

Kentish Council

PUBLIC NOTICE

APPLICATION FOR DEVELOPMENT APPROVAL

An application for development approval has been made which may affect you.

Details about the application – K-DA070/2023

Address of the land	134 Cables Road SHEFFIELD
What use or development is proposed in the application	Resource Development – proposed DAIRY SHED
Date of notice	13 December 2023

The application and supporting documents are open for public inspection on Council's website at www.kentish.tas.gov.au or at the Council Offices, 69 High Street, Sheffield during the following office hours:-
Monday to Friday, 8.00 a.m to 4.30 p.m.

Any person may lodge a representation on the proposed use or development.

Your representation must:

- be received within 14 days of the date of this notice;
- be in writing;
- be addressed to:
The General Manager,
Kentish Council,
P.O. Box 63, Sheffield 7306; or email
council@kentish.tas.gov.au
- and include:
the reasons for your representation; and
the address of the land.

Aerial View – K-DA070/2023 – 134 Cables Road, Sheffield



	Kentish Council Planning Exhibition Documents Planning Administration
Date Advertised: 13-12-2023	Ref Number: K-DA070/2023
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Office Use Only	
Application No K-DA070/2023	PID

KENTISH COUNCIL

DEVELOPMENT APPLICATION

Application for Development Permit under Section 58 or Section 57
 of the *Land Use Planning and Approvals Act 1993*

1 Full Name of Applicant(s): **CBM Sustainable Design**

2 Postal Address of Applicant(s): **PO Box 1971
 Launceston TAS 7250** Phone:

Mobile No.: Email:

3 Full Name of Owner(s): **Joshua and Megan Cables**

4 Postal Address of Owner(s): **134 Cables Rd Sheffield** Phone:

Mobile No. Email:

5 Present Use of the Land: **Resource development**

6 Proposed Use and/or Development (subject of this application): **Construct new dairy shed,
 yards and ancillary works**

At (Location of property): **134 Cables Rd Sheffield**

Certificate/s of Title reference: **54020/1**

7 Estimated Costs of works: \$ **\$200,000**

8 Supporting Details: **A CHECK LIST IS PROVIDED ON THE NEXT PAGE AND MUST BE ACKNOWLEDGED AND SIGNED BY THE APPLICANT.**

Signed:

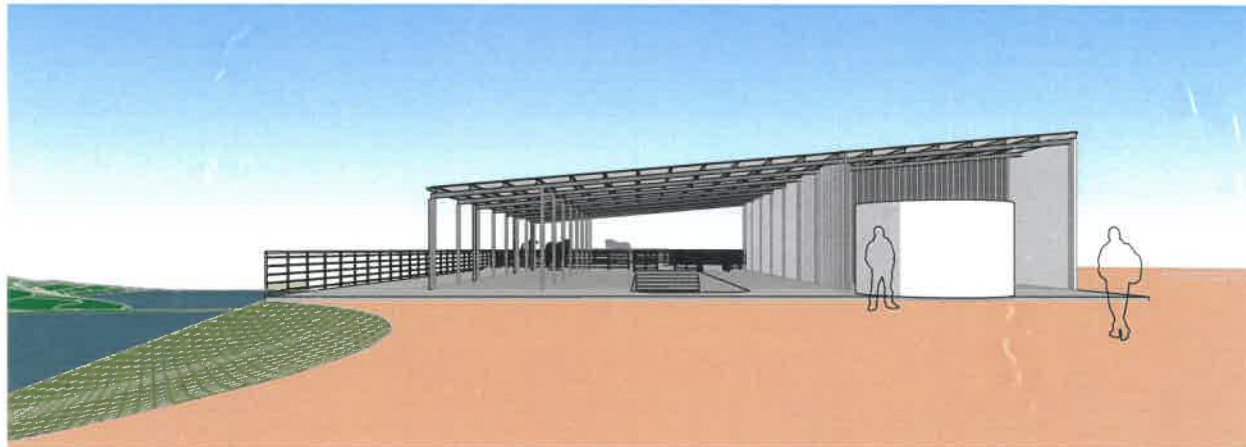
Dated: **15/11/23**

DWG NO.	DRAWING	REV
A000	COVER PAGE	01
A101	LOCATION PLAN	02
A102	PROPOSED SITE PLAN	02
A201	GROUND FLOOR PLAN	02
A203	ROOF PLAN	01
A301	ELEVATIONS	01

Kentish Council
Planning Exhibition Documents
Planning Administration

Date Advertised: 13-12-2023 Ref. Number: KDA0702023

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EXTERIOR PERSPECTIVE 1

NCC BUILDING CLASSIFICATION(S): CLASS 8

BAL ASSESSMENT: N/A. NOT OF VULNERABLE OR HAZARDOUS USE (AS3959-2018)

PLANNING ZONE: 26.0 RURAL RESOURCE

LAND TITLE REF: 54020/1

PROPERTY ID: 3484661

SOIL CLASSIFICATION: - (AS2870-2011)

WIND CLASSIFICATION: - (AS4055-2012)

CLIMATE ZONE: 7 (NCC 2019)

ALPINE AREA: N/A (NCC 2019)

CORROSION ENV: C3 MEDIUM (AS4312-2008)

DRAWINGS TO BE READ IN CONJUNCTION WITH ANY WRITTEN SPECIFICATIONS AND ANY ASSOCIATED DOCUMENTATION PREPARED BY SUB-CONSULTANTS

BOUNDARY INFORMATION AND CONTOURS HAVE BEEN SOURCED FROM THE LIST AND ELVIS FOUNDATION SPATIAL DATA AND IS APPROXIMATE.

WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS

DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE

DOCUMENTATION IS SUBJECT TO STATUTORY APPROVALS

THIS DESIGN IS INTENDED TO BE BUILT ONLY ONCE AND ONLY ON THE SITE THAT THE DESIGN WAS PREPARED FOR

STANDARD ABBREVIATIONS					
AVFC: AIR-CONDITIONING UNIT	DRY: DRYER	HBL: HIGH-BAY LIGHT	OV: OVEN	TLE: TILE	
ACP: ALUMINIUM COMPOSITE PANEL (ALUCOBOND PLUS OR AZ ONLY)	DW: DISHWASHER	HC: HOSE COOK	PB: PLASTERBOARD	TR: TOWEL RAIL	
AG: AWNING GLASS	DY: DRYER	HDY: HAND DRYER	PC: POLYCARBONATE SHEET	TRH: TOILET ROLL HOLDER	
B: BENCH	EAL: EMERGENCY LIGHT	HG: HINGED GLASS	PD: PHONE / DATA OUTLET	TUB: LAUNDRY TROUGH / TUB	
BR: BRICKWORK	EX: EXISTING	HC: COAT HOOK	PL: PENDENT LIGHT	TV: TELEPHONE OUTLET	
BL: BLOCKWORK	EQ: EQUAL	HE: COMBINATION HEAT / LIGHT / FAN	PLY: PLYWOOD SHEET	UG: UNDER BENCH	
BOL: BOLLARD	FFRZ: FRIEZE / FREEZER	HR: HANDRAIL / GRAB-RAIL	PTD: PAPER TOWEL DISPENSER	URL: URINAL	
BPZ: BUILDING PROTECTION ZONE	FAN: EXTRACTION / EXHAUST FAN	HTR: HEATER	PTY: PANTRY	VB: VANITY BASIN	
BR: BRICKWORK	FEL: FIRE BLANKET	HWC: HOT WATER CYLINDER	PV: PHOTOVOLTAIC PANELS (SOLAR)	VP: VENT PIPE	
BTH: BATH	FC: FIBRE CEMENT SHEET	IO: INSPECTION OPENING	RC: RIDGE CAPPING (FLASHING)	VSS: VERTICAL SEWER STACK	
CF: CEILING FAN	FE: FIRE EXTINGUISHER	JU: JOINTERY UNIT	RHD: RANGEHOOD	VYL: VENTIL	
CK: COOKTOP / COOKER	FEL: FINISHED FLOOR LEVEL	KB: KITCHENBOARD	RL: RELATIVE LEVEL	W: WINDOW	
CL: CONTROL JOINT	FG: FIXED GLASS	LAM: LAMINATE	RV: ROOF VENT	WC: TOILET	
CL: CEILING LEVEL	FR: FIRE HYDRANT	LG: LOUVERED GLASS	RM: ROOM	WR: WALK IN ROBE	
CM: COFFEE MACHINE	FR: FIRE HOSE REEL	LT: LIGHT (SURFACE MOUNTED)	SD: SMOKE DETECTOR	WCH: WOODHEATER / FIRE	
COL: COLUMN	FL: FLASHING	MH: MANHOLE	SF: SOFT-FALL RUBBER	WL: WALL LIGHT	
CON: EXPOSED CONCRETE (P-POLISHED)	FMBZ: FUEL MODIFIED BUFFER ZONE	MRS: METAL ROOF SHEETING	SH: SHED / OUTBUILDING	WAE: WASHING MACHINE	
CP: CARPET	FR: FIRE RESISTANT PLASTERBOARD	MS: MAIN SWITCH BOARD	SHF: SHELF (W/ ADJUSTABLE) (FFRZ)	WP: WEATHERPROOF POWER OUTLET	
CPB: CUPBOARD	FRZ: FREEZER	MW: MICROWAVE OVEN	SK: SHOWER	WRP: WATER RESISTANT PLASTERBOARD	
D: DOOR / AND OR / DETAIL	FT: FLUORO TUBE LIGHT	MNS: METAL WALL SHEETING	SK: SKIN	WT: WALL TYPE	
DB: DISTRIBUTION BOARD	FW: FLOOR WASTE	NGL: NATURAL GROUND LINE	SKT: SKirting	WHT: WATER HARVESTING TANK	
DL: DOWNLIGHT (RECESSED)	G: GATE	OAL: OVER-ALL	SL: SLIDING GLASS	'F: 1ST FLOOR	
DP: DOWNPIPE	GF: GROUND FLOOR	OB: OVERBENCH	SPL: SPOT LIGHT		
	GPO: GENERAL POWER OUTLET	OH: OVERHEAD (STORAGE)	SS: STAINLESS STEEL		
	GR: GRAB RAIL	ORG: OVERFLOW RELIEF GULLY	TBR: TIMBER		

DEVELOPMENT APPLICATION

CBM Sustainable Design

LTN: 51 York Street, PO Box 1971, Launceston TAS 7250
HBT: 1 Kyeenna Place, Cambridge TAS 7170
VIC: Level 14, 350 St Kilda Road, Melbourne VIC 3004
NSW: Impact Centre, 19 Cheywood Road, Etna NSW 2250

P: +613 6332 6988 E: info@cbmgroup.com.au A: CC1113Z



CABLES DAIRY

134 CABLES ROAD SHEFFIELD TAS TAS 7306

JOSHUA AND MEGAN CABLES

SCALE: (A3)

REV	AMENDMENT	DATE	ISSUED BY:
01	DEVELOPMENT APPLICATION	10/11/2023	dstanford
			DRAWN BY: dstanford
			jlinner
			APPROVED BY: sdgingense

COVER PAGE

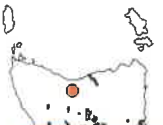
DWG: A000
PROJECT: P22040

REV: 01

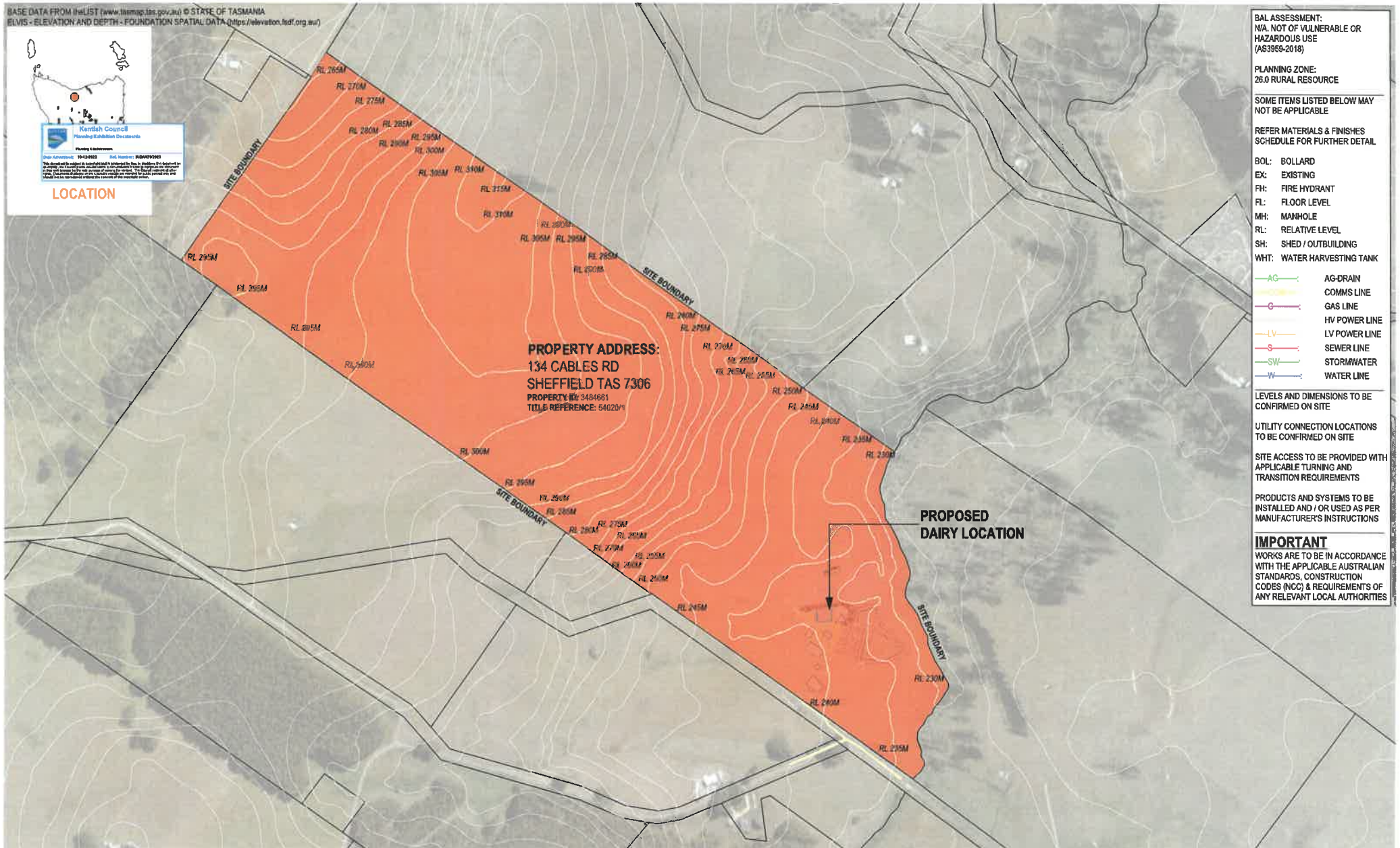


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LOCATION



PROPERTY ADDRESS:
 134 CABLES RD
 SHEFFIELD TAS 7306
 PROPERTY ID: 3484661
 TITLE REFERENCE: 64020/1

PROPOSED DAIRY LOCATION

- BAL ASSESSMENT:**
 N/A. NOT OF VULNERABLE OR HAZARDOUS USE (AS3959-2018)
- PLANNING ZONE:**
 26.0 RURAL RESOURCE
- SOME ITEMS LISTED BELOW MAY NOT BE APPLICABLE
- REFER MATERIALS & FINISHES SCHEDULE FOR FURTHER DETAIL
- BOL:** BOLLARD
EX: EXISTING
FH: FIRE HYDRANT
FL: FLOOR LEVEL
MH: MANHOLE
RL: RELATIVE LEVEL
SH: SHED / OUTBUILDING
WHT: WATER HARVESTING TANK
- AG** AG-DRAIN
COMMS COMMS LINE
G GAS LINE
LV LV POWER LINE
S SEWER LINE
SW STORMWATER
W WATER LINE
- LEVELS AND DIMENSIONS TO BE CONFIRMED ON SITE
- UTILITY CONNECTION LOCATIONS TO BE CONFIRMED ON SITE
- SITE ACCESS TO BE PROVIDED WITH APPLICABLE TURNING AND TRANSITION REQUIREMENTS
- PRODUCTS AND SYSTEMS TO BE INSTALLED AND / OR USED AS PER MANUFACTURER'S INSTRUCTIONS
- IMPORTANT**
 WORKS ARE TO BE IN ACCORDANCE WITH THE APPLICABLE AUSTRALIAN STANDARDS, CONSTRUCTION CODES (NCC) & REQUIREMENTS OF ANY RELEVANT LOCAL AUTHORITIES

LOCATION PLAN
 1:5000

CBM Sustainable Design
 LTN: 51 York Street, PO Box 1971, Launceston TAS 7250
 HBT: 1 Kyeema Place, Cambridge TAS 7170
 VIC: Level 14, 390 St Kilda Road, Melbourne VIC 3004
 NSW: Impact Centre, 19 Chelwynd Road, Erina NSW 2250



CABLES DAIRY
 134 CABLES ROAD SHEFFIELD TAS TAS 7306
 JOSHUA AND MEGAN CABLES

SCALE: 1:5000 (A3)

DEVELOPMENT APPLICATION



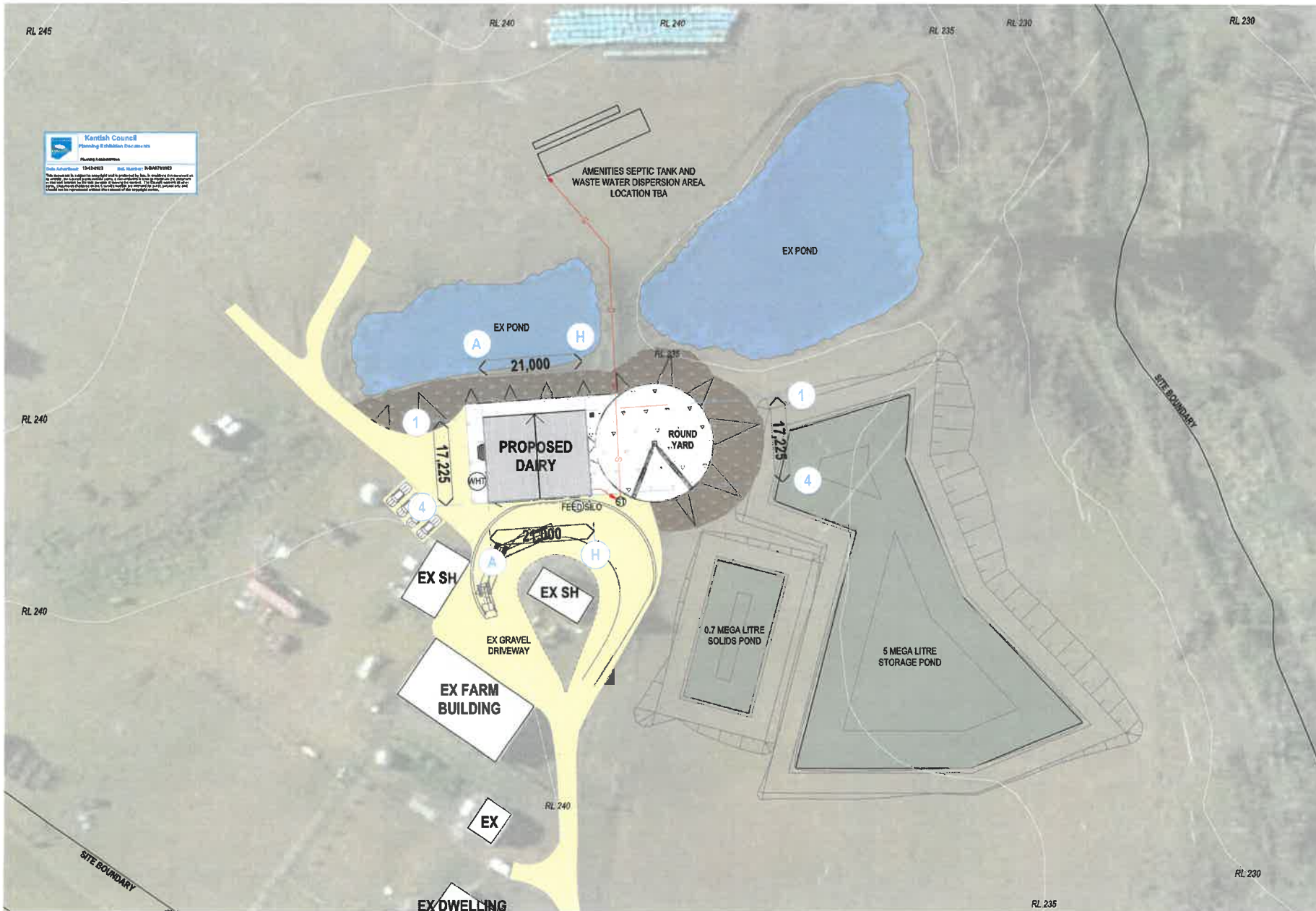
REV	AMENDMENT	DATE
01	SKETCH DESIGN	25/10/2023
02	DEVELOPMENT APPLICATION	16/11/2023

ISSUED BY:
 datanford
 DRAWN BY:
 datanford, julimar
 APPROVED BY:
 adingemense

LOCATION PLAN
 DWG: **A101**
 PROJECT: **P22040**

REV: **02**





- BAL ASSESSMENT:**
N/A. NOT OF VULNERABLE OR HAZARDOUS USE (AS3959-2016)
- SITE AREA:** -
NEW ROOFED AREA: GFAm²
- SOME ITEMS LISTED BELOW MAY NOT BE APPLICABLE
- REFER MATERIALS & FINISHES SCHEDULE FOR FURTHER DETAIL.
- BOL:** BOLLARD
EX: EXISTING
FH: FIRE HYDRANT
FL: FLOOR LEVEL
MH: MANHOLE
RL: RELATIVE LEVEL
SH: SHED / OUTBUILDING
WHT: WATER HARVESTING TANK
- LEGEND:**
 - AG- AG-DRAIN
 - COMMS- COMMS LINE
 - G- GAS LINE
 - HV- HV POWER LINE
 - LV- LV POWER LINE
 - S- SEWER LINE
 - SW- STORMWATER
 - W- WATER LINE
- LEVELS AND DIMENSIONS TO BE CONFIRMED ON SITE
- UTILITY CONNECTION LOCATIONS TO BE CONFIRMED ON SITE
- SITE ACCESS TO BE PROVIDED WITH APPLICABLE TURNING AND TRANSITION REQUIREMENTS
- VEHICLES TO ONLY BE PARKED IN DESIGNATED AREAS
- CUT-OFF AND AG-DRAINS TO BE INSTALLED PRIOR TO EXCAVATION OF FOOTINGS
- EXCAVATED MATERIAL TO BE PLACED UP-SLOPE OF DRAINS AND SEDIMENT FENCES INSTALLED DOWN-SLOPE OF MATERIAL
- EXCAVATED MATERIAL TO BE USED WHERE SITE WORKS REQUIRE FILL, BEFORE EXCESS MATERIAL IS PROPERLY REMOVED FROM SITE
- DOWNPIPES TO BE CONNECTED TO RELEVANT SYSTEM AS SOON AS ROOF IS INSTALLED
- PRODUCTS AND SYSTEMS TO BE INSTALLED AND / OR USED AS PER MANUFACTURER'S INSTRUCTIONS
- IMPORTANT**
WORKS ARE TO BE IN ACCORDANCE WITH THE APPLICABLE AUSTRALIAN STANDARDS, CONSTRUCTION CODES (NCC) & REQUIREMENTS OF ANY RELEVANT LOCAL AUTHORITIES

PROPOSED SITE PLAN
1:750

CBM Sustainable Design

LTN: 51 York Street, PO Box 1971, Launceston TAS 7250
 HBT: 1 Kyasma Place, Cambridge TAS 7170
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CABLES DAIRY

134 CABLES ROAD SHEFFIELD TAS TAS 7306

JOSHUA AND MEGAN CABLES

SCALE: 1:750 (A3)

REV	AMENDMENT	DATE	ISSUED BY:
01	SKETCH DESIGN	25/10/2023	dstanford
02	DEVELOPMENT APPLICATION	16/11/2023	dstanford, jpinner
			APPROVED BY: adingemans

DEVELOPMENT APPLICATION



PROPOSED SITE PLAN

DWG: **A102**
PROJECT: **P22040**

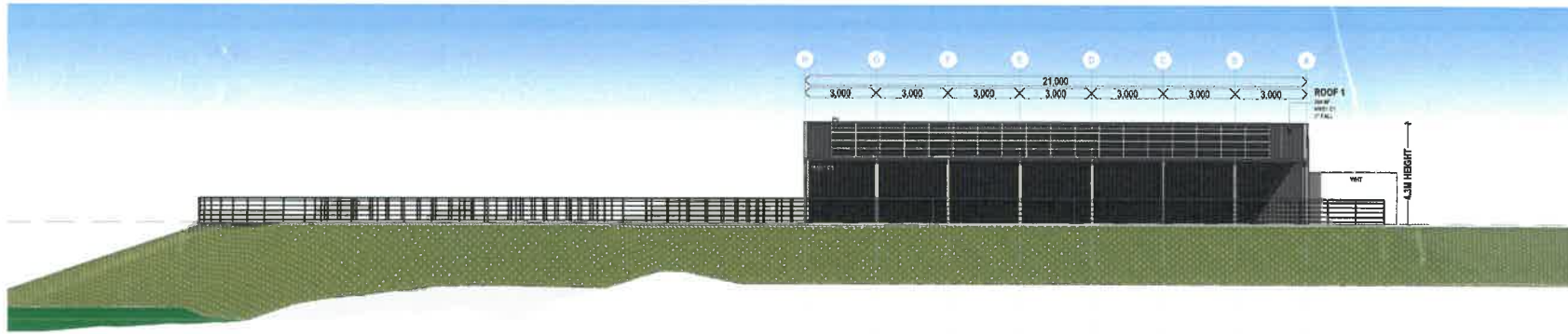
REV: **02**



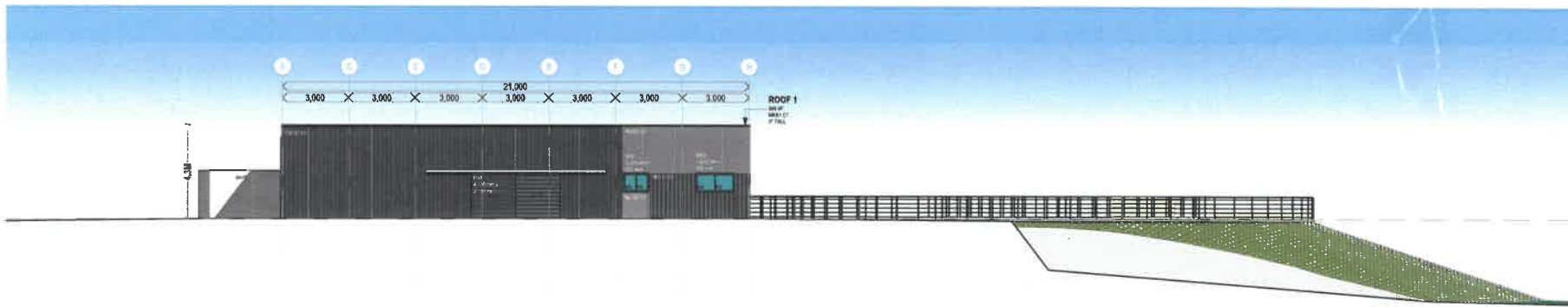
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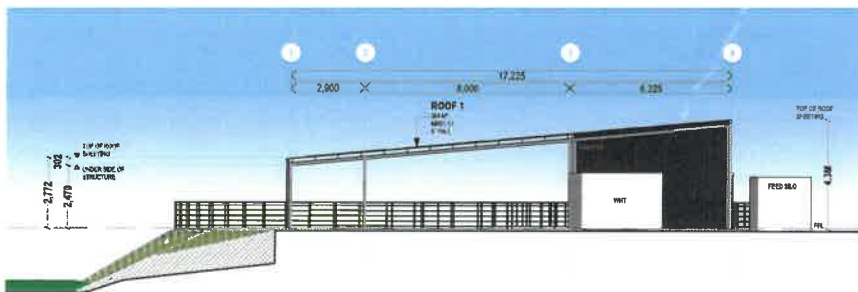
NOTES:
 1. METAL ROOF SHEETING 1 - COLORBOND
 PROVIDER WALL ROOF CLADDING
 2. WHITE COLORBOND SYSTEM WALL CLADDING
 3. COLORBOND ROOF SHEETING
 4. COLORBOND METAL
 5. METAL ROOF SHEETING 1 - COLORBOND
 PROVIDER WALL ROOF CLADDING
 6. WHITE COLORBOND SYSTEM WALL CLADDING
 7. COLORBOND ROOF SHEETING
 8. COLORBOND METAL
 9. METAL ROOF SHEETING 1 - COLORBOND
 PROVIDER WALL ROOF CLADDING
 10. WHITE COLORBOND SYSTEM WALL CLADDING
 11. COLORBOND ROOF SHEETING
 12. COLORBOND METAL



NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION



EAST ELEVATION

ALL DIMENSIONS:
 1. METAL ROOF SHEETING 1 - COLORBOND
 PROVIDER WALL ROOF CLADDING
 2. WHITE COLORBOND SYSTEM WALL CLADDING
 3. COLORBOND ROOF SHEETING
 4. COLORBOND METAL
 5. METAL ROOF SHEETING 1 - COLORBOND
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 11. COLORBOND ROOF SHEETING
 12. COLORBOND METAL

Kentish Council
 Planning Exhibition Documents
 Planning Administration
 Date Approved: 13-12-2022 Ref. Number: KDA171/2022

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CABLES DAIRY
 134 CABLES ROAD SHEFFIELD TAS TAS 7306
 JOSHUA AND MEGAN CABLES

SCALE 1:100 (A1)

NO.	DATE	BY	REVISION
1	13/12/2022	JM	ISSUED FOR EXHIBITION
2	13/12/2022	JM	ISSUED FOR EXHIBITION
3	13/12/2022	JM	ISSUED FOR EXHIBITION
4	13/12/2022	JM	ISSUED FOR EXHIBITION
5	13/12/2022	JM	ISSUED FOR EXHIBITION
6	13/12/2022	JM	ISSUED FOR EXHIBITION
7	13/12/2022	JM	ISSUED FOR EXHIBITION
8	13/12/2022	JM	ISSUED FOR EXHIBITION
9	13/12/2022	JM	ISSUED FOR EXHIBITION
10	13/12/2022	JM	ISSUED FOR EXHIBITION

DEVELOPMENT APPLICATION
ELEVATIONS
 CHC:A301
 REV: 01
 PROJECT: P22040





Design & Project Management

CBM Sustainable Design Pty Ltd

www.cbmgroupp.com.au

ABN: 25 144 966 852

EFFLUENT MANAGEMENT PLAN

Cables Dairy, Sheffield

CLIENT: Cables
PROJECT: Dairy Effluent Plan
JOB NO: P23040

Date	Purpose of Issue/Nature of Revision	Revision No.	Authorised by
03/12/2023	Final submission to client	REV01	SD

This report has been prepared by;
 Samuel Dingemans *BBus BSc MEIANZ*

This Report has been prepared in reliance on data, surveys, analysis, designs, plans and other information provided by the client, and other individuals and organisations referenced herein. Except as otherwise stated in this report, CBM has not verified the accuracy or completeness of such data, surveys, analysis, designs, plans and other information. The passage of time, manifestation of latent conditions or impacts of future events may result in the actual contents differing from that described in this report.

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

This report does not purport to provide legal advice. Readers should engage professional legal advisers for this purpose.

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 51 York St, PO Box 1971
 Launceston Tasmania 7250 Australia
 Telephone: (03) 63326988
 Email: info@cbmgroup.com.au

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1 Statement of intent

Effluent Management Plans must be developed specifically for an individual farm. Likewise, an Effluent Management Plan cannot be developed without considering changes that are likely to occur in the future. This Plan documents the design and planning undertaken for the proposed new dairy at Sheffield.

Please report any discrepancy, omission or inaccuracy in this documentation of the farm's specific variables. Without such a claim for correction, this report shall be taken as an accurate description of the farm and operational parameters at the date of the farm visits for the purposes of effluent system design.

Please also note that this Plan is only valid as long as those parameters remain unchanged. Whenever changes occur, this Plan should be reviewed by an accredited dairy effluent designer.

2 Introduction

This Plan was developed to design the effluent management system for the proposed Cables dairy at 134 Cables Rd, Sheffield. It has been prepared to ensure the compliance with the *Farm Dairy Premises Effluent Management Code of Practice 2010*.

The Code lists three outcomes that dairy effluent management systems must comply with. These outcomes are;

1. Dairy premises effluent must not leave the farm boundaries or enter surface water or groundwater, unless treated and discharged in a manner approved by the relevant authorities.
2. There must be an appropriately designed and operated system for the responsible management of dairy premises effluent.
3. Spray irrigation or distribution of dairy premises effluent is carried out in an environmentally sound manner.

3 Property Background

The dairy farm is located at 134 Cables Rd, Sheffield. It is approx. 170 ha in area, much of which is irrigated.



Figure 1 Aerial image of the location, with the blue shading indicating the extent of the farm

Figure 2 Proposed layout of the dairy shed and effluent system

The farm details are provided in Table 1 while the specific dairy details are provided in Table 2.

Table 1 Farm details

Irrigated pasture	120 ha
Proposed herd size	130 cows initially, design for 300 cows
Annual production	6,000 L/cow (780,000 total)

Milking season	Spring calving, dry June-July
----------------	-------------------------------

Table 2 Dairy details

Dairy type	Herringbone
Time on yard	2 hours per day
Dairy wash method	Yard wash on backing gate
Catchment area impervious	572 m ²
Catchment area pervious	-

Herd details

Current herd size		130
Proposed max herd size		300
Current annual milk sales (L)		780,000
Average time on yards (hrs/day)		2.5
Days herd dry during storage period		60
Average % total diet fed on feedpad		
% feed wastage on feedpad		
Calving pattern	Seasonal/Split	▼
Milkings per day	Twice a day	▼
Dairy type	swingover	▼
Estimated waste & calf milk (L)		11,700
Production per cow		6,090 L/year

Figure 3 Herd details except from the effluent toolkit

The property is undulating, with elevations ranging from 230m to 305m AHD.

4 Water usage

An accurate estimate of the wastewater volume entering the effluent system is important in order to correctly size treatment and storage volumes.

4.1 Dairy water usage

As the dairy is not yet operational, an estimated of 15,000L per day has been used. This aligns to the 75th percentile for existing dairy farms from the Effluent Toolkit and thus is a conservative estimate.

The yard wash water will be recycled from the green water pond, reducing the fresh water usage to approx. 7,500L per day.

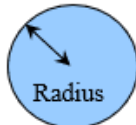
4.2 Stormwater input

There is an impervious stormwater catchment area of 572 m² consisting of the concrete yards and other unroofed concreted areas that drain to the effluent system.

Catchment area π: 3.14

Include any areas where runoff enters the effluent system (feedpads, dairy yard, tracks etc)

Only include shed roof area if no diversion is in place



Circular yards	radius (m)	how much of circle	area (m ²)	Runoff Coefficient	equivalent impervious area (m ²)
Circular yard 1	12	1	452		452
Circular yard 2		0			

Rectangular areas	length (m)	width (m)	area (m ²)	Runoff Coefficient	equivalent impervious area (m ²)
Yard 1	24	5	120		120
track					
Feedpad					
Roof area					
Standard trafficable tra					
Drying basin					
Compacted pad					

Auto-populate

 Trap/Sump
 Basin
 Pad

Total catchment area (m²) 572

Equivalent impervious catchment area (m²) 572

Figure 4 Catchment area calculation from the effluent toolkit

5 Environmental variables

5.1 Soils

Majority of the farm is of Red ferrosol in nature.

They have the following characteristics

- These soils display a gradual increase in texture (clay content) with depth. Surface soils are often clay loams that grade into light clays in the subsoil.
- These soils are relatively high in free iron oxide - giving them the distinctive red colour. The high iron levels can 'lock up' applied phosphorus but also contribute to this soil's well-developed soil structure. The structure is usually very fine (usually polyhedral), usually with smooth and often shiny faces. This well developed structure provides plenty of opportunity for water, air and root movement.
- They are usually moderately to strongly acid throughout - a product of their good porosity, high rainfall and long periods of leaching.
- Although these soils are considered to be well structured and attractive for agriculture, they can degrade under intensive cropping from erosion and compaction and may also suffer from acidification.

5.2 Climate

The following data is taken from SILO (<https://www.longpaddock.qld.gov.au/silo/point-data/>) which provides interpolated climate data from Bureau of Meteorology recording stations.

The site experiences a 90th percentile rainfall (MR^{90}_{adj}) of 1,381 mm per annum and crop-adjusted 10th percentile evapotranspiration (ETc^{10}_{adj}) of 832 mm per year. This is summarised in Table 3. The toolkit recommends that effluent is stored for any month where MR^{90}_{adj} exceeds ETc^{10}_{adj} by 10mm, indicating a higher risk of effluent irrigation runoff to surface waters.

Unusually, the monthly deficit between MR^{90}_{adj} and ETc^{10}_{adj} occurs in two separate periods of the year, December and March to October. Given that the December deficit is only 1mm and that there would be ample opportunity to irrigate in this month, it is not included in the storage period.

Additionally March and November are recommended storage months as the deficit, while positive, is less than 10mm. Again, common sense dictates that there will be opportunities for irrigation in these shoulder months so these periods are also excluded from the storage period.

This results in a 7-month storage window being applied, from April to October. The effluent system will be designed to have adequate volume to store all effluent produced during this period.

Table 3 90th percentile adjusted rainfall, 10th percentile adjusted evapotranspiration and resultant soil moisture deficit by month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
MR90adj	133	65	83	78	123	117	154	160	126	149	93	99	1,381
ETc10 adj	132	98	85	51	29	22	24	36	53	78	100	125	832
Deficit	-1	33	2	-27	-93	-95	-130	-124	-74	-71	7	26	67
Storage	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N

5.3 Buffer distances from sensitive receptors

The *Farm Dairy Premises Effluent Management Code of Practice May 2010* is the most recent code of practice and replaces the *Code of Practice – Managing Dairy Farm Effluent in Tasmania 1997*. The previous Code specified specific buffer distances for effluent storage and application. These are no longer relevant under the new code, which simplifies the requirements of an effluent system to meet the three outcomes presented in section 2.

The site and all adjacent properties are zoned rural resource, as such there is no residential zoned property in proximity to the farm.

Sensitive receptors in in proximity to the effluent system and effluent irrigation area include

- Residences near the farm, including:
 - 79 Cables Rd, south of the farm
 - 151 Cables Rd, south west of the farm
 - Lot 2 Hughes Rd, north east of the farm
 - 81 Hamptons Rd, north west of the farm
- The Don River, running south through the middle of the farm
- Unnamed drainage line running east to the Don River, above the dairy shed site.

The effluent ponds are 300m from the nearest residence and 40m from the Don River. The ponds will be constructed with adequate clay lining on the base and walls to prevent loss of effluent through the pond to the environment. The ponds have been sized to provide adequate winter storage, ensuring that effluent generated during the periods when irrigation reuse cannot occur can be stored and not discharged in an

uncontrolled manner.

The irrigation reuse areas will maintain a 20 m buffer to property boundaries and waterways and at least 100m buffer to neighbouring residences. As effluent irrigation will only occur in dry periods, the risk of runoff from irrigation is low.

These buffer distances are considered adequate to mitigate environmental and odour impacts.

6 Effluent system details

The effluent system will be constructed as simple two pond system consisting of the following:

- 0.7 ML Solids pond
- 5 ML Green water pond

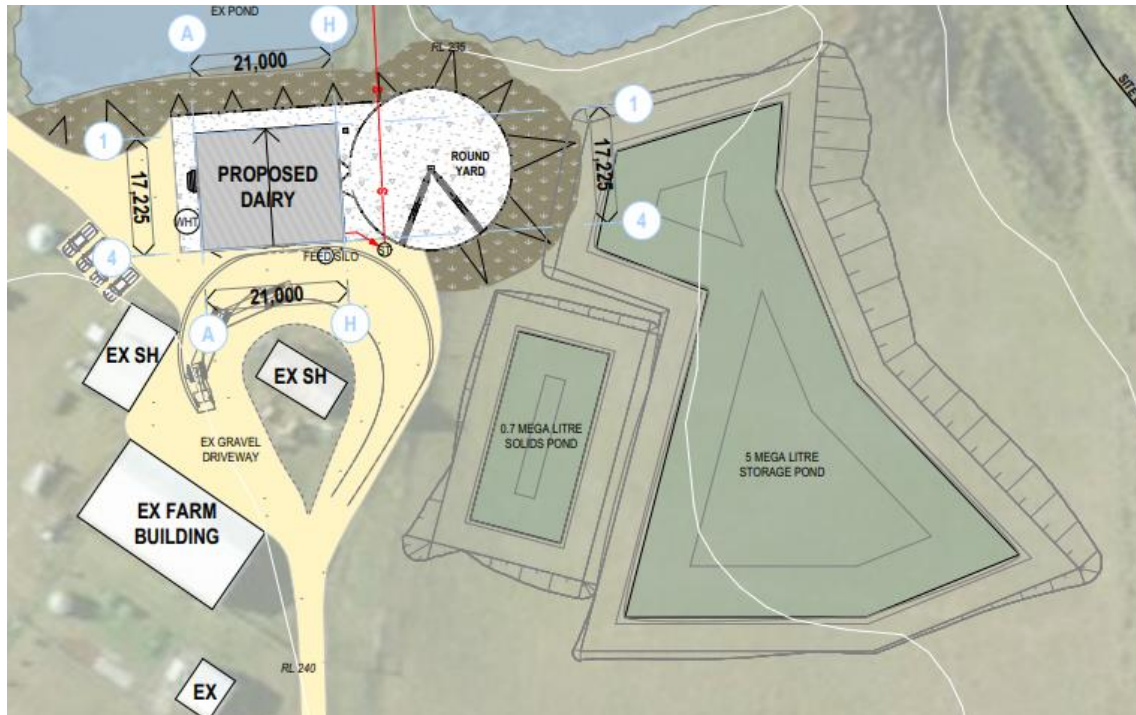


Figure 5 Plan showing dairy shed and effluent ponds

6.1 Solids pond

The Toolkit design requires a minimum of 0.6 ML of effective volume based on an annual desludging, and the proposed design provides 0.7 ML of effective storage. The dimensions are 35 x 15m assuming a depth of 4m and a 2:1 wall batter ratio.

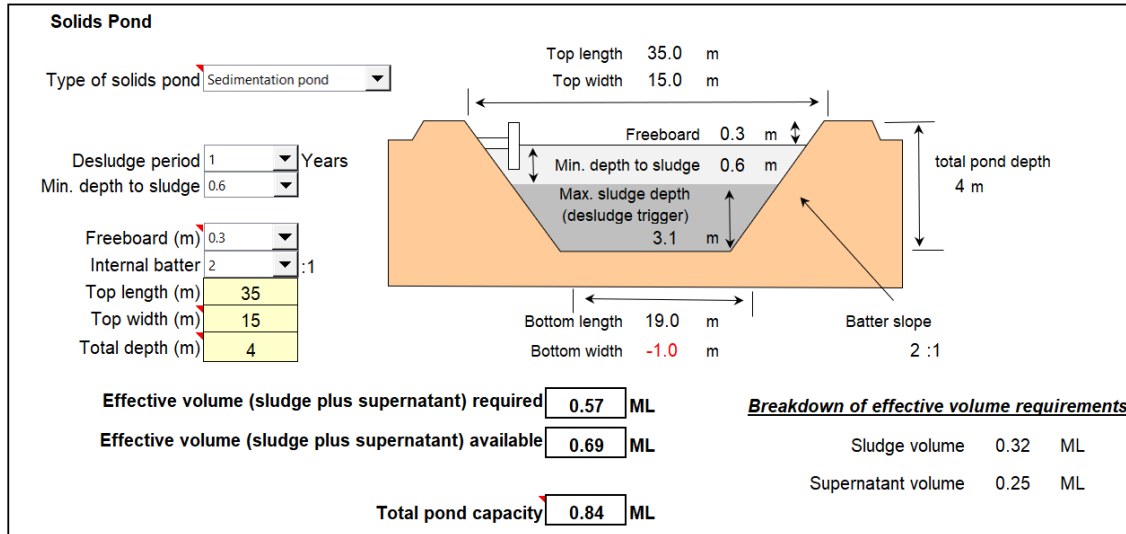


Figure 6 Solids pond sizing calculation from the Effluent Toolkit

The solids pond will receive the raw effluent from the dairy shed washdown via a gravity pipeline. The solids pond will settle solids with liquid effluent decanting across via a T junction pipe (minimum 200mm diameter and extending 300mm below the pond surface) to the green water pond. This ensures the water is drawn from below the surface, preventing any solids crust on the surface from blocking the connection.

6.2 Green water storage dam

The Toolkit undertakes a simplistic assessment of storage volume by requiring storage for any month where 10th percentile rainfall is greater than 90th percentile ET.

This assessment calculates a minimum of 4.1 ML of effective storage required, and the proposed design provides for 5 ML of effective storage. The proposed pond shape is irregular and the volume has been confirmed via engineering design, however using the toolkit sizing tool it calculates an effective storage volume of 4.5ML

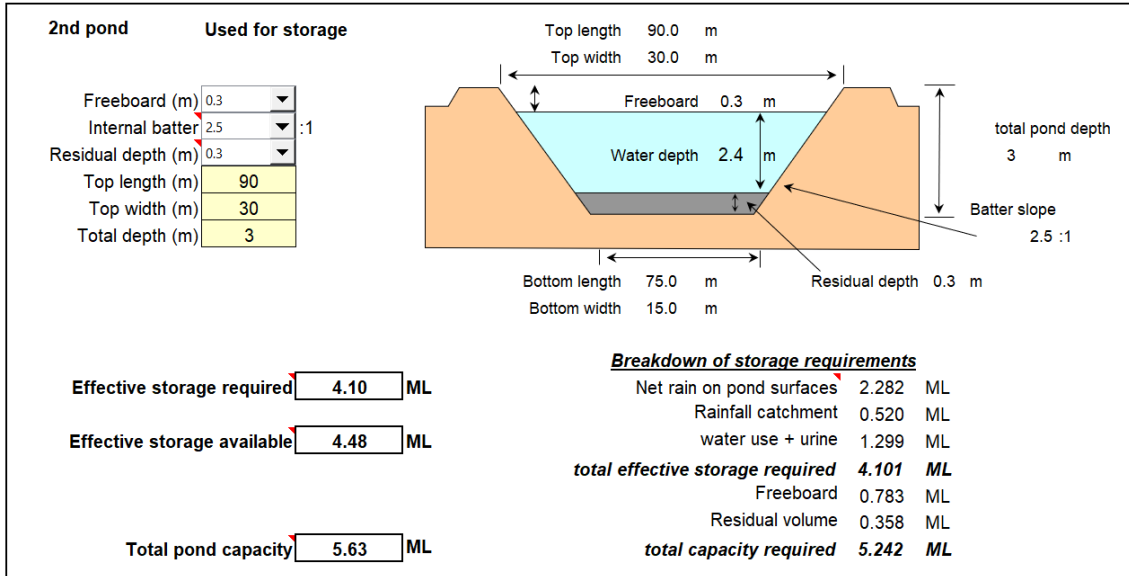


Figure 7 Green water pond sizing calculation from the Effluent Toolkit

6.3 Irrigation reuse system

The farm has 20ha under a pivot, and an additional 60 ha under soft and hard hose irrigators.

7 Effluent System Management

There are a number of steps involved in effective management of an effluent system to ensure that it performs as designed. Refer also to section 11 System maintenance.

7.1 Solids pond and application to pasture

- The solids pond must be desludged at least every year to ensure the design capacity of the pond is maintained. The sludge can directly applied to paddocks via a slurry spreader.
- If the sludge is to be stockpiled and dewatered, then the stockpile area should be constructed to have an impermeable base such as a clay lining, and be designed to drain all runoff to the effluent system.
- If desludging by vacuum tanker, ensure that the storage pond has effluent available to be pumped back for agitation when the slurry gets too thick to pump.
- A small volume of sludge should remain in the base of the pond to prevent cracking due to drying.
- The area around the pond should be kept free of weeds and excessive grass growth. Pond edges should be clearly visible and not obscured by vegetation.
- Application of solids to pasture should match soil fertility targets and be coordinated with nutrient budgeting, in order to prevent areas from receiving excessive nutrient loadings. In addition, application areas will avoid sensitive environments such as any drainage lines, native vegetation areas and property boundaries. Refer section 8 for more details.

7.2 Effluent Storage

- It is important to prioritise effluent irrigation during the summer irrigation period in order to reduce the dam volume prior to winter. If effluent irrigation must occur during winter, it should occur in consideration of the soil moisture level and weather forecast, to prevent effluent runoff from pasture that is at maximum capacity.
- Effluent will be of most benefit when applied to actively growing crops or pastures.
- Shandyng into irrigation water is very effective and reduces the risk of nutrient overload. This is proposed in this instance.
- The area around the ponds should be kept free of weeds and excessive grass growth. Pond edges should be clearly visible and not obscured by vegetation.
- Ensure adequate fencing is in place to prevent stock accessing the trenches and pond.

7.3 Application System

- Ensure spray drift does not land beyond the property boundary.
- Ensure there is no runoff of green water from the target application area.
- Do not undertake irrigation if any of the ephemeral drainage lines in the irrigation areas are running, which will only occur directly after rainfall.

7.4 Grazing Management

- Soil test paddocks utilised for effluent disposal, to ensure nutrient levels are optimum for both plant and animal health. It is recommended that this is undertaken annually.

8 Nutrient management

Livestock effluent is a natural fertiliser and soil conditioner, and can be used to provide nutrients and organic matter to soils if used effectively. Effluent from storage should be applied to an area of pasture or crop sized to utilise the nutrients without adverse build-up.

The client is an agronomist and has advised that the total fertiliser requirements for irrigated pastures will be 360 kg/ha N, 60 kg/ha P and 100 kg/ha K.

Below are the calculations from the toolkit with a liquid application rate supplying half of the nutrient requirements and solids application rate providing all of the annual nutrient requirements. It demonstrates that there is sufficient area available at the site for effluent reuse, given the areas required are:

- 31.5 ha for liquid
- 2.2 ha for solid

System details

Annual production	6,090	L/cow
No. of cows	300	
Proportion of day on yards	10%	
System type	Multi-pond system	
Desludge period	1	years

Nutrient partitioning (%)	N	P	K
Sludge	20	30	10
Liquid	50	60	90
Loss	30	10	

Fate of Nutrients entering the effluent system

	N	P	K
Total nutrient entering effluent system (kg/year)	3834	629	1750
Nutrient retained in liquid effluent (kg/year)	1917	377	1575
Nutrient contained in sludge upon cleanout (kg)	767	189	175
Sludge nutrient available in year of application (%)	40%	70%	100%
Sludge nutrient available in year of application (kg)	307	132	175

Target application rates

Liquid effluent area: Maximum annual nutrient application rate (kg/ha)	N	P	K
	150	30	50
Sludge: Maximum annual nutrient application rate (separate to liquid effluent application area, maximum target nutrient available in year of application)	N	P	K
	360	60	100

Liquid effluent reuse area requirements

Minimum area required for liquid effluent (green water) application system 31.5 ha

If liquid effluent is spread over the entire area suggested above it will apply an annual estimated nutrient application rate of (kg/ha):	N	P	K
	61	12	50

Sludge reuse area requirements

Assumptions/Notes:

- Includes all sludge captured by the effluent system including that removed by solids trap or other solids separation methods
- A different area of the farm is available for application at each desludge event
- Area calculated based on nutrient available in year of application

Area required for solids / sludge / slurry application at desludge 2.2 ha

	N	P	K
Nutrient available in year 1 (kg/ha)	139	60	79
Nutrient available years 2+ (kg/ha)	209	26	
Total nutrient applied (kg/ha)	348	86	79

Figure 8 Summary reuse area calculations from the effluent toolkit

9 OH&S requirements

It is the responsibility of the farm manager to identify any foreseeable hazards that may arise and that have the potential to harm the health and safety of anyone on the farm. Their principal duty is to take reasonable and practical steps to protect the health and safety of their employees and other farm visitors

Key issues in regard to health and safety and dairy effluent management are:

Ponds

Effluent ponds and trenches can be very deep, with steep internal walls. It may even be difficult to locate the edge of the pond due to excessive surface weed growth.

- Appropriate fencing and signage should be erected indicating potential hazards associated with the area.
- Effluent ponds represent a significant danger for tractors and other machinery due to the risk of the machine accidentally falling into the pond. Any machinery work adjacent to or on the pond should be conducted under extreme caution.
- The pond should be machinery accessible on all sides if possible, and machinery anchor points installed at strategic locations reduce the possibility of machinery slipping into the ponds.
- Appropriate skill and training should be provided for all operators undertaking maintenance, de-sludging or nutrient sampling activities around the effluent system.
- If using a pontoon pump on the pond, ensure it is anchored in such a way that it can be dragged to the pond bank and made stable and safe for maintenance.

Other

- There is potential for the release of hazardous gases as a result of storage, pumping, mixing cleaning out and spreading of effluent, particularly in confined spaces. These gases can include hydrogen sulphide, carbon dioxide, ammonia and methane. As such all personnel should be trained and made aware of the risk of hazardous gases.
- Good personal hygiene practices are required to prevent possible transmission of diseases. This will be explained to all staff that may start work as part of their induction.
- Signage should be provided at major access points to the effluent irrigation area, stating **“Warning – Dairy Effluent Irrigation Area – Do Not Drink”**

10 Contingency planning

Contingency planning must occur to ensure appropriate responses to effluent system issues. The following outlines responses to key risks to the effluent system:

10.1 Pond wall breach or overflow

- Construct a temporary levy bank to contain the spill.
- Install a temporary spoon drain to direct uncontrolled overflows and seepage to a designated area away from waterways and lighter soil.
- Instigate a pond emptying procedure to lower existing volumes until walls can be reconstructed.
- Repair walls and banks by removing topsoil and vegetative growth before reconstructing the area with more clay or other impermeable material.
- Redirect effluent inflows from dairy shed and feedpads to other storage or irrigation systems until repairs are completed.

Note: If effluent enters a waterway or leaves the property boundary, the local council should be informed as soon as possible, but not later than 24 hours after the event, as required by the *Environmental Management and Pollution Control Act 1994*.

The appropriate contact number is as follows:

64 910 200

10.2 Irrigator failure

- Maintain list of irrigation suppliers able to repair irrigation equipment
- Ensure storage dam level is maintained below the maximum at all times, to provide buffer storage if irrigation cannot occur for a period of time.
- Minimise facility water use (without compromising milk quality) to reduce wash down volumes entering the effluent stream.

11 System maintenance

Pond management:

- Inspect pond banks for signs of cracking or deterioration and instigate repairs.
- Inspect pond surroundings for wet areas which may indicate pond seepage.
- Annually check pond outlet pipes for seepage and replace damaged rubber seals.
- Check fencing around ponds is adequately tensioned and secured.
- Ensure yarding and storage surroundings are free of rubbish, foreign debris and plastic waste.

Pump maintenance:

- Ensure electrical wiring and switches on pumps are covered and serviced by qualified electricians.
- Ensure any pontoons on the pond have adequate buoyancy and are securely fixed to banks.
- Check waterproof switches for cracks.
- Listen to the pump while running for out-of-the-ordinary sounds and vibrations.
- Check bearings for excessive noise.
- Check bearings for excessive heat.
- Grease all grease-points every 6 months.
- Check belts are tight
- Check all belts or coupling covers are replaced and secured.
- Check all pump-securing bolts for corrosion and are tight.
- Check pump gland packing for excessive leaking, adjust or replace when needed.
- Check mechanical seal for leaking (if applicable).
- Check all pipe connections for integrity.
- Check area around electric motor and generator is clean and clear.
- Check for wear and tear of belts, pump and motor coupling, impeller, bowl and faceplate.

Conveyance pipes:

- Review joins and inspection points.
- Remove fibrous and solid build ups and ensure joints are secure.

- Ensure exposed conveyance pipes are protected from machinery and cattle.

Sumps and traps:

- Remove solids and sediment every few months.
- Use a rake or high pressure hose to clean weeping walls and screens and adjust spacing accordingly.
- Repair any damage to walls and screens.
- Remove fibrous build up from float switchers.
- Ensure fencing and railing around the sumps and traps are secure.

Irrigation equipment:

- Check all gearing, teeth and pawls for wear.
- Check cable connections.
- Check cable length for kinks or fraying.
- Check cable guide for wear.
- Check cams and cam followers for wear and ensure free running.
- Check nozzles and clear solid and fibrous build ups.

Slurry and solid spreaders:

- Ensure all guards and safety systems are in place on all machinery and equipment.
- Ensure farm implements are secured and mounted correctly to tractors.
- Thoroughly clean all equipment used to handle effluent before using it on other farms to reduce the likelihood of microbial transfer.
- Ensure all hydraulic and power take off drive systems are disengaged before undertaking repairs.
- Ensure spares parts are readily available, especially if effluent management is a direct application system which relies heavily on the operation of the slurry tanker.



Planning assessment memo

Date	24/10/2023
Project Title:	Cables dairy shed
Project number	P23040

Background

This planning report supports a planning application for a new dairy farm operation at Sheffield. It will be located at the existing Cables farm where a dairy operated previously. As such there is an existing site access, and water, power infrastructure for the new dairy.

The new dairy will be designed to best practice environmental and animal health standards.

The scope of the project is:

- Construct dairy shed and associated concrete yards
- Construct effluent treatment system consisting of solids pond and storage pond (approval via Division 4 dam permit and TDIA)
- Upgrade adjacent vehicle access and other ancillary works

The site details are as follows:

Project Address: 134 Cables Rd, Sheffield TAS 7306
Owners: Joshua and Megan Cables
Property ID: 3484661
Title Reference: 54020/1

Planning assessment

The planning aspects of the site are as follows:

Zone: Rural resource
Use: Resource development (no permit required)
Overlays: Bushfire-prone areas

A response to the agriculture zone planning controls are as follows:

Use Standards

N/A, use is not discretionary

Development standards for buildings and works

26.4.2 location and configuration of development

Setbacks

A1 The new dairy shed building meets the minimum required setback from boundaries.

A2 The building height is 4.5m

P3.1

- The building elevation is at approx. 238.5m AHD while the hill behind is approx. 315m AHD, thus there is no visual impact to the skyline.
- The building is adjacent existing small dams used as a water source for the dairy. However the presence of the dairy shed is unlikely to adversely impact the visual amenity of the dams as they are very minor water bodies not visible to the general public other than direct neighbouring properties.
- The new shed roof and cladding will be low-reflectance metal sheeting.

Codes

Water and waterways code

E10.6.1

P1 A recognised waterway exists to the north of the proposed shed, which feeds the two adjacent ponds before discharging to the Don River to the east. This is a very minor waterway as it begins only 500m to the west of the ponds.

The proposed development, including the dairy shed, yards and effluent ponds have been designed to have negligible impacts to this existing waterway and in-stream ponds.

The dairy effluent will be contained to impervious surfaces, which all drain to the effluent ponds. The ponds have been designed and sized to not overtop for a 90th percentile rainfall and 10th percentile evapotranspiration year, as per the required Dairy Australia effluent design standards. The effluent ponds allow the liquid effluent to be beneficially reused at the property via irrigation to pasture. The ponds are sized to ensure adequate storage of effluent during the wetter winter months when effluent application is not suitable.

All works are outside of waterways so there will be no change to existing stream flows and ecological function. During construction a soil and water management plan will ensure that the risk of sediment runoff and erosion is mitigated.

Given the above the proposal represents a very low environmental risk to the adjacent waterway.

APPROVED	26 MAR 1992 <i>M. J. J. G.</i> RECORDER OF TITLES	CONVERSION PLAN	REGISTERED NUMBER
FILE NUMBER	A.10444	CONVERTED FROM 57/9638	D.54020
		GRANTEE	DRAWN
		PART OF 210-0-0 GTD. TO JAMES JEFFREY	S.J.G. 20-3-92

SKETCH BY WAY OF ILLUSTRATION ONLY

~~CITY/TOWN OF~~
 LAND DISTRICT OF **DEVON**
 PARISH OF **KENTISBURY**
 LENGTHS ARE IN METRES. NOT TO SCALE
 LENGTHS IN BRACKETS IN LINKS/FEET & INCHES

