAILS FOR TWO ROWS  
GRAVITY SYSTEM

SCALE:

1:30 (A4)

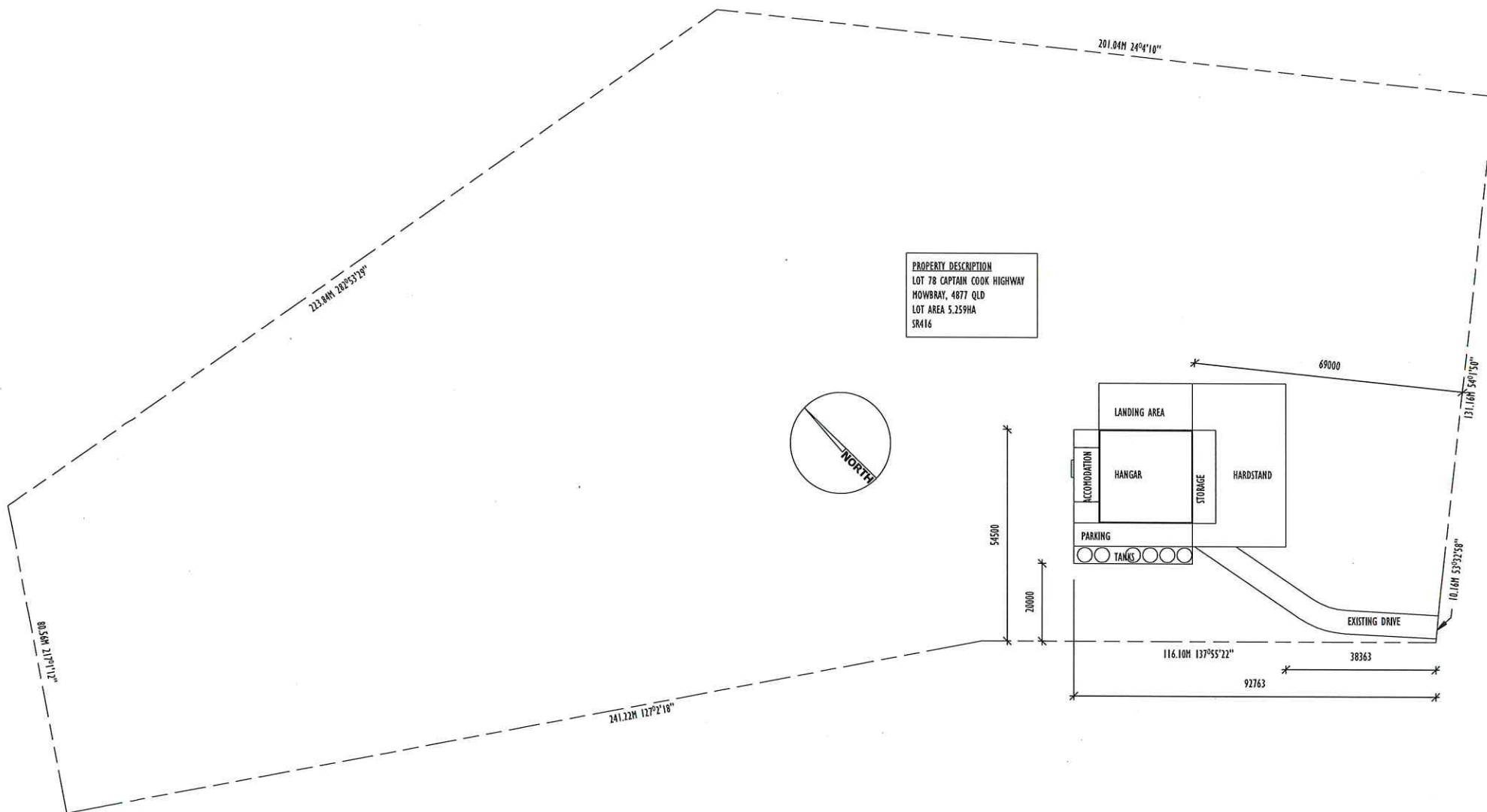
PROJECT JOB NUMBER

Job No: 22499

Date: 19/07/2021

REVISION

SHEET NO



I  
SITE PLAN  
1 : 1000

# DEVELOPMENT APPROVAL

## REVISIONS

No.	Description	Date
A	DA SUBMISSION	09.07.21

DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING.  
CONTRACTOR TO VERIFY ALL DIMENSIONS AND APPLIANCES  
SETOUT ON SITE BEFORE CONSTRUCTION. INCONSISTENCIES  
SHALL BE REPORTED TO THE DESIGNER IMMEDIATELY.  
THIS DRAWING IS SUBJECT TO COPYRIGHT AND REMAINS  
THE PROPERTY OF LOUIS JACKSON DESIGN.



0412595122  
LOUIS@LOUISJACKSONDESIGN.COM  
LOUISJACKSONDESIGN.COM  
QBCC: 15203663

PROJECT NAME:  
MOWBRAY HELICOPTER SITE  
PROJECT ADDRESS:  
LOT 78 CAPTAIN COOK HWY, MOWBRAY, 4877 QLD  
CLIENT NAME:  
HELIBIZ

## SITE PLAN

SCALE  
ISSUE DATE

1 : 1000 @ A3  
09.07.21

## SHEET NUMBER

2109- 02.1

9/07/2021 2:05:56 PM









# Advanced Enviro-Septic Owner's Manual

## **Head Office**

Chankar Environmental Pty Ltd  
62 Rene Street  
Noosaville QLD 4566

(07) 5474 4055  
[www.enviro-septic.com.au](http://www.enviro-septic.com.au)  
[info@enviro-septic.com.au](mailto:info@enviro-septic.com.au)



### Important Security instructions

---



It is extremely dangerous even potentially deadly to open a septic tank, pumping station or any enclosed space that is part of a wastewater treatment system. This work must be done by a person trained in enclosed space working and rescue procedures who has the necessary equipment.

The action of the bacteria on the organic matter present in the wastewater produces gases such as carbon gas (CO<sub>2</sub>), methane gas (CH<sub>4</sub>) and sulphuric hydrogen (H<sub>2</sub>S). The H<sub>2</sub>S present in the septic tank or a pumping station can cause the death of an individual in a matter of minutes. This is why this work must be left to competent personnel.

---



Pipes are buried near your septic installation. Please speak to your contractor or the technical service of Advanced Enviro-Septic™ in order to take all the necessary precautions prior to digging or undertaking excavation jobs near your septic system.

---



Please be sure that the covers of the septic tank, the pumping station, and the sampling device are always in place and that they remain accessible at all times for periodic inspections and interventions when necessary.

---

**Advanced Enviro-Septic™ U.S. Brevet nos. 6,461,078; 5,954,451; 6,290,429; 6,899,359; 6,792,977; 7,270,532 and 5,606,786. Other patent pending.**

**Enviro-Septic® is a trademark of Presby Environmental, Inc. Advanced Enviro-Septic™ is a trademark of Presby Environmental, Inc. Bio-Accelerator<sup>MC</sup> is a trademark of Presby Environmental, Inc.**

# User's Guide –Enviro-Septic System

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# User's Guide – Advanced Enviro-Septic

## Introduction

---

Thank you for choosing the Advanced Enviro-Septic System for your septic installation. This system was developed to efficiently treat domestic wastewater. Instructions must be followed in order to maintain its treatment performance so that you can make use of it for many years.

Carefully read through this entire document and retain it in your files for future reference.

---

### **The purpose of this document**

This user guide explains the proper use, procedures and inspections required in order to ensure the proper operation of your Advanced Enviro-Septic System for residential wastewater treatment.

It is the owner's responsibility to ensure that the system is used properly and according to its treatment capacity. It is also their responsibility to respect the rules and regulations in effect regarding associated council and government regulations.

---

### **Designation of the Enviro-Septic System**

**Name:** Advanced Enviro-Septic™ Wastewater System

**Application Domain:** Residential Wastewater (sewage).

**Class and treatment type:** The Enviro-Septic system meets all the performance criteria requirements of both the Australian standard AS/NZS 1546.3: 2008, and the Queensland Plumbing and Wastewater Code: 2011 (for both Secondary and Advanced Secondary treatment)

The system cannot be used to treat wastewater to make it consumable. It is made to treat residential wastewater to an acceptable level for it to be reintroduced into the environment.

---

## User's Guide –Enviro-Septic

---

### **Definition of the Advanced Enviro-Septic System**

The Enviro-Septic system is composed primarily of two inseparable components: the rows of Advanced Enviro-Septic™ pipe and a layer of system sand.

The Enviro-Septic system must be preceded by a septic tank and a wastewater distribution device. The treated water is drained directly into the soil beneath the treatment system through a soil absorption system.

---

### **What to do if a problem occurs?**

If in the course of normal use of your septic system you notice any of the following problems:

- presence of abnormal odours in the house, around the septic system or emanating from sources of drinking water,
- abnormally wet soil, presence of persistent puddles or odours in the area of the septic tank or the Enviro-Septic system,
- slow flushing toilets or other plumbing in the home,
- presence of abnormally abundant vegetation on the surface or around the septic tank or the Enviro-Septic system installation,
- flooding in the area where the Enviro-Septic system is installed,
- erosion of the land fill on or around the Enviro-Septic system,
- alarm from the pumping station if such a device is part of your installation...

...immediately contact your contractor.

### **Customer service and Technical support information**

Please do not hesitate to contact us if you need further information.

---

We can be contacted at the following coordinates:

Telephone: (07) 5474 4055

Fax: (07) 5335 1691

Email: [info@enviro-septic.com.au](mailto:info@enviro-septic.com.au)

Internet site: [www.enviro-septic.com.au](http://www.enviro-septic.com.au)

---



## User's Guide –Enviro-Septic

---

### **Certified Contractor**

The Enviro-Septic System must be installed by a licensed contractor. Certified by Chankar Environmental. Certification is obtained by attending the online "Enviro-Septic Contractor Certification Course". The Advanced Enviro-Septic™ customer service can provide the name of contractors having the proper certification to install Enviro-Septic Systems.

---

### **Enviro-Septic System Capacity**

The capacity of the Enviro-Septic System depends on two elements:

- The number of Enviro-Septic Pipes
- The capacity of the underlying soil to evacuate the treated water.

Tables 1 and 2 present the capacity of each system in relation with the number of pipe installed for a 1 to 6 bedroom residence or other building with a daily flow of 1800 L/d or less. The total volume of wastewater fed to the system must not be more then what is shown in the table.

The system may also be limited by the capacity of the underlying soil to permit the infiltration and evacuation of wastewater. This value should be evaluated by the designer mandated to create the plans and estimates for your septic installation. It is, therefore, important to verify with the designer if the capacity of the soil permits complete infiltration and evacuation of the maximum amount of water able to be treated by the pipes installed.

Number of Advanced Enviro-Septic Pipes (3.0 m each)	Total Length of Advanced Enviro-Septic Pipes (m)	Maximum Daily Flow (L/d)
4	12	360
5	15	450
6	18	540
7	21	630
8	24	720
9	27	810
10	30	900
11	33	990
12	36	1080
13	39	1170
14	42	1260
15	45	1350
16	48	1440
17	51	1530
18	54	1620
20	60	1800

Table 1  
Enviro-Septic hydraulic capacity based on the number of pipes installed

# User's Guide –Enviro-Septic System

Parameters  
Table 2

Testing Parameters	Advanced Enviro-Septic™ Test Results	Qld Secondary	Qld Advanced Secondary	EPA Tertiary	NSF-40 Class 1	BNQ Advanced
CBOD (mg/L)	< 2	20	10	10	< 25	<15
TSS (mg/L)	< 2	30	10	10	< 30	<15
Fecal Coliforms (CFU/100ml)	N/A ** Subsoil Installation	N/A ** Subsoil Installation	N/A ** Subsoil Installation	1000	N/A ** Subsoil Installation	50,000

**Residential Wastewater** Table 3 indicates the normal characteristics of raw domestic sewage.

Table 3

Parameter	Units	Raw Sewage	Septic Tank Effluent
TSS	mg/L	237-600	50-90
CBOD <sub>5</sub>	mg/L	210-530	140-200
Fecal Coliforms	CFU/100 ml	10 <sup>6</sup> -10 <sup>10</sup>	10 <sup>3</sup> -10 <sup>6</sup>

Source: Tchobanoglous and Burton (1991)

<sup>3</sup> The hydraulic capacities shown in table 1 are the same regulation for 1 to 6 bedroom isolated dwellings (clause 1.3). The difference between the minimum number of Enviro-Septic pipe for a similar daily flow between table 1 and 2 come after different security factors that are associated with 1 to 6 bedroom house vs other types of buildings.

## Warranty certificate

Advanced Enviro-Septic™ comes with a manufacturer's limited warranty. The warranty details are presented in Appendix A.

### Functioning of the Enviro-Septic System

---

The Enviro-Septic system is a passive technology which facilitates the proliferation of the bacteria responsible for wastewater treatment. It is comprised mainly of two inseparable components: the rows of Advanced Enviro-Septic pipes and a layer of system sand.

The Enviro-Septic system must be preceded by a septic tank and a distribution box (or another method of distribution). It must also be installed over a polishing leaching field.

---

#### **Treatment process of the Enviro-Septic system**

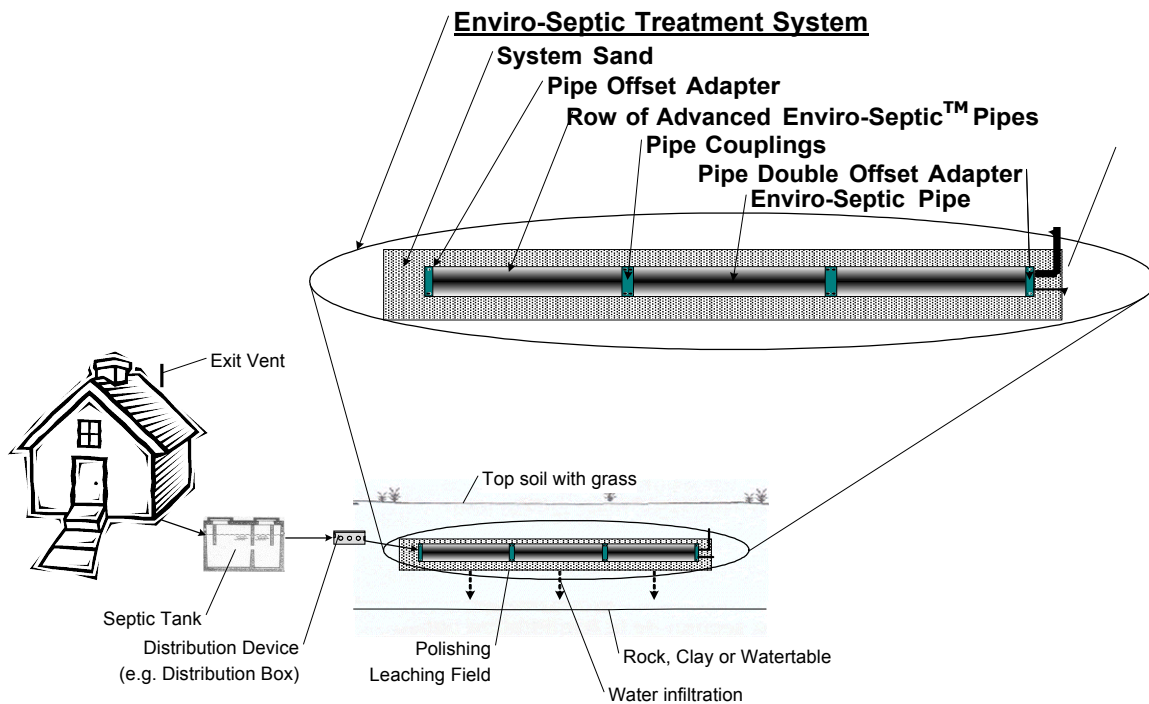
The rows of Advanced Enviro-Septic pipes and system sand permit the treatment and distribution of wastewater on the surface of the receiving soil (surface of the polishing leaching field).

The pipes support, first of all, the separation of particles through flotation and decantation. The water is then evacuated through perforations situated all around the pipes and through the pores of the two layers of synthetic media covering the pipes. These membranes facilitate the fixation of the microbial cultures which support wastewater treatment as well as longitudinal distribution.

The layer of sand continues the treatment process and helps in dispersing the water before it infiltrates into the natural soil. In this way, the Enviro-Septic system integrates both functions.

---

## Diagram of the Enviro-Septic system



**Fig. 4**

## Enviro-Septic System Components

---

Your septic installation includes several components. All of these components are parts of the chain of treatment of your installation. Table 4 presents the list of these elements. However it should be noted that some of these are only used when site conditions require them.

The table also presents a summary of inspections required for each component. More detailed information on this subject is presented in the sections that follow.

---

## User's Guide –Enviro-Septic

<b>Table 4 - Enviro-Septic System Components</b>				
<b>Component of the septic system</b>	<b>Function</b>	<b>Follow-up needed</b>	<b>Frequency</b>	<b>Responsible for follow-up</b>
Septic tank	Primary wastewater treatment	Periodic emptying	According to standards and regulations in effect	Owner is responsible to have work done by qualified person
Septic Tank Effluent Filter <sup>4</sup>	Retention of solids in low pressure pumped applications.	According to manufacturer's instructions.		
Distribution systems if required for larger dual bed systems 3 options A) Gravity Dist box and flow equalizers  B) Pressure distribution (feed) system  C) Automatic distributing valve	Distributes the septic tank effluent to the rows of Advanced Enviro-Septic.	A) According to water level in the inspection port  B) According to the manufacturer's directions.  C) According to the manufacturer's directions.	A) As needed	A) Owner
Rows of Advanced Enviro-Septic Pipes.	Distribute and treat wastewater			
Sampling device	To verify the treatment performance of the Enviro-Septic System	Ensure that there is access to this device	Optional	Qualified person
Vent	To allow the circulation of air in the Enviro-Septic System	Ensure that the opening is not blocked	As needed	Owner
System sand	To complete the water treatment process and to improve the drainage	No		
Pumping station (optional)	Lift septic tank effluent to the Enviro-Septic System	According to supplier's specifications		

<sup>4</sup> The effluent filter is necessary whenever the septic tank is followed by a low pressure distribution system.

### Operating the Enviro-Septic System

---

#### Initial Use

At the time of installation the septic tank must be filled with clear water.

If a pumping station is used, the contractor will verify that it is functioning properly at the time of installation. The home owner must make sure that there is adequate electricity to safely operate the equipment as well as the alarm component.

The Enviro-Septic system is now ready for use.

---

#### Intermittent Use or Prolonged Absences

The Enviro-Septic system is a passive wastewater treatment system. When properly installed, it requires no particular attention for intermittent use or in the case of prolonged absence.

---

### Enviro-Septic System Operating Instructions

---

The use and the maintenance of an Enviro-Septic System are relatively simple. In general, respecting the following rules will allow you use of your installation without problems for years to come.

---

#### Wastewater Volume

Large quantities of water that leave the house and enter the Enviro-Septic System in a short period of time could have a negative impact on the effectiveness of the treatment and the infiltration of wastewater causing agitation in the septic tank. A quantity of sludge or scum is likely to be put into suspension and be brought towards the system and the infiltration bed.

You must ensure that the volume of wastewater entering the Enviro-Septic System is reasonable when compared to the total daily flow the system was designed for.

After the installation, if changes are made to the residence (ex. addition of a bedroom), please contact the designer of the Enviro-Septic System. Make sure that the septic system is inspected by a qualified person to determine that it has the necessary capacity to treat and infiltrate the new daily design flow of wastewater being generated.



## User's Guide –Enviro-Septic

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### In the bathroom

#### Do:

- immediately repair any leaking faucet or toilet,
- use a reasonable quantity of toilet paper.
- Minimise or avoid bleach, antiseptic disinfectants, and ammonia acids in the system

#### Do not :

- use disinfectant in tablet (puck) form, whether it is placed in the basin or the tank,
  - throw cigarettes, cigarette butts or medication in the toilet,
  - throw paper towels, paper napkins or other personal hygiene products in the toilet.
- 

### In the kitchen

#### Do:

- repair any leaking faucet,
- use dish soap or dishwasher soap that is low in phosphate (0 to 5%),
- use the necessary quantity of soap to do the work. Take note that the necessary quantity is often less than suggested by the manufacturer.
- use biodegradable soap, low-phosphorus or phosphorus free detergents.

#### Do not :

- use a food waste disposal unit in your sink that is connected to your septic installation. If you do have a waste disposal unit, your septic tank may require more frequent pump out to remove sludge build up
  - dispose of vegetables, meats, fat, oil, coffee beans, citrus products or other products into the septic system.
- 

### For the laundry

#### Do:

- use phosphate free detergent, preferably in liquid form. If it is not possible, use biodegradable powder detergent,
  - use the necessary quantity of soap to do the work. Take note that the necessary quantity is often less than that suggested by the manufacturer,
  - minimize the volume of water used for the laundry according to the quantity of clothing to wash,
  - if possible spread your loads of laundry throughout the week
  - prevent harsh chemicals or products entering the system (eg. paint, nappies)
- 

### Elsewhere in and around the house

#### Do:

- divert drainage and rain water away from the surface of the Advanced Enviro-Septic System.
- All vents should be mosquito-proofed to prevent mosquitoes from breeding in the tank.
- Roof and surface water should be redirected away from absorption trenches.

#### Do not :

- discharge water softener backwash into your septic system,
  - discharge any water from swimming pool filters, spas or other appliances that discharge chlorinated water into your septic system.
-

## User's Guide –Enviro-Septic

---

- let water from sump pumps, roof drains (gutters) and drainage pipes. pipes discharge into the septic system,
  - dispose of solvents, paints, antifreeze, engine oil or other chemicals in the septic installation. This includes water used to wash brushes or rollers that were used with latex paint (latex paint contains elements that are harmful to septic system),
  - dispose of animal litter in the septic installation.
- 

### **Chemicals for septic installation**

Your Enviro-Septic System does not require any starting chemical, cleaning or other additives. The bacteria that carry out the treatment are naturally present in raw domestic sewage. Any chemicals or additives added to the Enviro-Septic System could possibly kill these bacteria.

---

### **Ventilation**

It is very important to ensure that good ventilation occurs so that the septic system functions correctly. The vent(s) installed at the ends of the septic system encourage this air circulation. It is important to make sure that the opening is not blocked and that air can circulate freely at all times. Air enters through the vent, circulates through the rows of pipes and the septic tank and travels through the plumbing of the house to exit through the roof vent.

The owner must be sure to have a roof vent and to keep it clear at all times. When a pumping station is used, a bypass pipe or an extra vent must be used to ensure proper ventilation of the system.

---

### **Heavy machinery and motorized vehicle traffic**

No vehicles or heavy machinery must be driven on a septic system, whether it is before, during or after its construction. Heavy machinery or motorized vehicle traffic on the soil closes the natural pores of the soil which reduces its permeability and allows for pounding and the accumulation of water.

---

### **Vegetation**

The surface of the septic system must be planted with grass. The grass must be cut regularly in order to encourage growth without the use of fertilizers. Vegetation cover contributes to the elimination of nitrogen and phosphorus.

It is important not to plant trees or other plants with invasive roots within the proximity of the septic installation (minimum distance 3 meters).

---

### Enviro-Septic System Maintenance

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#### **Septic Tank Maintenance**

The septic tank preceding the Enviro-Septic System must be pumped out regularly (every 3-5 years for normal residential use or sludge exceeds 2/3 of the tank). Verify the current regulation, or get in touch with relevant council or government authorities.

If the septic tank is not emptied regularly, an increasingly large amount of solids and grease in suspension will leave the septic tank and end up in the treatment system and in time the performance of the Enviro-Septic System may be affected.

At all times, a professional using the proper equipment must carry out the pumping out of a septic tank

The owner is responsible to ensure his septic tank is pumped out according to council regulations. This work should always be done by a qualified person since it can be very dangerous to open a septic system without first taking the necessary precautions.

Note: It is the home owner's responsibility to make sure that at all times the septic tank lids are in their proper position and securely fastened. A lid that is not installed correctly can be harmful to the operation of the Enviro-Septic System.

---

#### **Pre-filter (Septic tank effluent filter)**

Effluent filter equipment is not necessary at the exit of the septic tank<sup>5</sup>. It is mandatory when a low pressure distribution system is used between the septic tank and the Advanced Enviro-Septic pipes.

The effluent filter must be cleaned according to the maintenance and inspection procedures provided by the manufacturer.

---

---

<sup>5</sup> The effluent filter is necessary whenever the septic tank is followed by a low pressure distribution system.

## User's Guide –Enviro-Septic

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### **Advanced Enviro-Septic Pipe Rows**

Under normal use, the rows of Advanced Enviro-Septic pipe do not require maintenance. It is normal to find fluctuation of the water level in the pipes. If the water level reaches 260 mm, a rejuvenation of the Enviro-Septic System must be considered. A qualified person<sup>6</sup> must carry out this procedure.

---

<sup>6</sup> There may be costs related to this operation, if the problem is due to improper use of the system or due to a design or installation problem.

---

## User's Guide –Enviro-Septic

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<b>Vent</b>	<p>The owner must however ensure that nothing prevents the circulation of air.</p> <p>There must also be a difference of at least 3 meters, at all times, between the entry vent situated at the extremity of the Enviro-Septic system and the exit vent usually located on the roof.</p>
<b>System Sand</b>	<p>There is no maintenance to be done on the system sand during normal use of the Enviro-Septic System.</p>
<b>Pumping station or low pressure distribution system</b>	<p>In certain cases, the site constraints require the use of a pumping station or a low-pressure distribution system to evenly distribute the water. The owner is then responsible to comply with the manufacturer's scheduled maintenance requirements of this equipment.</p>
<b>Embankment surface above the Enviro-Septic System</b>	<p>The surface located above the Enviro-Septic system must be covered with herbaceous vegetation. A slight slope must be given to the surface in order to help the drainage of rainwater towards the outside of the system. The grass must also be cut regularly. Finally, any depression that could be created with time must be filled in order to avoid any accumulation of water above the system and to prevent erosion.</p>



## Owner's Responsibilities

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### Owner's Responsibilities

The owner is responsible for:

- using the Enviro-Septic System according to the instructions presented in the user guide.
  - pumping out the septic tank according to the regulations in effect.
  - maintaining the effluent filter (if present), the pumping station, the pressure distribution system or the automatic wastewater distributing valve according to manufacturer's specifications and recording the information if this equipment is part of the system.
  - ensuring that the vent openings are clear of any obstacle.
  - providing access at all times to the Enviro-Septic system.
  - adhering to the requirements of the applicable rules and regulations, in particular with regards to the discharge standards of the system to the environment.
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### Qualified person

The qualified person that performs the maintenance or the inspection of an Enviro-Septic System is a person who was trained and certified by Chankar Environmental or has certification from Presby Environmental to perform the tasks associated with the Enviro-Septic system. Chankar Environmental trains these people to carry out the inspections of the system, perform adjustments to the equalizers and/or carry out the rejuvenating procedure.

To obtain the name of a qualified person in your area, contact our customer service department on (07) 474 4055).

For maintenance on the pumping station and the low pressure distribution system, the owner must refer to the user guide specified by the manufacturer of these systems.

The pumping out of the septic tank must be performed by a company specializing in that field. Check with your council for the companies in your area that are qualified to do this work.

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## Appendix A- Presby Twenty Year Limited Warranty



**PRESBY ENVIRONMENTAL, INC.**  
*INNOVATIVE SEPTIC TECHNOLOGIES*

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This Twenty Year Limited Manufacturer's Warranty is provided by the Manufacturer, Presby Environmental, Inc., a New Hampshire corporation having a mailing address of 143 Airport Rd., Whitefield, New Hampshire, 03598 (hereinafter called "Presby"). This Warranty applies only to Presby Products sold by or through its duly authorized distributor Chankar Environmental an Australian corporation having a mailing address of Unit 6-62 Rene St, Noosaville, Qld 4566 (hereinafter called the "Distributor"). "Presby Products" means Presby's Enviro-Septic® leaching systems and Presby Maze® with the required accessories (couplings, offset adaptor).

**Warranty:** Presby warrants that Presby Products are free from defect for twenty years from the date of installation but in no event more than twenty-one years from the date of manufacture. Product Defects means defects or damage to the Products caused by or occurring during the manufacturing process. This Warranty does not cover or apply to damages to the Products caused by or resulting from transit or from accident, misuse, abuse, neglect, storage, installation, repair, maintenance or from use other than normal and ordinary use of the Products. This Warranty does not apply to damages to the Products caused by or resulting from failure to install or use the Products in accordance with distributor's instructions which have been approved by Presby or failure to properly inspect and maintain the Products.

**Warranty Registration, Claim Process and Remedy:** Any claim under the Warranty must be in writing and received by the distributor within thirty days of the date when the facts giving rise to such claim under this Warranty become known or are otherwise discovered. The distributor must be provided with an opportunity to inspect the Products as installed. Failure to comply with these requirements renders the Warranty null and void. If, during the Warranty period, the distributor and Presby find and determine that defects in Products exist, then the distributor and Presby's sole and exclusive obligation is to either repair the Products or provide replacement Products. The distributor and Presby, in their discretion, shall determine whether to repair the Products or provide replacement Products. The distributor and Presby shall have no obligation to remove any defective Products or to install any replacement Products. The distributor and Presby shall not be liable or responsible for any other damages or claims arising from or relating to defective Products, including but not limited to claims for general, consequential, or incidental damages, lost profits, or attorney fees.

**Disclaimer:** The distributor and Presby otherwise make no express warranty concerning the Products and the distributor and Presby disclaims any and all warranties, express or implied. Except as stated herein, there are no warranties express or implied, and the distributor and Presby do not warrant that the goods are merchantable or fit for any particular purpose. Any claim or controversy relating to this Warranty, or to matters of place of contracting, interpretation, performance or breach thereof, shall be brought in and adjudged in accordance with the applicable laws of state of New Hampshire.

### Appendix B - Information Specific to Your Treatment System

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**Information on  
your Enviro-  
Septic System**

Installation date: \_\_\_\_\_

Contractor /Engineer: \_\_\_\_\_

Contractor: \_\_\_\_\_

Plumbing inspector: \_\_\_\_\_

Number of rows of pipes: \_\_\_\_\_

Hydraulic capacity (L/d): \_\_\_\_\_

Number of 3m pipes per row: \_\_\_\_\_

Water Distribution

- Distribution box ☐
- Wastewater distributing valve ☐

Septic tank capacity: \_\_\_\_\_

**Notes**

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