

Final report

Carwoola Digital Pilot – Post 12-month device installation reviewfrom the Hype to the Happening

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Abstract

In October and November 2018, Meat and Livestock Australia Ltd partnered with Carwoola Pastoral Company Pty Ltd to provide a four property ovine and bovine (with fodder crops) location for global solution providers to demonstrate their digital livestock solutions.

Twelve months on, some devices are providing value to CPC, others are still under evaluation, and some have been removed.

Of the 150 global solution providers invited to participate, fewer than 20 took up the challenge. This highlights the disparity between what Australian producers are seeing in the media compared with what they can actually purchase.

This report focuses on the devices installed, rather than the other services provided such as reporting systems, drone services and satellite services. These services are still being installed and evaluated.

Executive Summary

The Australian and global media provides evidence of a raft of digital livestock solutions that are apparently ready for producers to adopt and will make their business more efficient. Yet on the other hand producers Australia wide are either having difficulty in accessing these solutions, and or understanding the value proposition. Similarly, they are often unable to find solution suppliers that can provide a simple to understand whole of farm digital solution. Of course, there are spot examples where this is not the case.

Meat and Livestock Australia Ltd partnered with Carwoola Pastoral Company Pty Ltd (a four property group bovine and ovine livestock operation with fodder crops) to provide a commercial location for up to 150 global digital solution providers to demonstrate how their technology worked and the benefits it provided to producers.

Less than 20 suppliers installed solutions, some of these devices have since been removed and or are going to be removed due to a lack of commercial reliability.

The Carwoola Stage 1 pilot has demonstrated the benefit of MLA orchestrating such an opportunity for global solution providers and for producers to better understand what is deployable today.

Although the Stage 1 pilot installed devices, utilised satellite pasture monitoring tools, evaluated drones and reporting systems, this report is aimed only at providing an understanding of the devices installed and their robustness across the Carwoola property group.

Subsequent reports can be developed in the future that will provide a confidential report to each solution provider on their installed equipment and why certain devices are either being kept or removed. A third report can summarise the realised and potential cost benefit analysis (now that data is being accumulated for nearly 12 months). A fourth report can provide a summary of how the devices and solutions from different providers are synchronising with each other (or not) and how the eco-system operates with respect to the interaction between devices, towers, gateways, the cloud and reporting systems.

Table of Contents

- 1 5
- 2 5
- 3 5
- 4 6
 - 4.1 6
 - 4.2 11
 - 4.3 11
 - 4.4 11
 - 4.5 14
 - 4.6 14
 - 4.7 14
 - 4.8 16
- 5 16
- 6 17
- 7 17
- 8 18
- 9 19
 - 9.1 19
 - 9.2 20
 - 9.3 31
 - 9.4 32
 - 9.5 33
 - 9.6 37

1 Background

There are a significant number of studies and media articles that are claiming and or depicting (respectively) the benefits of digital agriculture. One such report is the recent Rural R&D for Profit Precision to Decision report¹. Globally the grains sector appears to have led the charge with significant gains being claimed as to the benefits of utilising satellite, Drones and infield sensor combinations to drive advice and decision making insights.

In Australia, and specific to livestock, there have been both various organisation and mechanisms supporting relevant livestock digital agriculture innovation developments and many media stories claiming that the technology providers were ready to deploy and the great gains to be achieved through on-farm deployment.

As of 2018 there appeared to be a limited number of successful Australian livestock based business deployments that could demonstrate the claims being portrayed in the media and or provide an opportunity for Australian producers to hear from other producers about the possible cost benefit analysis of a digital investment.

MLA worked with Carwoola Pastoral Company (CPC) to ascertain what was still hype and what was happening.

2 Project Objectives

To offer a commercial mixed livestock business (beef, sheep, lambs and fodder crops) location where global livestock digital solution providers could deploy and demonstrate their solutions over a long period of time and be compared against their competition.

To provide a commercial operation for MLA (and CPC) to evaluate the benefits to livestock business of digital livestock agriculture solutions, in a commercial setting.

To enable MLA to ascertain what solutions if any, being presented to MLA for innovation/R&D funding should be supported. Hence, ensuring that MLA was only investing in innovation funding request that was filling a commercial gap.

3 Methodology

In mid-2018 a small team at MLA, as a result of both various discussions with processors about not being able to access the technology portrayed in the media, and ongoing multiple requests to MLA by developers to develop even more devices, MLA sought the engagement of a pastoral company who was willing to try (and evaluate) any sensor that a solution provider believed was ready for commercial evaluation and or deployment.

¹ <https://www.crdc.com.au/sites/default/files/CRD18001-001%20CRDC%20P2D%20Report%20low%20res.pdf>

Carwoola Pastoral Company (CPC), comprising of four properties in the Canberra/Yass region of NSW, agreed to be the host over an initial 12 month period with on-going 12 month extensions to be agreed each 12 months.

MLA and CPC General Manager (Darren Price) developed a combined shopping list of digital livestock solutions that would either be fit for purpose for the CPC business and or MLA wanted to evaluate on behalf of the industry. (Appendix 9.1)

MLA at the time had a global supplier database list (developed via internet searching) that comprised of 150 providers who all either claimed in the media or on their websites that they had solutions for the livestock sector. (Appendix 9.2)

MLA (and CPC) developed a request for tender and issued it to all on the database, where the contact details could be obtained. MLA had over 30 responses with some immediately stating that they were not able to provide a solution. Others after attending an initial onsite inspection declined to progress with a deployment of their technology.

All solutions were installed over the same 4-6 week period and at the time of this report have been operational for 13 months. It was intended after 12 months of installation that some devices would be:

- removed from service as they were not fit for purpose
- relocated to other parts of the operation
- removed from service and used as props at speaking events
- removed and stored as spares at CPC.

4 Results

4.1 Installation base (the devices)

In total there were 18 companies who deployed devices or provided services. The devices that each company installed are contained in Appendix 9.3, with a schematic of the installation based contained in Appendix 9.4.

All the devices installed have been photographed, geo-located and depicted in Google Earth Pro, contained in Appendix 9.5.

Appendix 9.6 contains a list link to the online photographs and geo-location of each device.

A montage of installation devices and communication towers (examples) follows.



Weather stations ([photo link](#))



Rain gauges



Gate sensors ([photo link](#))



Soil probes ([photo link](#))



Trough sensors ([photo link](#))



Tank sensors ([photo link](#))



Communications ([photo link](#))



Animal tags ([photo link](#))



Environment sensor ([photo link](#))



Pump control ([photo link](#))



Asset tracker ([photo link](#))



Grain silo level ([photo link](#))



Dam level ([photo link](#))



River level ([photo link](#))



Diesel tank ([photo link](#))



Animal handling ([photo link](#))



Smart Tag Coms. Twr. ([photo link](#))



UHF Tag Coms. ([photo link](#))

4.2 Installation base (early removal)

Some companies who deployed were asked to remove their solutions shortly after installation due to solutions proving that they were not commercially ready. These companies and their solutions have been omitted from the body of this report.

One company (MooCall) provided a device that worked exactly as advertised, with great on-going service and support to CPC GM. The calving device provided reported correctly when calving was occurring, however is more suited to a dairy producer, than a livestock producer.

4.3 Installation base (robust solutions)

Water tank level sensors, grain silo level sensors, diesel level sensors, rain gauges, weather stations, animal handling crushes and electric fence monitoring all proved to be robust hardware devices.

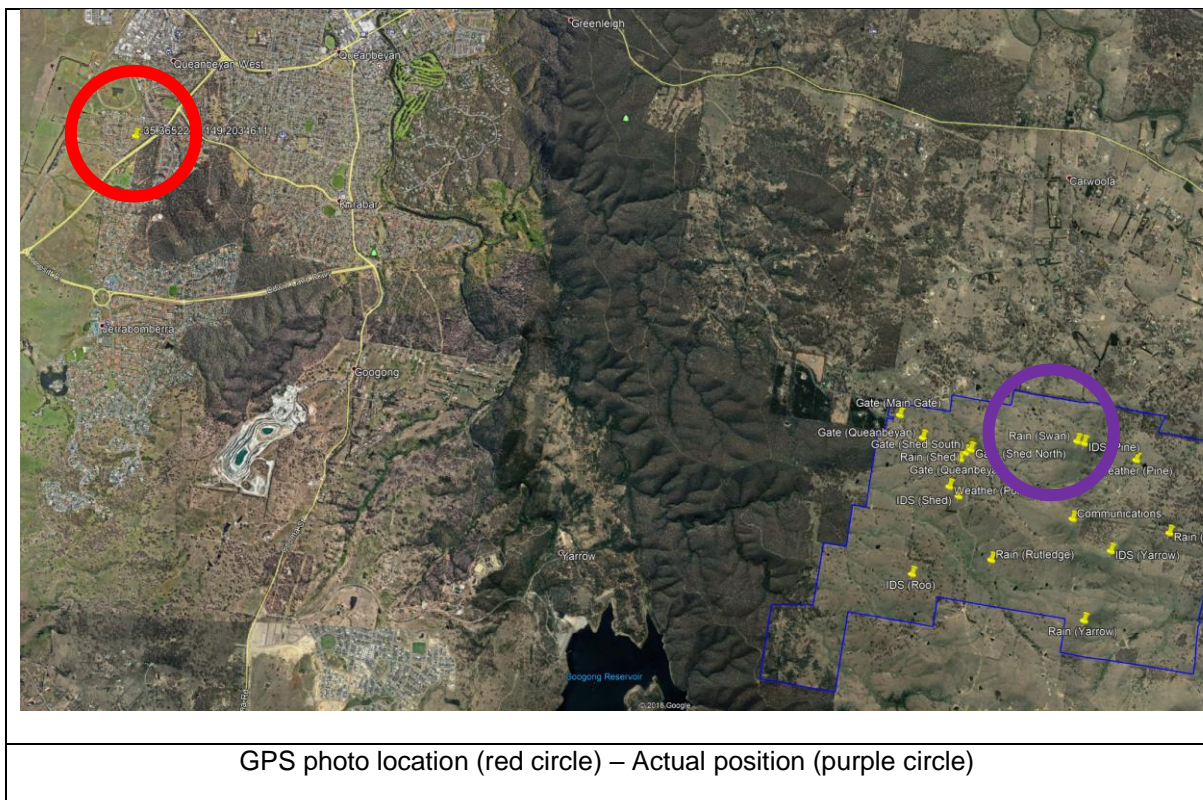
4.4 Installation base (solutions requiring more development)

Solution providers with solutions in the area of smart animal tags, asset trackers, and gate sensors showed promise however these technologies required further development and re-evaluation in commercial situations.

Livestock tags are nonetheless vexed either application (to the animal) and or retention issues or on occasion both, however the solution providers are constantly improving this aspect.

Asset trackers provided all relied on LoRaWAN or SigFox connectivity. As such the devices worked whilst on property, however if the asset was removed from property then there was no way of knowing its location, unless it passed through an area where it could acquire either LoRaWAN or SigFox connectivity. For assets that do not leave a property base they may provide a location value, however as an anti-theft insurance value add, they currently have limited value. Some also supply a “point in time” speed capability which is probably of little use.

Any device utilising GPS (animal or asset trackers) are still limited by the accuracy of GPS signals. The contributors to this report noticed the limitations of GPS when undertaking the photoshoot for this report. The following rain gauge (Swan paddock) asset is deployed on the Taliesin property, yet the GPS from the photo taken places the device closer to Canberra. As the crow flies this rain gauge is 12kms away from its actual location.



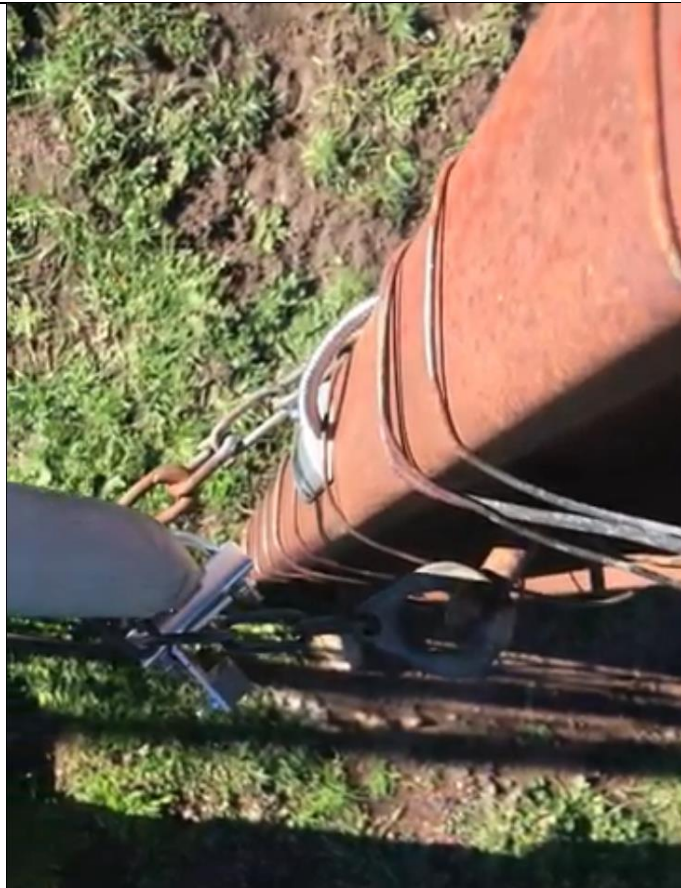
Gate sensors need to be readily deployable for a wide range of gates (double and single), one way and two-way opening configurations, and gates in various stages of upkeep. Gate sensors installed on locations such as doors and cattle ramp slide gates performed admirably. However, gates installed on most paddock locations failed. The two failure modes where either the sensor being crushed and or damaged by livestock, or the movement in the gate at the chain end was such that the sensor could not ascertain if the gate was open or closed. All the internal paddock gate sensors at Carwoola Pastoral will be removed.



Damaged sensor ([photo link](#))



Livestock damage ([photo link](#))



Gate movement ([video link](#))

4.5 Installation base (solutions that did not work)

Sensors for apiary's were evaluated. The sensors evaluated were removed early during the pilot as their design was not commercially robust for application within a hive. The bees deposited propolis on the sensors and rendered the sensor in a state of providing false readings.

4.6 Installation base (solutions installed but not tested)

A pump control has been installed at the Brooklands property. At the time of writing this report, the communication system at Brooklands has not been consistently stable enough to reliable test the pump control device.

4.7 Installation base commercial readiness (summary)

The following table depicts the state of commercial readiness for the sensor groupings trialled at Carwoola during the late 2018 and 2019 period. CPC and MLA acknowledge that

all solution providers have continued to evolve their offerings and as such the following is a summary of the device integrations installed late 2018.

Device	Commercially Ready	Shows promise ⁽¹⁾	Not ready	Still to be evaluated ⁽²⁾
Weather stations	•			
Rain gauges	•			
Gate sensors		•		
Door sensors	•			
Soil probes	•			
Trough sensors	•			
Tank sensors	•			
Animal tags		•		
Diesel tank sensor	•			
Animal handling	•			
Environment sensor				•
Pump control				•
Asset tracker		•		
Electric fence monitoring	•			
Grain silo level	•			
Dam level	•			
Apiary			•	
Satellite pasture monitoring		•		
Walk over weighing				•
Virtual fencing				•
Electric vehicles				•
CCTV				•
Human safety				•
Pivot control				•

Tilt monitoring				•
Unleaded tank sensor				•

Notes:

- (1) The product is still evolving and should become commercially ready within the next 1-2 years, or under the right conditions there may be a value proposition.
- (2) Device installed but not evaluated (blue), or device was never provided for evaluation or was not cost effectively offered (red)

4.8 Importance of livestock exclusion fencing

All solution providers where required to provide suitable and appropriate protection or guarding for their installed devices against livestock and pests. Where possible some utilised existing exclusion fencing and in other situations purpose installed exclusion fencing was required. The following image and video link provides an example of why this is important.



Exclusion fencing being tested by young cattle. ([video link](#))

5 Discussion

The Stage 1 pilot has afforded those solution providers who participated the opportunity to deploy and evaluate their device offerings both at a commercial scale and in a commercial setting. There has been a range of learnings for all providers, whether their technology has performed as expected or not.

By offering commercial pilots such as this, MLA and CPC have provided one of the missing gaps in the innovation pipeline which is often neglected. There are ample opportunities for inventors (at the early stage of innovation) and developers (in the middle stage of innovation)

to acquire access to innovation funding, however there are limited programs available for inventors and developers at the commercial deployment stage of the innovation journey.

The CPC pilot has resulted in the program being discussed and or presented at more than 20 conferences and field days, with many producers and developers alike, wanting to visit the CPC installation base.

In addition to the interest in the CPC Stage 1 pilot by both producers and developers, and with a significant number of items on the original shopping list still not deployed, MLA and CPC have agreed to enter into a Stage 2 pilot during 2019-2020. MLA, with the involvement of CPC's General Manager is also deploying similar Stage 1 pilots in other Australian locations.

6 Conclusions/Recommendations

This project has achieved its three main objectives and CPC as agreed to continue to work with MLA in this area under a Carwoola Stage 2 pilot.

It was concerning to all involved that the number of solutions that were in the media during 2016-2018, such as walk over weighing, virtual fencing and smart livestock tags (sheep and beef) did not materialise for the CPC Stage 1 pilot.

Twelve months on and with the commencement of the Romani digital pilot and the CPC Stage 2 pilot, it is clear that MLA has a vital role to play in the innovation continuum. This is not just in investing in the research and development side of digital agriculture but also in providing opportunities for developers/solution providers to demonstrate to themselves and the industry, both the robustness and benefits of their solutions on commercial working operations.

These on-farm deployments have also afforded MLA an opportunity to review upcoming innovation funding requests with a clear understanding of what the gaps are within the solutions currently on offer. For example, with the recent Romani request for supply of digital solutions, there are now ten or more companies offering smart animal tags. As such MLA is not required to invest in new tag requests but should invest in providing competitive opportunities for the various suppliers to deploy commercially side by side.

7 Key Messages

Deploying a.....*from the Hype to the Happening*.....pilot has demonstrated that what producers are seeing in the media is far from what is a commercial reality.

Some digital livestock business devices are commercially ready now and can provide a return on investment to a producer depending on both their business and their life values.

Having commercially operated locations for solution providers to install, demonstrate and evaluate their offerings is an important part of the innovation chain, for them and future end users (aka producers).

8 Bibliography

9 Appendix

9.1 Digital Livestock Shopping/ Wish List

	Caruuala 2000 ha	Brankland 2800 Ha	Tallierin 1260 Ha	Cloude 350 Ha
Azzot tracking	Hilux (x1) Quad (x3) Agra drill Food cart (x2) Tractor (x1) Trailer (x1)	Quad (x2) Food cart (x1) Tractor (x1)		
Flood watch	River			
Water Tank	x4	x5		
Diesel Tank	x3	x1		
Unloaded Tank	x1	x1		
Weather station	x4	x2	x2	x1
Wind, rain, humidity, temperature, delta T spraying (dryfoot bulb), Wind speed & direction				
Apiary Monitoring	x1			
Smoke Detector	x10	x6		
Shed Monitoring	x2	x2		
Soil probe	just pivots 2 each + ring r paddack			
Grain silo	x1	x3		
Water quality	x5			
Tilt monitoring (audible)	3	2		
Lane marker	2	1		
Bare pump flow rate	Bare pump flow Bare pump pressure Pivot flow x3 Pivot pressure x3	Bare pump flow Bare pump pressure		Bare pump flow Bare pump pressure
Water trough	cattle yard (x1) paddock trough (x4)			
Electric fence	1 generator			
Gate	Special gate x10	x10	Right of way x10	x10
GaProbe + GaSat				
Cattle Grid (?)	x1			
Camera Entry	x2	x1	x1	x1
Fence line monitoring		5km		
Security General				
CCTV	x1	x1	x1	x1
Cattle				
Calving	420	430		
Dry	0	250	115	60
Sheep	3000			

9.2 Global solution providers

Note: this is an updated list since mid-2018.

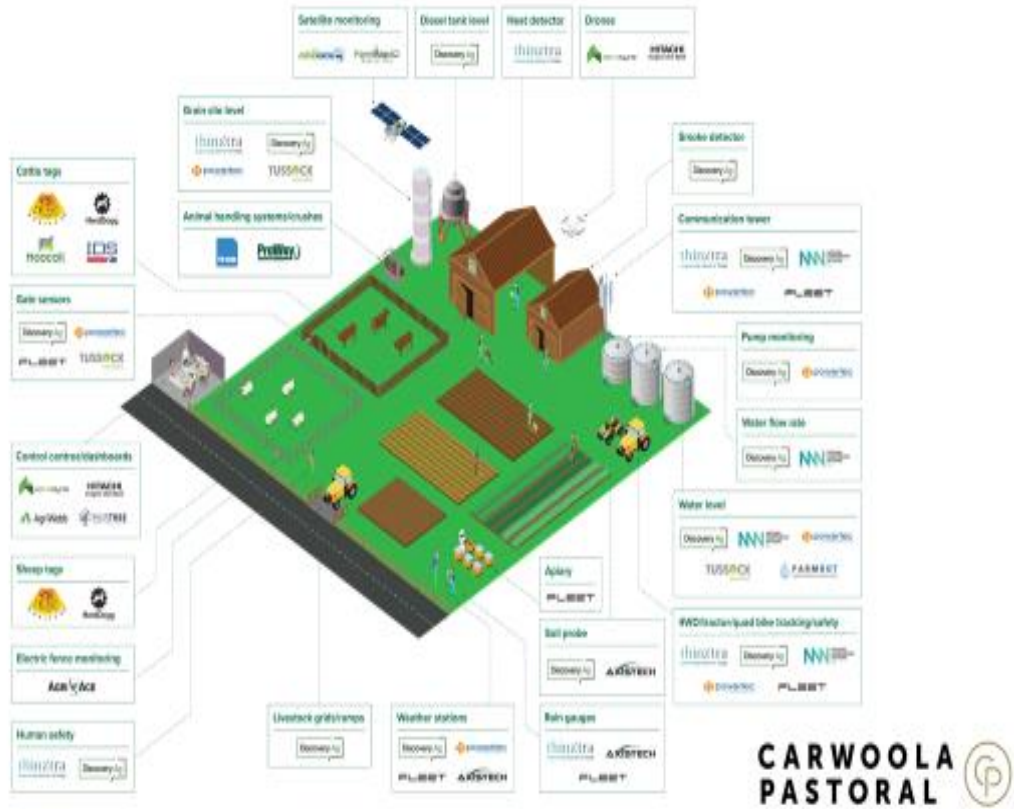
Supplier	Website	Measurements														Connection									
		T	C	Q	L	G	H	W	S	V	A	P	O	F	D	P	S	D	W	R	L	N	B	O	
1	37 South	https://37s.com.au/	•																						
2	afiAct 11 Leg tag	www.afimilk.com																							
3	Agensens (eShepherd)	https://agensens.com/eshpherd/																							
4	AgMesh	www.agmesh.com.au																							
5	AgriAce	http://agriace.com/																							
6	AgriSmart	http://agrismart.co.uk																							
7	Allflex (SCR)	https://www.allflex.com.au/																							
8	AniTrace	http://anitracenet/																							
9	AquaCheck	http://www.aquachecktech.com/																							
10	AquaFlex	http://www.aquaflex.co.nz/																							
11	AutoMed	www.automed.io																							
12	AutoMilk	http://www.automilk.com																							
13	AWI	https://www.wool.com/on-farm-research-and-development/sf																							
14	AxisTech	www.axistech.co																							
15	BovControl	https://www.bovcontrol.com/en/																							
16	Cattle Tags Technology																								
17	CattleWatch	www.cattle-watch.com																							
18	Ceres Tag	www.cerestag.com																							
19	ClifRT Technologies	www.clifweight.com																							
20	Cow Call	Web page currently unavailable																							
21	Cow Manager	https://www.cowmanager.com/en-us/																							
22	Cow Monitor	cowmonitor.com																							
23	cow scout	www.gea.com																							
24	CowAlert	http://the.cowalert.com/																							
25	CowLAR	https://cowlar.com/																							
26	CowScout	https://www.gea.com																							
27	CowView	www.gea.com																							
28	Davis	www.davisnet.com																							
29	Digit Animal	https://digitanimal.com/?lang=en																							
30	Direct Injection Tech.	https://directinjectiontechnologies.com.au/																							
31	Dunraven Systems	https://www.dunravensystems.com/																							
32	EcoThought Pty Ltd	www.ecothought.com																							
33	eCow	https://www.ecow.co.uk/																							
34	Ellenex	https://www.ellenex.com/																							
35	EmbedVet	https://livestocklabs.com																							
36	EnviroNode Systems	https://dosec.com.au/products/environode/																							
37	Ewos	https://www.ewos.com/																							
38	Farmax	www.farmax.co.nz																							
39	FarmBot	www.farmbot.cem.au																							
40	Farmo																								
41	Farmtec	(a smart collar for determining sheep genetics)																							
42	FaultAlert	https://www.mindloch.com/																							
43	FeverTags																								
44	Flashmate	https://am.gallagher.com/au/products/heat-detector																							
45	Flicq	www.flicq.com																							
46	Flurosat	https://www.flurosat.com/																							
47	Fort Supply Technologies	https://www.fort-supply.com/																							
48	Furrow	www.furrow.com.au																							
49	Gallagher	www.gallagher.com																							
50	Goanna	www.goannatemetrv.com.au																							
51	Green Clyzen	https://www.greenclyzen.fr/en/home/																							
52	Greenseeker	https://www.trible.com/																							
53	GrowSafe	www.growsafe.com																							
54	GYUHOaaS	https://www.fuji-tsui.com/fjp/group/kyushu/en/solutions/industry																							
55	Halo																								
56	Halter	https://www.halter.co.nz/																							
57	HeatmeHR & PRO	www.scrdairy.com																							
58	HerdDogg	www.herddogg.com																							
59	HerdInsights	https://www.herdinsights.com/																							
60	IceTag	http://www.icerobotics.com																							
61	ICT International	www.ictinternational.com.au																							
62	IDS Australasia	https://www.idscorporation.com/ids-subidiaries/ids-australasia/																							
63	IoTtag	https://www.iotag.com.au/																							
64	John Deere	www.deere.com																							
65	Libellum	http://www.libellum.com/																							
66	LiveCare	https://www.livecare.xvz/new/																							
67	MAIT	www.mait.com.au																							
68	Medria																								
69	Meshed	www.meshed.com.au																							
70	Metos	www.metos.com.au																							
71	MooCall	www.moo-call.com																							
72	MooMonitor	https://moomonitor.dairymaster.com/																							
73	MOOnitor	http://www.moonitorcows.com/																							
74	Moonsyst	www.moonsyst.com																							
75	mOovement	www.moovement.com																							
76	moow	moow.farm																							
77	Moow Smart	http://www.maformdesign.com/references-1/2016/10/13/moow																							
78	Myriota	www.myriota.com																							
79	Nanoscent	(patented nanosensors and proprietary software - animal health)																							
80	Nedap	www.nedap.com																							
81	Nightwatch	http://www.nightwatch24.com/																							
82	NoFence	www.nofence.io																							
83	Observant	https://observant.net/																							
84	Origo.farm	www.origo.farm																							
85	Out of box solutions	http://outofboxsolutions.com.au/services/agtech/																							

9.3 Providers to Carwoola Project

	Carwoola (2,000 Ha)				Brooklands (2,800 Ha)			Talesia (1,260 Ha)		Clouds (350 Ha)		
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty		
Cattle (calving)	420	Thintra	DiscoveryA	AgriAce	Fleet	430	Powertec	Various	DiscoveryAg	DiscoveryA		
Cattle (dry)	0	(Reasid)	(Alicia)			250	(Geoff)	Others	115	(Alicia)	60	(Alicia)
Sheep/Lambs	3000	Sigfox	LoRaWAN			3000	LoRaWAN					
	Requested	Installed										
Paddock Base Stations / Network		•	•				•		•	•		
Homestead and Buildings Internet	x1	0	0									
Asset tracking	Hilux (x1)	•	•									
	Quads (x3)	•	•			Quads (x2)	•					
	Agro Drill	•	•									
	7	2										
	Feed cart (x2)	•	•			Feed cart (x1)	•					
	Tractor (x1)	•	•			Tractor (x1)	•					
	Trailer (x1)	•	•									
Flood watch	x1 (River)	•	0	•								
Water Tanks	x2	•	2	•		x5	5	•				
Turkeys Nests	x2	22	•	1	•							
Dams	x22	•	11	•								
Water troughs (Level)	x5	•	1	•								
Water troughs (flowrate)	x5	0	5	•								
Water quality	x5	0	0									
Diesel Tanks	x3	3	•	1	•							
Unloaded Tanks	x1	0	0	•		x1						
Weather Stations	x4	2	•	2	•	x2	4	•	2	•	1	•
Rain gauges	x5	5	•	5	•	x5			1	•	5	•
Apiary Monitoring	x1	0	2		•							
Smoke Detector	x10	0	0			x6						
Shed Monitoring	x2	2	•	2	•	x2						
Soil probes	x8	5	•	3	•	x4	4	•				
Grain silo	x1	1	•	1	•	x3	3	•				
Tilt monitoring (audible)	x3	3	•	3	•	x2						
Lone worker	x2	2	•	2	•	x1						
Bore pump & Pivot flowrate	x3	0	3	•		x1	1	•		1	•	
Bore pump & Pivot pressure	x3	0	0			x1				1	•	
Electric fence	x1	0	1		•							
Gates	x11	11	•	11	•	x10	10	•	10	•	10	•
Cattle Grid / Livestock Ramps	x1		1	•								
Fenceline monitoring						x1 (5 kms)						
Security General												
CCTV (farm entry gates)												
Total	63					31			13		18	
Others (one off solutions)												
Mindlock (Electric Fence)	1				•							
Farmbot (Water tank)	1				•							
Observant (water)												
Hitachi - Control Centre and Drones					•			•		•		
Aerodyne Drones & Asset monitoring					•					•		
FarmMap4D					•					•		
Cibo Labs (Phil Tickle)					•					•		
Animal Tags												
Moo Call												
- Calving Tags	10											
AgriScan												
- Sheep UHF Tags	#											
- Cattle UHF tags	40										60	
- UHF reader	1								1		1	
IDS												
- Beef Tags (each)	#								115		60	
SoftBank												
- Cattle Bolus												
- Readers												
HerdDogg (100 tags coming)												
- Cattle Tags												
- Sheep Tags												
- Readers												

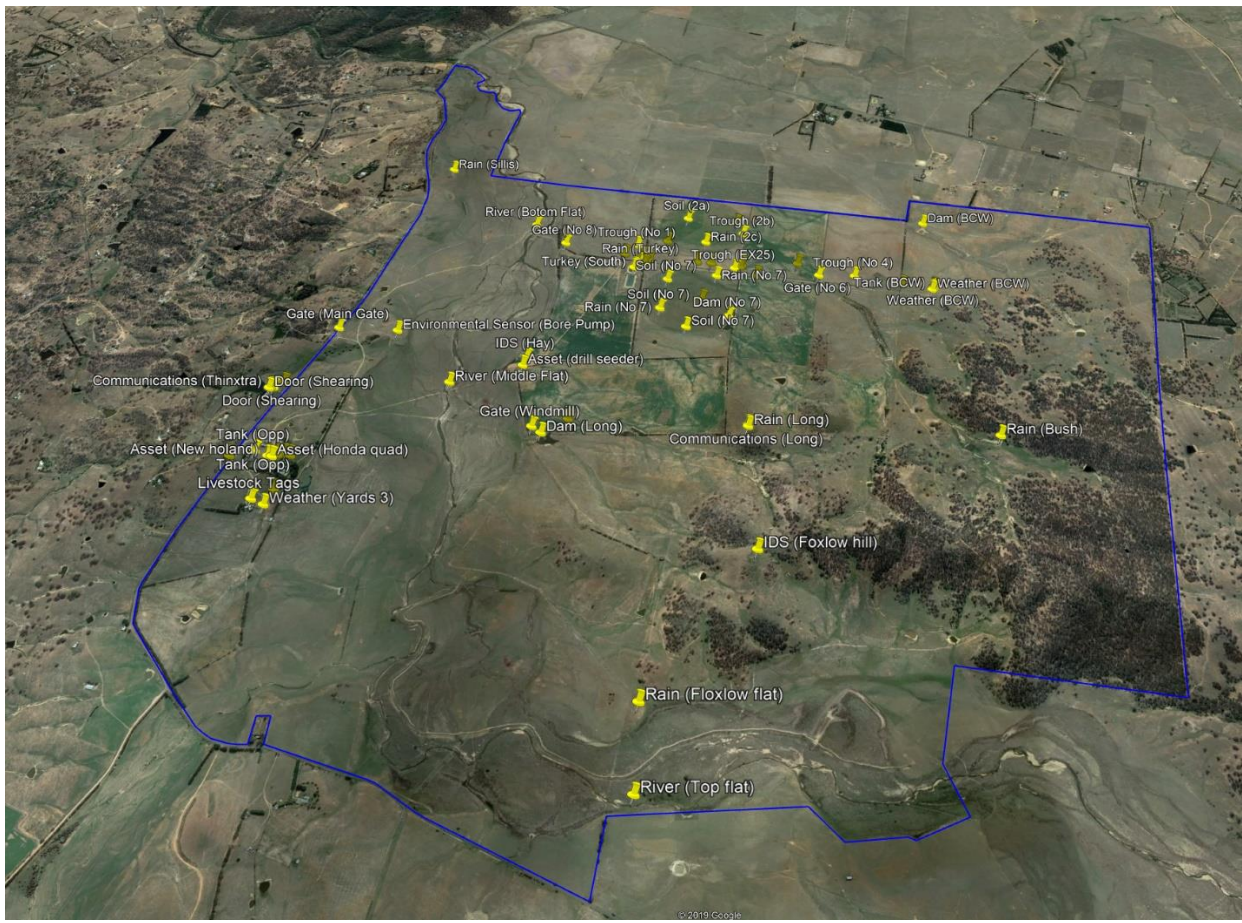
9.4 Schematic of the installation base

Install Base (400+ devices)

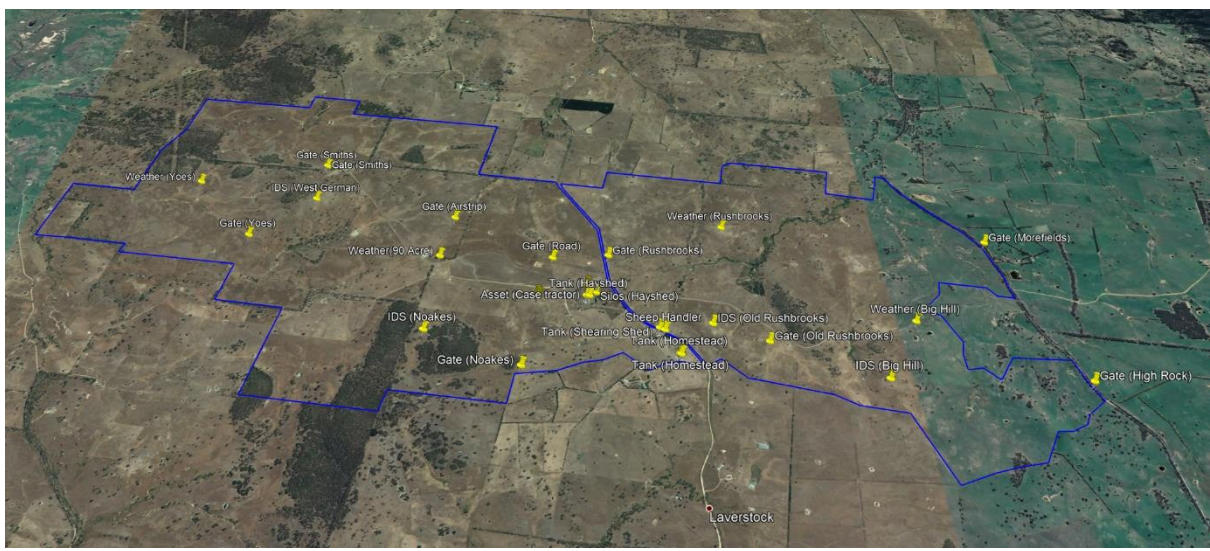


9.5 Google Earth locations

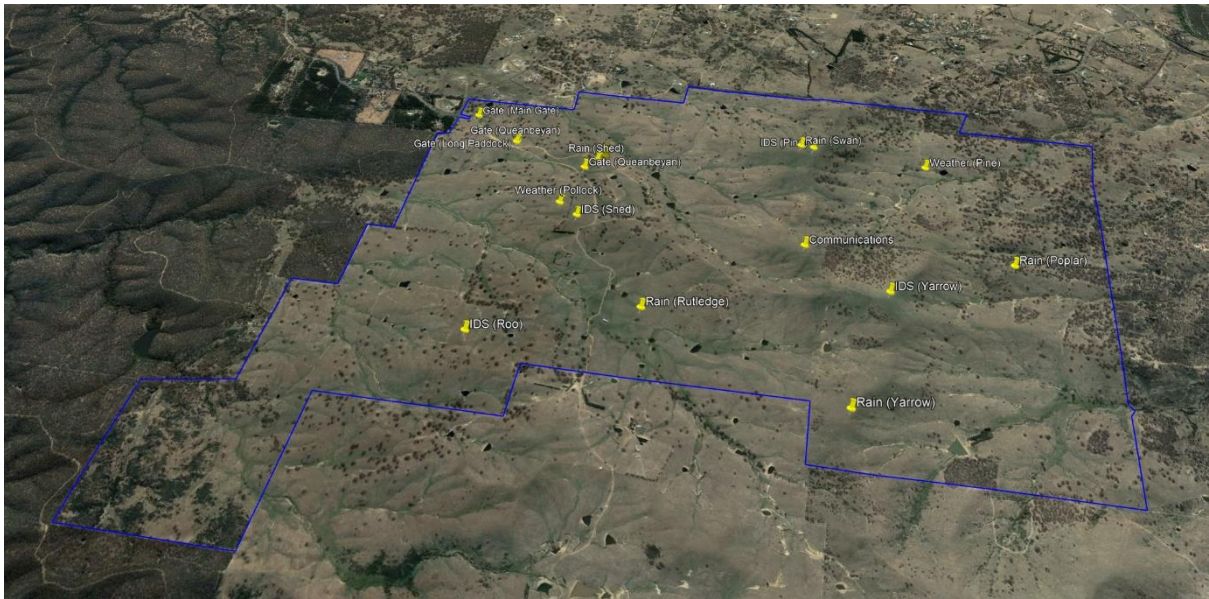
Carwoola Station



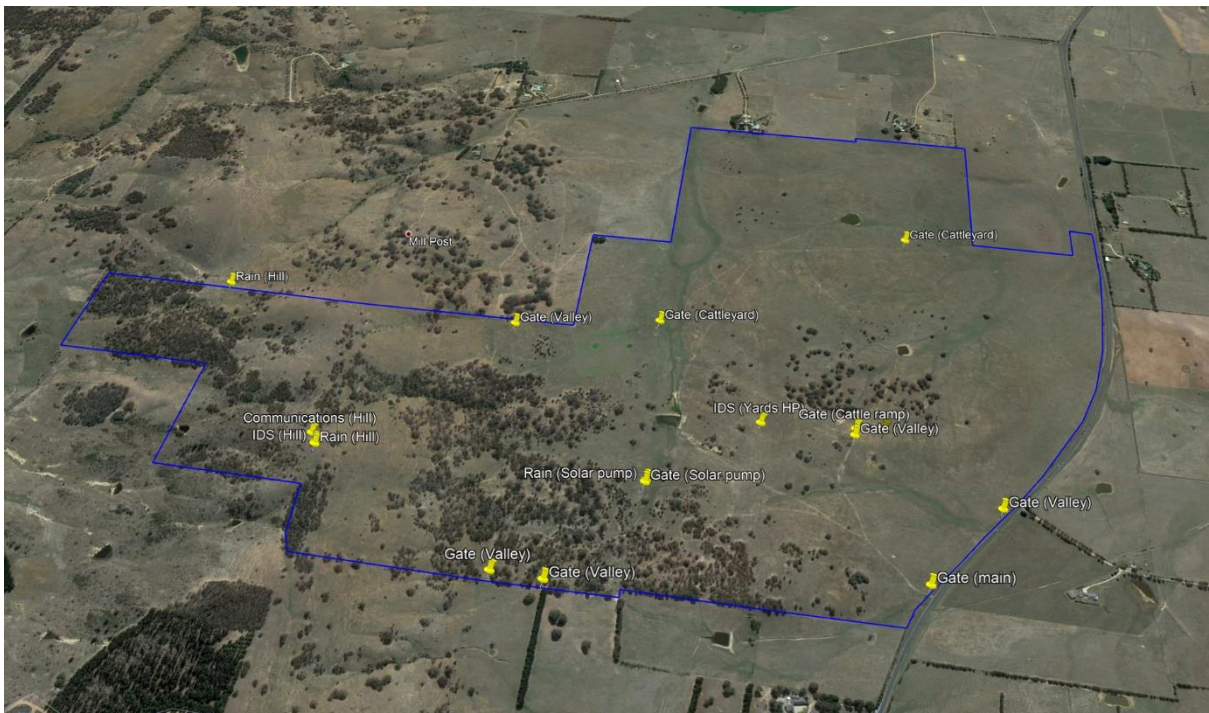
Brooklands



Taliesin



Clouds



[Link to the Google Earth Pro kmz file](#) that can be imported into Google Earth.

9.6 Online photographs and geo-location Carwoola station.

1	Carwoola - Gate Sensor - Main Gate #1 (Goanna)	Goanna Ag	35°24'59.8"S 149°22'52.1"E	https://photos.app.goo.gl/vFGGcXm5bZ64zCbo6
2	Carwoola - Environmental Sensor - Sola #1 (GoannaAg)	Goanna Ag	35°25'00.5"S 149°23'05.0"E	https://photos.app.goo.gl/tgnxFWQfPwmqdeGx7
3	Carwoola - Rain Gauge - Sillis Paddock #1 (GoannaAg)	Goanna Ag	35°24'11.3"S 149°23'10.7"E	https://photos.app.goo.gl/QYzY35yWB1Hqc7Sy8
4	Carwoola - River Flood Sensor - Bottom Flat Hole #1 (WaterWatch)	WaterWatch	35°24'29.7"S 149°23'33.1"E	https://photos.app.goo.gl/ZZzfme6jPs5xiyg9
5	Carwoola - Gate Sensor - Bottom Flat #1 North East (GoannaAg)	Goanna Ag	35°24'34.0"S 149°23'39.6"E	https://photos.app.goo.gl/TbzJrxZ2GQb898NJ9
6	Carwoola - Gate Sensor - No 8 Paddock #1 North West (GoannaAg)	Goanna Ag	35°24'35.4"S 149°23'40.7"E	https://photos.app.goo.gl/TJasxGPi4SdDbwf7
7	Carwoola - Gate Sensor - No 8 Paddock #1 North East (GoannaAg)	Goanna Ag	35°24'38.6"S 149°23'54.9"E	https://photos.app.goo.gl/hSf4ahLrMkiJNCKT7
8	Carwoola - Gate Sensor - No 8 Paddock #2 North East (GoannaAg)	Goanna Ag	35°24'38.7"S 149°23'55.1"E	https://photos.app.goo.gl/dkhgCn3YBDYY41jN9
9	Carwoola - Gate Sensor - Turkeys Nest Paddock #1 (WaterWatch)	Ento	35°24'39.2"S 149°23'59.8"E	https://photos.app.goo.gl/TNNA68LDkq5apEYR8
10	Carwoola - Water Tank Sensor - Turkeys Nest Paddock #1 (WaterWatch)	WaterWatch	35°24'40.1"S 149°23'59.0"E	https://photos.app.goo.gl/MZhGoK3iR711sLQg6
11	Carwoola - Rain Gauge - Turkeys Nest Paddock #1 (GoannaAg)	Goanna Ag	35°24'40.1"S 149°23'58.9"E	https://photos.app.goo.gl/YjgFCzSnbDZ4VHZNA
12	Carwoola - Water Level - Turkeys Nest North #1 (WaterWatch)	WaterWatch	35°24'41.0"S 149°23'58.7"E	https://photos.app.goo.gl/gHZ5qMS52eQ58NPJ8
13	Carwoola - Dam Water Level Sensor (South Turkeys Nest)	Goanna Ag	35°24'42.4"S 149°23'57.5"E	https://photos.app.goo.gl/VBCyGCxHEqWz8CGi8
14	Carwoola - Water Level - Turkeys Nest South #1 (WaterWatch)	WaterWatch	35°24'42.4"S 149°23'57.6"E	https://photos.app.goo.gl/EZ5maiftSZcSzT4f7
15	Carwoola - Rain Gauge - Turkeys Nest #1 (AxisTech)	AxisTech	35°24'41.1"S 149°23'59.1"E	https://photos.app.goo.gl/3tHnPVmEpW1DgYQd6
16	Carwoola - Asset Tracker - Fuel Trailer #1 (GoannaAg)	Goanna Ag	35°24'41.6"S 149°23'59.7"E	https://photos.app.goo.gl/uh86uNDRtXAV92T9
17	Carwoola - Asset Tracker - Fuel Trailer #1 (Thintra)	AxisTech	35°24'41.6"S 149°23'59.7"E	https://photos.app.goo.gl/c1k28PaFxtwJ6Be7
18	Carwoola - Diesel Tank Level - Turkeys Nest #2 (GoannaAg)	Goanna Ag	35°24'41.0"S 149°23'59.2"E	https://photos.app.goo.gl/iB28PBj4d9zimDku9
19	Carwoola - Water Trough Level - Ln 8 1 Paddock #1 (WaterWatch)	WaterWatch	35°24'40.1"S 149°24'00.7"E	https://photos.app.goo.gl/JrZsrcymqTN9PLEP8
20	Carwoola - Water Trough Level - No 1 Paddock #1 (WaterWatch)	WaterWatch	35°24'35.7"S 149°23'57.6"E	https://photos.app.goo.gl/peal37ins8w7PrKS6
21	Carwoola - UHF Water Trough Reader - No 1 Paddock #1 (Agriscan)	Agriscan	35°24'36.1"S 149°23'58.0"E	https://photos.app.goo.gl/92zSG5QPNeMF7rDL6
22	Carwoola - Gate Sensor - No 7 Pivot Paddock #1 (GoannaAg)	Goanna Ag	35°24'41.1"S 149°24'12.1"E	https://photos.app.goo.gl/fAmXsTj1t6dB2kMB8
23	Carwoola - Soil Probe - No 7 North Paddock North West #1 (GoannaAg)	Goanna Ag	35°24'46.2"S 149°24'05.3"E	https://photos.app.goo.gl/X236aNdEm3e2z3V88
24	Carwoola - Soil Probe - No 7 North Paddock South West #1 (AxisTech)	AxisTech	35°24'54.4"S 149°24'03.8"E	https://photos.app.goo.gl/gwtcC7Q6NvmABCNx8
25	Carwoola - Rain Gauge - No 7 North Paddock South West #1 (AxisTech)	AxisTech	35°24'54.4"S 149°24'03.9"E	https://photos.app.goo.gl/2XQxhXfGNPpHMzsh9
26	Carwoola - Soil Probe - No 7 South Dam Paddock #1 (GoannaAg)	Goanna Ag	35°24'59.5"S 149°24'09.8"E	https://photos.app.goo.gl/aQ3nb7phepb47nmz8
27	Carwoola - Dam Level - SC Paddock #1 (WaterWatch)	WaterWatch	35°24'56.6"S 149°24'19.4"E	https://photos.app.goo.gl/AtJWqozjAHZWLueA
28	Carwoola - Soil Probe - No 7 North Paddock #1 At Pivot Head (GoannaAg)	Goanna Ag	35°24'51.8"S 149°24'13.3"E	https://photos.app.goo.gl/gSFKsmDPwijnVE34F7
29	Carwoola - Rain Gauge - No 7 North Paddock #1 North East (AxisTech)	AxisTech	35°24'45.2"S 149°24'16.7"E	https://photos.app.goo.gl/cnVgaxCs4aaMd7Tr8
30	Carwoola - IDS Communication - No 7 North Paddock #1 (IDS)	IDS	35°24'41.5"S 149°24'15.5"E	https://photos.app.goo.gl/3BLrqKHMawdaiHnz8
31	Carwoola - Water Trough Level - EX25 Paddock #1 (WaterWatch)	WaterWatch	35°24'42.6"S 149°24'20.8"E	https://photos.app.goo.gl/6APpn2T93dGxazKM8
32	Carwoola - Gate Sensor - EX25 Paddock #1 (GoannaAg)	Goanna Ag	35°24'41.9"S 149°24'22.9"E	https://photos.app.goo.gl/iDn2qAtPf1XsDUUW7
33	Carwoola - Water Trough Level - No 6 Paddock #1 (WaterWatch)	WaterWatch	35°24'45.1"S 149°24'25.9"E	https://photos.app.goo.gl/At1tExR7cGVMn7ndk9
34	Carwoola - Gate Sensor - No 6 #1 (GoannaAg)	Goanna Ag	35°24'45.1"S 149°24'40.6"E	https://photos.app.goo.gl/TVta5YeCxtUed7c9

3 5	Carwoola - Gate Sensor - No 2c Paddock #2 (GoannaAg)	Goanna Ag	35°24'42.0"S 149°24'22.4"E	https://photos.app.goo.gl/bn8EfPCoq2UqkQ936
3 6	Carwoola - Gate Sensor - No 2c Paddock #3 (GoannaAg)	Goanna Ag	35°24'42.0"S 149°24'22.6"E	https://photos.app.goo.gl/i5ei2fboxbBFme17A
3 7	Carwoola - Rain Gauge - No 2c Paddock #1 (AxisTech)	AxisTech	35°24'35.2"S 149°24'14.2"E	https://photos.app.goo.gl/tW5HHrB6B13sCmz7A
3 8	Carwoola - Soil Probe - No 2c Paddock #1 (AxisTech)	AxisTech	35°24'35.2"S 149°24'14.2"E	https://photos.app.goo.gl/uk4fYdhabXsRa2X8
3 9	Carwoola - Dam Level - No 2d Paddock #1 (WaterWatch)	WaterWatch	35°24'33.9"S 149°24'06.6"E	https://photos.app.goo.gl/5z86dT73fZiNRZ2b7
4 0	Carwoola - Soil Probe - No 2a Paddock #2 (AxisTech)	AxisTech	35°24'27.7"S 149°24'09.9"E	https://photos.app.goo.gl/p4fKeSsRPg6otJts8
4 1	Carwoola - Rain Gauge - No 2b Paddock #1 (AxisTech)	AxisTech	35°24'29.2"S 149°24'21.7"E	https://photos.app.goo.gl/VWzu16zBEjkGzVA28
4 2	Carwoola - Soil Probe - No 2b Paddock #2 (AxisTech)	AxisTech	35°24'29.2"S 149°24'21.7"E	https://photos.app.goo.gl/9G4sNZHhImRVK4TL9
4 3	Carwoola - Water Trough Level - No 2b Paddock #1 (WaterWatch)	WaterWatch	35°24'32.6"S 149°24'23.2"E	https://photos.app.goo.gl/M7TwYuBVMNQ4p2Cy6
4 4	Carwoola - Dam Level - No 3 Paddock #1 (WaterWatch)	WaterWatch	35°24'41.3"S 149°24'35.2"E	https://photos.app.goo.gl/2CxrIHid5dw9K7QJ9
4 5	Carwoola - Water Trough Level - No 4 Paddock #1 (WaterWatch)	WaterWatch	35°24'46.4"S 149°24'51.7"E	https://photos.app.goo.gl/oLTYvWgofFDPoP9c8
4 6	Carwoola - Gate Sensor - Back Corner West Paddock #2 (WaterWatch)	Ento	35°24'47.7"S 149°24'59.5"E	https://photos.app.goo.gl/wrfe46YvY5HXFvQ7
4 7	Carwoola - Water Tank Sensor - Back Corner West North Tank #1 (WaterWatch and FarmBot)	WaterWatch & Farmbot	35°24'48.3"S 149°25'06.6"E	https://photos.app.goo.gl/yErKmeEdP5imXqsn9
4 8	Carwoola - Gate Sensor - Back Corner West Tanks Paddock #1 (WaterWatch)	Ento	35°24'48.7"S 149°25'06.6"E	https://photos.app.goo.gl/7547JuCRKFPnzZDr6
4 9	Carwoola - Weather Station - Back Corner West Paddock #1 (AxisTech)	AxisTech	35°24'49.2"S 149°25'06.4"E	https://photos.app.goo.gl/xvPLuB3mbsWjuUXm9
5 0	Carwoola - Weather Station - Back Corner West Paddock #1 (GoannaAg)	Goanna Ag	35°24'48.7"S 149°25'07.0"E	https://photos.app.goo.gl/ZoepvYvjSUZx6JtX8
5 1	Carwoola - Water Tank Sensor - Back Corner West South Tank #1 (WaterWatch)	WaterWatch	35°24'48.8"S 149°25'06.6"E	https://photos.app.goo.gl/WXEWsvu8GhMwk4Do7
5 2	Carwoola - Dam Level - Back Corner West Paddock #1 (WaterWatch)	WaterWatch	35°24'29.8"S 149°25'06.4"E	https://photos.app.goo.gl/47JWDkKLHBs6fphz5
5 3	Carwoola - Rain Gauge - Bush Paddock (Dam 1) #1 (GoannaAg)	Goanna Ag	35°25'26.7"S 149°25'15.2"E	https://photos.app.goo.gl/H5bGc4mi1abz3odR6
5 4	Carwoola - Weather Station - Yards 3 (GoannaAg and Axistech)	Goanna Ag	35°25'41.8"S 149°22'46.9"E	https://photos.app.goo.gl/H2vjgthrTb8iXfb7
5 5	Carwoola - Beef Crush - Yards (Tepari)	Te Pari	35°25'38.6"S 149°22'48.1"E	https://photos.app.goo.gl/PnRMdVRwpj8bXcr76
5 6	Carwoola - Water Tank Sensor - Homestead (WaterWatch)	WaterWatch	35°25'30.7"S 149°22'49.7"E	https://photos.app.goo.gl/gmJzpcceKQ9j314qd7
5 7	Carwoola - Door Sensor - Chemical Shed (WaterWatch)	Ento	35°25'31.0"S 149°22'46.8"E	https://photos.app.goo.gl/8qRqkS4ZTMNTMCLs6
5 8	Carwoola - Door Sensor - Maintenance Shed (WaterWatch)	Ento	35°25'31.0"S 149°22'47.9"E	https://photos.app.goo.gl/hHrH6p4L25aN9YcG7
5 9	Carwoola - Dashboard - Maintenance Shed #1 (Pairtree)	Pairtree	35°25'29.8"S 149°22'46.4"E	https://photos.app.goo.gl/QiU3GQmg3XidACKh9
6 0	Carwoola - Asset Tracker - Honda Quad (GoannaAg)	Goanna Ag	35°25'30.9"S 149°22'47.6"E	https://photos.app.goo.gl/Z9qxTeeRScwSfXKA
6 1	Carwoola - Asset Tracker - New Holland T115 (GoannaAg)	Goanna Ag	35°25'30.6"S 149°22'45.8"E	https://photos.app.goo.gl/7ZCRbvDYvdx2pHUb9
6 2	Carwoola - Water Tank Sensor - Opp (Farmbot)	Farmbot	35°25'30.0"S 149°22'41.6"E	https://photos.app.goo.gl/nO7Sic2HA649oZDG7
6 3	Carwoola - Water Tank Sensor - Opp (WaterWatch)	WaterWatch	35°25'29.9"S 149°22'41.6"E	https://photos.app.goo.gl/cotFd9RoPDAz93w67
6 4	Carwoola - River Flood Sensor - Middle Flat Hole #1 (WaterWatch)	WaterWatch	35°25'13.9"S 149°23'19.1"E	https://photos.app.goo.gl/8EWFfvAeS2WTwPGU9
6 5	Carwoola - IDS Communication - Windmill (IDS)	IDS	35°25'07.7"S 149°23'35.1"E	https://photos.app.goo.gl/z3UsXwSumZNy8MhR9
6 6	Carwoola - Asset Tracker - Drill Seeder (GoannaAg)	Goanna Ag	35°25'10.0"S 149°23'33.2"E	https://photos.app.goo.gl/4TaPF5SSoMtULMD68
6 7	Carwoola - Gate Sensor - Windmill #1 (WaterWatch)	Ento	35°25'09.6"S 149°23'33.5"E	https://photos.app.goo.gl/V2bEB3LXXgrBw1sm9
6 8	Carwoola - Dam Level - Windmill (WaterWatch)	WaterWatch	35°25'22.8"S 149°23'45.4"E	https://photos.app.goo.gl/mwWJibwJif2ZpvMz6
6 9	Carwoola - Dam Level - Long (WaterWatch)	WaterWatch	35°25'26.2"S 149°23'39.8"E	https://photos.app.goo.gl/nDgKsUhKtGnBcXkR6
7 0	Carwoola - IDS Communication - Foxlow Hill (IDS)	IDS	35°25'50.9"S 149°24'24.3"E	https://photos.app.goo.gl/EhaYVsP3GKBgU5hy7

7 1	Carwoola - Rain Gauge - Foxlow Flat #1 (GoannaAg)	Goanna Ag	35°26'18.3"S 149°24'02.7"E	https://photos.app.goo.gl/f7MUbC5caF4cDHgFA
7 2	Carwoola - River Flood Sensor - Top Flat Hole #1 (WaterWatch)	WaterWatch	35°26'32.2"S 149°24'02.3"E	https://photos.app.goo.gl/DjeEi1KRPURbV75Y6
7 3	Carwoola - Communications Tower - Long #1 (GoannaAg)	Goanna Ag	35°25'24.2"S 149°24'23.1"E	https://photos.app.goo.gl/ELseY9fUceXFCMP56
7 4	Carwoola - Rain Gauge - Long (GoannaAg)	Goanna Ag	35°25'24.3"S 149°24'23.1"E	https://photos.app.goo.gl/KHZoshivhBCPTBdRA
7 5	Carwoola - Cattle Grid Sensor #1 (GoannaAg)	Goanna Ag	35°25'31.2"S 149°22'37.0"E	https://photos.app.goo.gl/v7G9s8gAW1CFwiKv5
7 6	Carwoola - Gate Sensor - Shearing Shed (GoannaAg)	Ento	35°25'13.9"S 149°22'43.6"E	https://photos.app.goo.gl/SLRBrAJtiirMFxdU9
7 7	Carwoola - Gate Sensor - Shearing Shed Entrance (WaterWatch)	Ento	35°25'15.0"S 149°22'41.3"E	https://photos.app.goo.gl/c1VKLJoxVuKEYvCk8
7 8	Carwoola - Communication System (Thinextra)	Thinextra	35°25'15.0"S 149°22'41.2"E	https://photos.app.goo.gl/NvJF4BxAFVpXtul56
7 9	Carwoola - Environment Sensor - Shearing Shed (GoannaAg)	Goanna Ag	35°25'15.1"S 149°22'41.0"E	https://photos.app.goo.gl/Jc68ixuEMqv4akvNA
8 0	Carwoola - Gate Sensor - Shearing Shed Loadout (WaterWatch)	WaterWatch	35°25'15.2"S 149°22'40.7"E	https://photos.app.goo.gl/ADBeBPw2JY1Qu2s79
8 1	Carwoola - Cattle Tags (Various)	Various	35°25'15.4"S 149°22'40.2"E	https://photos.app.goo.gl/DkRKmuAWJuuWuV4MA

Brooklands.

1	Brooklands - Asset Tracker - Side by Side (PowerTec)	PowerTec	34°38'23.6"S 148°54'35.1"E	https://photos.app.goo.gl/mhF2HhRWdhUocw8P6
2	Brooklands - Tank Sensor - Homestead - Small Tank (PowerTec)	PowerTec	34°38'24.4"S 148°54'35.4"E	https://photos.app.goo.gl/waDEyGmHaT29NInk9
3	Brooklands - Tank Sensor - Homestead - Large Tank #1 (PowerTec)	PowerTec	34°38'24.3"S 148°54'35.0"E	https://photos.app.goo.gl/RKcX1dkD5HHUgGrW8
4	Brooklands - Asset Tracker - Land Cruiser (PowerTec)	PowerTec	34°38'23.5"S 148°54'35.4"E	https://photos.app.goo.gl/sx6tvpjXkxaWhjMr9
5	Brooklands - Tank Sensor - Shearing Shed #1	PowerTec	34°38'14.0"S 148°54'31.2"E	https://photos.app.goo.gl/hyHcp4qVaSQcinH78
6	Brooklands - Sheep Handler - Shearing Shed (Te Pari)	PowerTec	34°38'15.2"S 148°54'30.4"E	https://photos.app.goo.gl/mvdxdfHVaJeK1bgF7
7	Brooklands - Gate Sensor - Noakes Paddock #1 (PowerTec)	PowerTec	34°38'28.7"S 148°53'42.7"E	https://photos.app.goo.gl/y8V2zmze91fBwnE8
8	Brooklands - IDS Communication - Noakes Paddock (IDS)	IDS	34°38'15.0"S 148°53'08.9"E	https://photos.app.goo.gl/7K4E44PD1w6UFDPK7
9	Brooklands - Weather Station - 90 Acre Paddock #1 (PowerTec)	PowerTec	34°37'44.4"S 148°53'10.8"E	https://photos.app.goo.gl/7Waf5RP4NsFVQjLX8
1 0	Brooklands - Gate Sensor - Yoes Paddock #1 (PowerTec)	PowerTec	34°37'34.7"S 148°51'59.4"E	https://photos.app.goo.gl/1Z61s9h3f2bdKh4j8
1 1	Brooklands - IDS Communication - West German Paddock #1 (IDS)	IDS	34°37'17.5"S 148°52'20.7"E	https://photos.app.goo.gl/xAiWeMLJjky7vpr7
1 2	Brooklands - Weather Station - 90 Acre Paddock #1 (PowerTec)	PowerTec	34°37'44.4"S 148°53'10.8"E	https://photos.app.goo.gl/E1kFBkCF4MzwnBis7
1 3	Brooklands - Gate Sensor - Yoes Paddock #1 (PowerTec)	PowerTec	34°37'34.7"S 148°51'59.4"E	https://photos.app.goo.gl/L2LTUF7xixwg7TVy27
1 4	Brooklands - IDS Communication - West German Paddock #1 (IDS)	IDS	34°37'17.5"S 148°52'20.7"E	https://photos.app.goo.gl/5Kv7kzMxk6pGwSEN9
1 5	Brooklands - Weather Station - Yoes Paddock #1 (PowerTec)	PowerTec	34°37'09.0"S 148°51'34.4"E	https://photos.app.goo.gl/KESHN8Mm1BuoigMf9
1 6	Brooklands - Gate Sensor - Smiths Paddock #2 (PowerTec)	PowerTec	34°37'00.5"S 148°52'21.4"E	https://photos.app.goo.gl/a2f2kNmsLc17w6L19
1 7	Brooklands - Weather Station - Yoes Paddock #2 (PowerTec)	PowerTec	34°37'08.8"S 148°51'34.2"E	https://photos.app.goo.gl/FrHh3yFXeVQdHQKt7
1 8	Brooklands - Gate Sensor - Smiths Paddock #1 (PowerTec)	PowerTec	34°37'00.6"S 148°52'21.4"E	https://photos.app.goo.gl/YjxdBkysqt6vYNrW6
1 9	Brooklands - Gate Sensor - Airstrip Paddock #1 (PowerTec)	PowerTec	34°37'26.8"S 148°53'14.4"E	https://photos.app.goo.gl/efVZLIU4cHiz3tx7
2 0	Brooklands - Gate Sensor - Road Paddock #1 (PowerTec)	PowerTec	34°37'45.3"S 148°53'51.5"E	https://photos.app.goo.gl/Yd4JGyX2km7TvsxN6
2 1	Brooklands - PowerTec Communication Tower - 107 Paddock #1 (PowerTec)	PowerTec	34°38'00.7"S 148°53'46.5"E	https://photos.app.goo.gl/QW7Ru2vw4iY3UJZw5
2 2	Brooklands - IDS Communication - 107 Paddock #1 (IDS)	IDS	34°38'01.4"S 148°53'46.9"E	https://photos.app.goo.gl/gbHhifnNKq2wmAbHA
2 3	Brooklands - Pump Control - Hay Shed Paddock #3 (PowerTec)	PowerTec	34°37'57.2"S 148°54'03.7"E	https://photos.app.goo.gl/4hqghdRuLLydJ9et6

2 4	Brooklands - Tank Sensor - Hay Shed Paddock #3 (PowerTec)	PowerTec	34°38'01.5"S 148°54'04.6"E	https://photos.app.goo.gl/E3ofNYn68gJNN71A
2 5	Brooklands - Asset Tracker - Case Tractor (PowerTec)	PowerTec	34°38'01.4"S 148°54'03.9"E	https://photos.app.goo.gl/YE7xRCF57Ktp6MVJ8
2 6	Brooklands - Grain Silos (three) Level - Hay Shed Paddock (PowerTec)	PowerTec	34°38'00.2"S 148°54'06.5"E	https://photos.app.goo.gl/ux4ja3fdQsJfVFE7
2 7	Brooklands - Gate Sensor - Rushbrooks Paddock #1 (PowerTec)	PowerTec	34°37'44.3"S 148°54'11.5"E	https://photos.app.goo.gl/2GoKaDxF9k6bcMuG9
2 8	Brooklands - Weather Station - Rushbrooks Paddock #1 (PowerTec)	PowerTec	34°37'31.5"S 148°54'53.3"E	https://photos.app.goo.gl/cUXdqWRpPTjcBDTi6
2 9	Brooklands - IDS Communication - Old Rushbrooks Paddock #1 (IDS)	IDS	34°38'12.8"S 148°54'46.8"E	https://photos.app.goo.gl/TrKg3N96gaKUQsss8
3 0	Brooklands - Gate Sensor - Old Rushbrooks Paddock #1 (PowerTec)	PowerTec	34°38'19.7"S 148°55'05.2"E	https://photos.app.goo.gl/Rt3Pb9XPBuMzXBbH8
3 1	Brooklands - IDS Communication - Big Hill Paddock #1 (IDS)	IDS	34°38'33.4"S 148°55'42.5"E	https://photos.app.goo.gl/9urJK4U7U9vL7abM9
3 2	Brooklands - Weather Station - Big Hill Paddock #2 (PowerTec)	PowerTec	34°38'11.9"S 148°55'55.9"E	https://photos.app.goo.gl/ZZuiNnfN2rSu9G9CA
3 3	Brooklands - Gate Sensor - High Rock 2 Paddock #1 (PowerTec)	PowerTec	34°38'34.4"S 148°56'48.1"E	https://photos.app.goo.gl/djFT8VWRnUoiRwk9
3 4	Brooklands - Gate Sensor - Morefields Paddock #1 (PowerTec)	PowerTec	34°37'38.8"S 148°56'28.4"E	https://photos.app.goo.gl/o4Zt1T1Yn1vEPweS6

Taliesin.

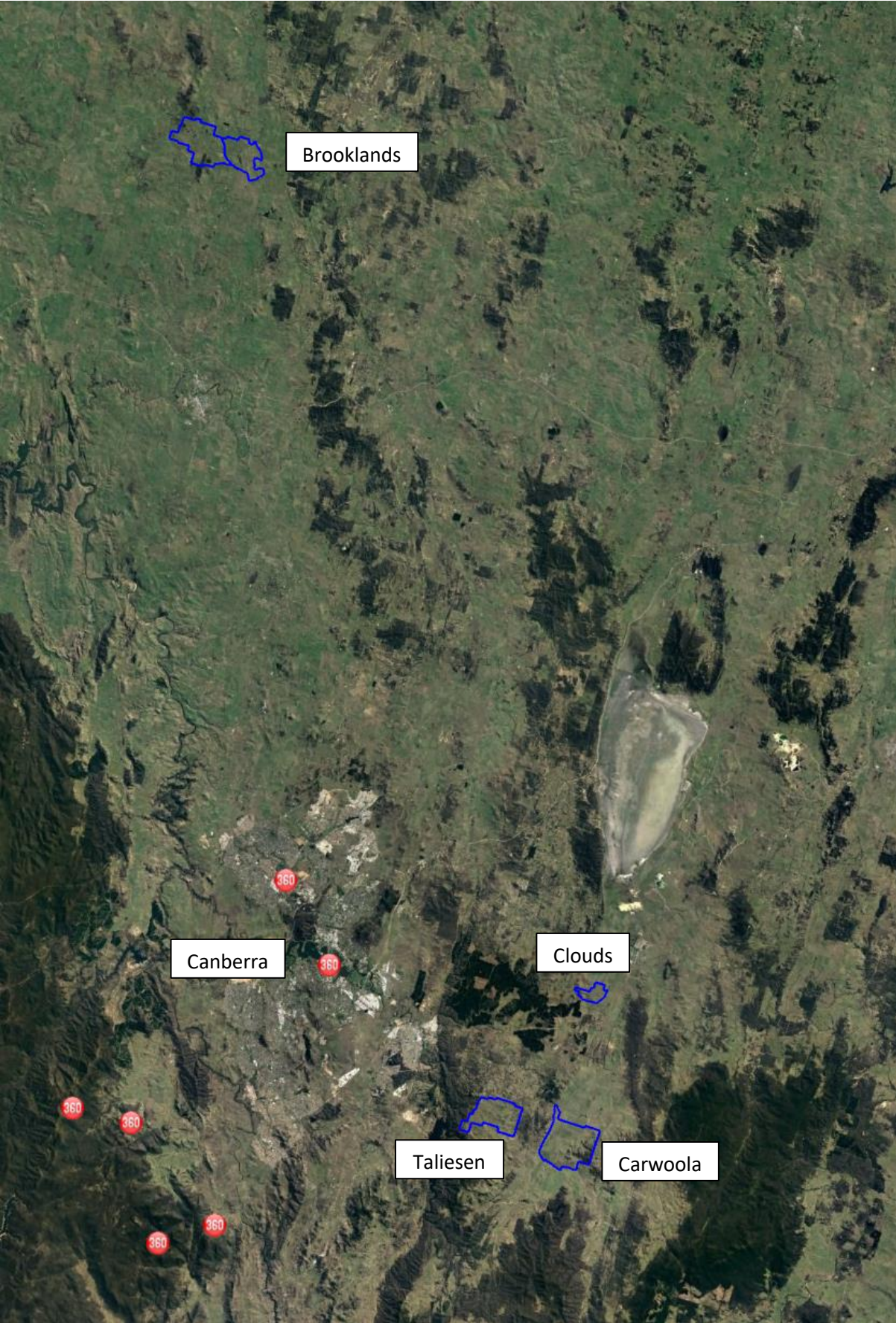
1	Taliesin - Gate Sensor - Long Paddock (GoannaAg)	Goanna Ag	35°23'55.00"S 149°18'36.72"E	https://photos.app.goo.gl/SqafsPwFYEf3ikTr8
2	Taliesin - Gate Sensor - Main Gate (GoannaAg)	Goanna Ag	35°23'46.6"S 149°18'25.7"E	https://photos.app.goo.gl/iEk4AV2GLY8GN9ZB7
3	Taliesin - Gate Sensor - Queanbeyan Paddock East #2 (GoannaAg)	Goanna Ag	35°23'55.5"S 149°18'36.5"E	https://photos.app.goo.gl/dhrKrxjVBbx45BAz6
4	Taliesin - IDS Communications - Shed Paddock (IDS)	IDS	35°24'18.3"S 149°18'53.1"E	https://photos.app.goo.gl/7Z8NawTEXGirngas9
5	Taliesin - Gate Sensor - Queanbeyan Paddock East #4 (GoannaAg)	Goanna Ag	35°24'03.8"S 149°18'54.3"E	https://photos.app.goo.gl/zaAIWqDrPzETKDVU7
6	Taliesin - GoannaAg Communications - Knox Paddock (GoannaAg)	Goanna Ag	35°24'26.5"S 149°19'46.8"E	https://photos.app.goo.gl/iWRik9L2qQKiAFGHA
7	Taliesin - IDS Communications - Yarrow Paddock (IDS)	IDS	35°24'39.1"S 149°20'04.2"E	https://photos.app.goo.gl/tuGe866TP1MivcR78
8	Taliesin - Rain Gauge - Yarrow Paddock (GoannaAg)	Goanna Ag	35°25'05.9"S 149°19'51.5"E	https://photos.app.goo.gl/2LjJ4qDWsZ2VG7b67
9	Taliesin - Rain Gauge - Poplar Paddock (GoannaAg)	Goanna Ag	35°24'32.4"S 149°20'33.8"E	https://photos.app.goo.gl/Ef9vEqMzhGbRFahS6
1 0	Taliesin - Weather Station - Pine Paddock (GoannaAg)	Goanna Ag	35°24'03.9"S 149°20'19.2"E	https://photos.app.goo.gl/HMhsqqTpK5rQ8iYS7
1 1	Taliesin - Rain Gauge - Swan Paddock (GoannaAg)	Goanna Ag	35°23'41.30"S 149°19'49.46"E	https://photos.app.goo.gl/2NCeDukFmyomr3hdA
1 2	Taliesin - IDS Communications - Pine Paddock (IDS)	Goanna Ag	35°23'57.5"S 149°19'52.2"E	https://photos.app.goo.gl/JMCANKD8nGmBgs1J6
1 3	Taliesin - Rain Gauge - Rutledge Paddock (GoannaAg)	Goanna Ag	35°24'42.66"S 149°19'7.97"E	https://photos.app.goo.gl/2hFPpKHBuCCHrwGv6
1 4	Taliesin - IDS Communications - Roo Paddock (IDS)	IDS	35°24'48.4"S 149°18'30.7"E	https://photos.app.goo.gl/GtQcmpzEaKN9Jc2A
1 5	Taliesin - Weather Station - Pollack Paddock (GoannaAg)	Goanna Ag	35°24'14.7"S 149°18'48.9"E	https://photos.app.goo.gl/EQU4yJ1mgGkMb2EA7
1 6	Taliesin - Gate Sensor - Pollock Paddock East #4	Goanna Ag	35°23'58.6"S 149°18'59.0"E	https://photos.app.goo.gl/xQeVswiKY2s1bR8P9
1 7	Taliesin - Gate Sensor - Shed Paddock South Gate	Goanna Ag	35°24'00.1"S 149°18'59.5"E	https://photos.app.goo.gl/rnn3nV1nILier8x99
1 8	Taliesin - Gate Sensor - Shed Paddock South Gate #2 (GoannaAg)	Goanna Ag	35°24'00.1"S 149°18'59.4"E	https://photos.app.goo.gl/fxw8WJNT0DDVmYGJ7
1 9	Taliesin - Rain Gauge - Shed Paddock (GoannaAg)	Goanna Ag	35°24'01.4"S 149°18'57.4"E	https://photos.app.goo.gl/yfuzkY4PioQK78AH7

Clouds.

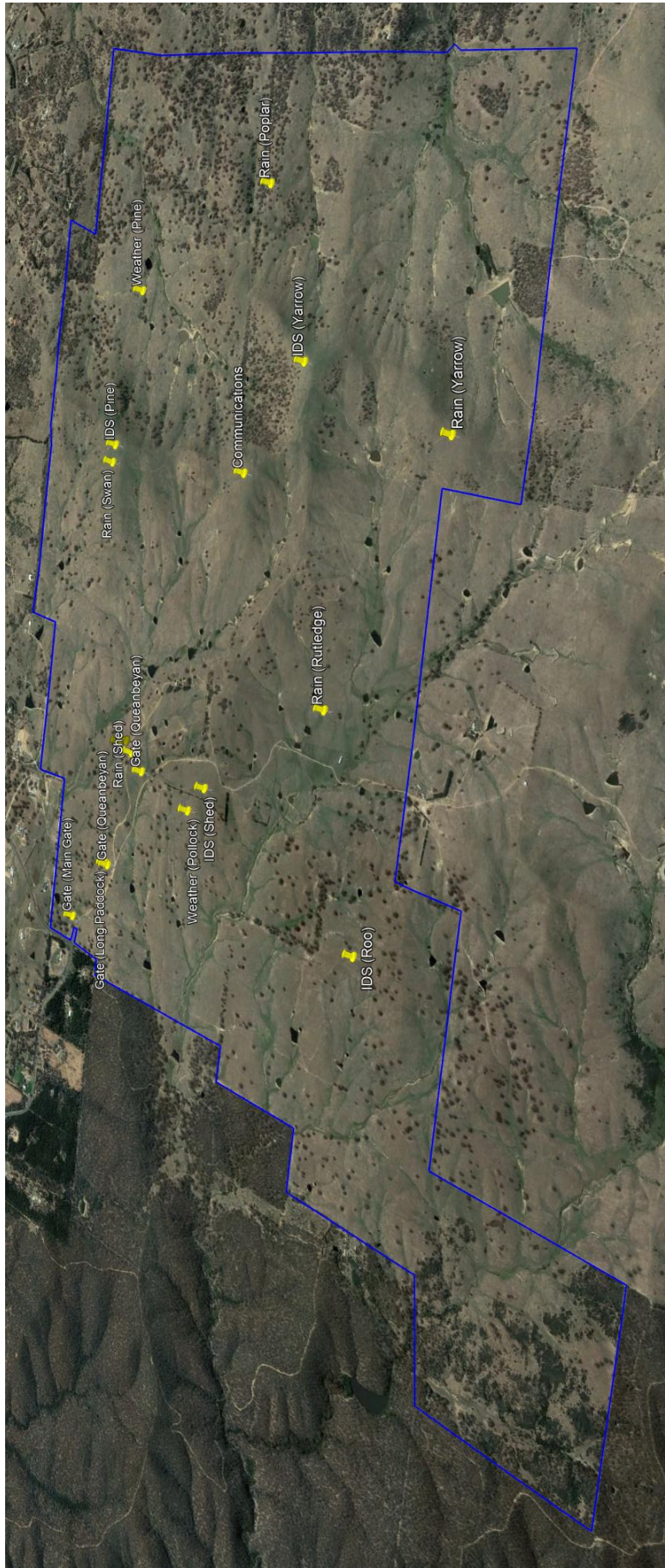
1	Clouds - Gate Sensor - Main Gate #2 (GoannaAg)	Goanna Ag	35°18'01.1"S 149°24'44.6"E	https://photos.app.goo.gl/nMwzQCVein6xscQj9
2	Clouds - Gate Sensor - Valley Paddock East #1 (GoannaAg)	Goanna Ag	35°17'53.9"S 149°24'53.4"E	https://photos.app.goo.gl/AvTGFo28UkK4T3nC7
3	Clouds - Gate Sensor - Valley Paddock North #2 (GoannaAg)	Goanna Ag	35°17'46.1"S 149°24'40.1"E	https://photos.app.goo.gl/SDJFhFMLvctAXVu39
4	Clouds - Gate Sensor - Cattle Ramp (GoannaAg)	Goanna Ag	35°17'45.4"S 149°24'40.3"E	https://photos.app.goo.gl/X9r8yCRxrGVJUPSFF6
5	Clouds - Weather Station - Cattle Yard Paddock #1 (GoannaAg)	Goanna Ag	35°17'45.5"S 149°24'43.0"E	https://photos.app.goo.gl/FW6s3gLDBQskRdH56
6	Clouds - Rain Gauge - Cattle Yard Paddock #1 North (GoannaAg)	Goanna Ag	35°17'20.8"S 149°24'50.7"E	https://photos.app.goo.gl/dTDWQjxv5LoL9nh98
7	Clouds - Gate Sensor - Cattle Yard Paddock West #1 (GoannaAg)	Goanna Ag	35°17'32.2"S 149°24'20.3"E	https://photos.app.goo.gl/wW2WWESLP9bRKfrA9
8	Clouds - IDS Communication - Yards HP Paddock #3 (IDS)	IDS	35°17'44.7"S 149°24'30.4"E	https://photos.app.goo.gl/d93AGyhFuVEuaLSy8
9	Clouds - Gate Sensor - Solar Pump Compound #1 (GoannaAg)	Goanna Ag	35°17'51.1"S 149°24'18.0"E	https://photos.app.goo.gl/1too3XKizPBYUbLA6
10	Clouds - Rain Gauge - Solar Pump Compound #2 (GoannaAg)	Goanna Ag	35°17'50.9"S 149°24'18.1"E	https://photos.app.goo.gl/P9Srh8dk2AtszdQt6
11	Clouds - Gate Sensor - Valley Paddock #1 South	Goanna Ag	35°18'00.2"S 149°24'08.4"E	https://photos.app.goo.gl/mymPzM8wKqkMJWLGA
12	Clouds - Gate Sensor - Valley Paddock #1 South West (GoannaAg)	Goanna Ag	35°17'59.6"S 149°24'02.9"E	https://photos.app.goo.gl/AjxD4rthNwKYmbN6
13	Clouds - IDS Communication - Hill Paddock #1 (IDS)	IDS	35°17'46.8"S 149°23'43.8"E	https://photos.app.goo.gl/GyDAoXtNpSNXqiNg7
14	Clouds - Rain Gauge - Hill Paddock #1 Centre (GoannaAg)	Goanna Ag	35°17'47.0"S 149°23'43.8"E	https://photos.app.goo.gl/rmsS8YVqV7KjNcZy6
15	Clouds - Communication Tower - Hill Paddock #1 (GoannaAg).	Goanna Ag	35°17'45.4"S 149°23'43.5"E	https://photos.app.goo.gl/1cJECLFbc1PSunP1A
16	Clouds - Rain Gauge - Hill Paddock #1 North (GoannaAg)	Goanna Ag	35°17'26.9"S 149°23'30.0"E	https://photos.app.goo.gl/2DXsFWkYGVjHG6z57
17	Clouds - Gate Sensor - Valley Paddock North West #1 (GoannaAg).	Goanna Ag	35°17'32.5"S 149°24'03.8"E	https://photos.app.goo.gl/a1mb4m5uVqrHfm8b8

9.8 CPC installation schematic

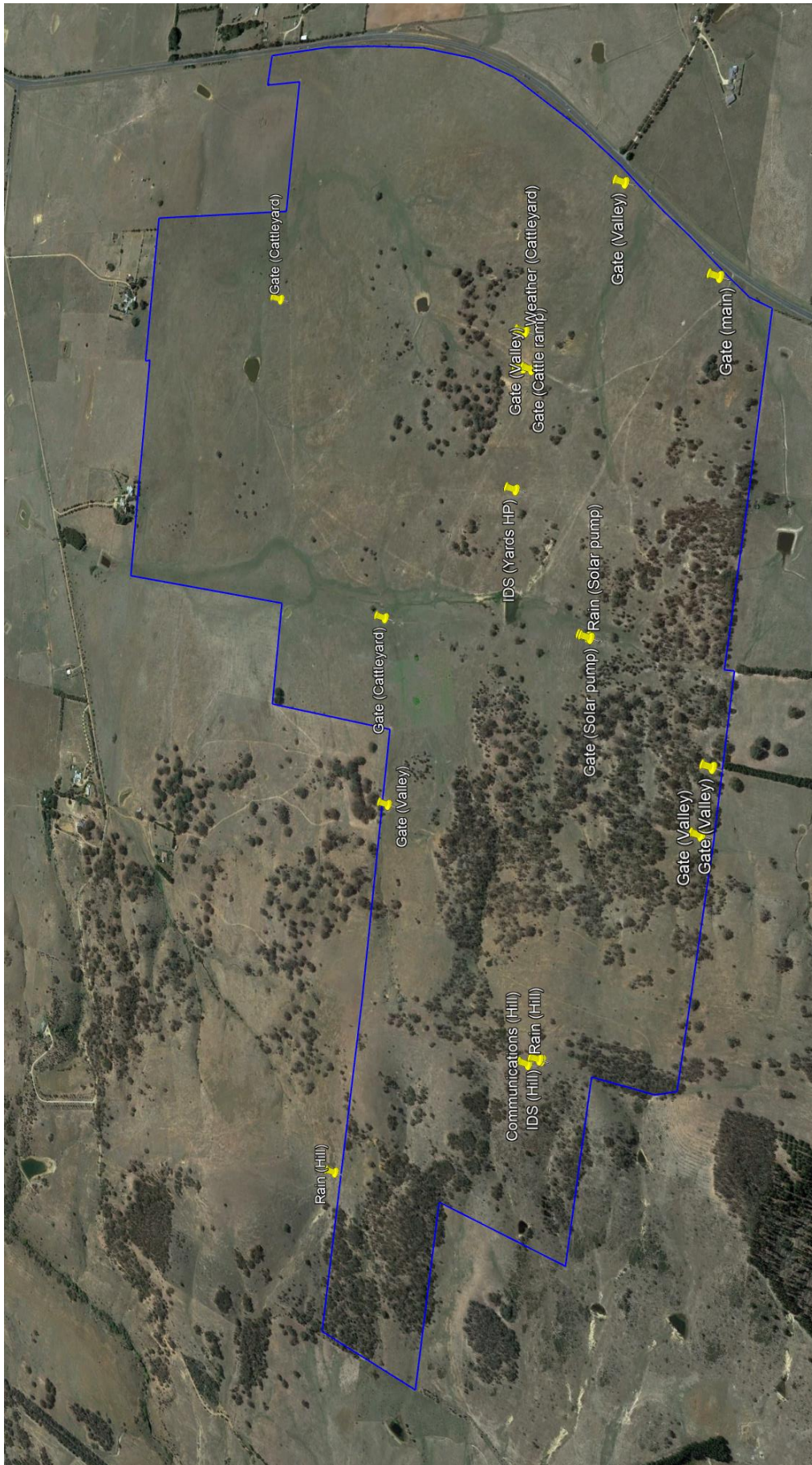
9.9 Google Earth device locations



Taliesen Property



Clouds Property



9.10 Device photographs and geo-position co-ordinates

No	Description (Photo name)	Provider	GPS	Private online photo link	Keep / Remove
Brooklands					
1	Brooklands - Asset Tracker - Sideby Side (PowerTec)	PowerTec	34°38'23.6"S 148°54'35.1"E	https://photos.app.goo.gl/mhF2HhRwdhUocw8P6	Keep
2	Brooklands - Tank Sensor - Homestead - Small Tank (PowerTec)	PowerTec	34°38'24.4"S 148°54'35.4"E	https://photos.app.goo.gl/wa0EvGmHtA29NNk9	Keep
3	Brooklands - Tank Sensor - Homestead - Large Tank #1 (PowerTec)	PowerTec	34°38'24.3"S 148°54'35.0"E	https://photos.app.goo.gl/RkCv1LkD05HHU05GfW8	Keep
4	Brooklands - Asset Tracker - Land Cruiser (PowerTec)	PowerTec	34°38'23.5"S 148°54'35.4"E	https://photos.app.goo.gl/svGfYpXkXaWWhlMr9	Keep
5	Brooklands - Tank Sensor - Shearing Shed #1	PowerTec	34°38'14.0"S 148°54'31.2"E	https://photos.app.goo.gl/nvHcp4qVa5QcInH78	Keep
6	Brooklands - Sheep Handler - Shearing Shed (Te Pari)	PowerTec	34°38'15.2"S 148°54'30.4"E	https://photos.app.goo.gl/nvdXdfHfVajEK1baF7	Keep
7	Brooklands - Gate Sensor - Noakes Paddock #1 (PowerTec)	PowerTec	34°38'28.7"S 148°53'42.7"E	https://photos.app.goo.gl/y8V2mzet91fBwnE8	Remove (?)
8	Brooklands - IDS Communication - Noakes Paddock (IDS)	IDS	34°38'15.0"S 148°53'08.9"E	https://photos.app.goo.gl/7K4E44PD1w6JFDPK7	Keep
9	Brooklands - Weather Station - 90 Acre Paddock #1 (PowerTec)	PowerTec	34°37'44.4"S 148°53'10.8"E	https://photos.app.goo.gl/7Waf5R4N5FVQILX8	Keep
10	Brooklands - Gate Sensor - Yoes Paddock #1 (PowerTec)	PowerTec	34°37'34.7"S 148°51'59.4"E	https://photos.app.goo.gl/1Z61sH3f2bdKhdI8	Remove (?)
11	Brooklands - IDS Communication - West German Paddock #1 (IDS)	IDS	34°37'17.5"S 148°52'20.7"E	https://photos.app.goo.gl/XAIWwVlJkwwVvr7	Keep
12	Brooklands - Weather Station - 90 Acre Paddock #1 (PowerTec)	PowerTec	34°37'44.4"S 148°53'10.8"E	https://photos.app.goo.gl/fE1kFBkCF4MZWnBis7	Keep
13	Brooklands - Gate Sensor - Yoes Paddock #1 (PowerTec)	PowerTec	34°37'34.7"S 148°51'59.4"E	https://photos.app.goo.gl/2L2U7Fxiww7T7Z7	Remove (?)
14	Brooklands - IDS Communication - West German Paddock #1 (IDS)	IDS	34°37'17.5"S 148°52'20.7"E	https://photos.app.goo.gl/eFVZLU4dChiz3tX7	Keep
15	Brooklands - Weather Station - Yoes Paddock #1 (PowerTec)	PowerTec	34°37'09.0"S 148°51'34.4"E	https://photos.app.goo.gl/KESH8Mm18uoqMf9	Keep
16	Brooklands - Gate Sensor - Smiths Paddock #2 (PowerTec)	PowerTec	34°37'00.5"S 148°52'21.4"E	https://photos.app.goo.gl/azf2kNms1c1Zw6L19	Remove (?)
17	Brooklands - Weather Station - Yoes Paddock #2 (PowerTec)	PowerTec	34°37'08.8"S 148°51'34.2"E	https://photos.app.goo.gl/FRH3H3FxeYQbQhKt7	Keep
18	Brooklands - Gate Sensor - Smiths Paddock #1 (PowerTec)	PowerTec	34°37'00.6"S 148°52'21.4"E	https://photos.app.goo.gl/YxdkBkvs6t6Y9NW6	Remove (?)
19	Brooklands - Gate Sensor - Air strip Paddock #1 (PowerTec)	PowerTec	34°37'26.8"S 148°53'14.4"E	https://photos.app.goo.gl/eFVZLU4dChiz3tX7	Remove (?)
20	Brooklands - Gate Sensor - Road Paddock #1 (PowerTec)	PowerTec	34°37'45.3"S 148°53'51.5"E	https://photos.app.goo.gl/yd4JGwXkm7TvsXw6	Remove (?)
21	Brooklands - PowerTec Communication Tower - 107 Paddock #1 (PowerTec)	PowerTec	34°38'00.7"S 148°53'46.5"E	https://photos.app.goo.gl/QW7Ru2w4Y3UJZw5	Keep
22	Brooklands - IDS Communication - 107 Paddock #1 (IDS)	IDS	34°38'01.4"S 148°53'46.9"E	https://photos.app.goo.gl/gbHhfnMk62wvmbAb7A	Keep
23	Brooklands - Pump Control - Hay Shed Paddock #3 (PowerTec)	PowerTec	34°37'57.2"S 148°54'03.7"E	https://photos.app.goo.gl/4hgqhdRULLvd9et6	Keep
24	Brooklands - Tank Sensor - Hay Shed Paddock #3 (PowerTec)	PowerTec	34°38'12.8"S 148°54'04.6"E	https://photos.app.goo.gl/30vfnYn683S1QSS8	Keep
25	Brooklands - Asset Tracker - Case Tractor (PowerTec)	PowerTec	34°38'01.4"S 148°54'03.9"E	https://photos.app.goo.gl/YE7XrCF57Kt6MVL8	Keep
26	Brooklands - Grain Silos (three) Level - Hay Shed Paddock (PowerTec)	PowerTec	34°38'00.2"S 148°54'06.5"E	https://photos.app.goo.gl/ux4ia3fQqfVFE7	Keep
27	Brooklands - Gate Sensor - Rushbrooks Paddock #1 (PowerTec)	PowerTec	34°37'44.3"S 148°54'11.5"E	https://photos.app.goo.gl/2G0KdXf9K6bcMUG9	Remove (?)
28	Brooklands - Weather Station - Ruschbrooks Paddock #1 (PowerTec)	PowerTec	34°37'31.5"S 148°54'53.3"E	https://photos.app.goo.gl/QUdxWRpTtCbT018	Keep
29	Brooklands - IDS Communication - Old Rushbrooks Paddock #1 (IDS)	IDS	34°38'12.8"S 148°54'46.8"E	https://photos.app.goo.gl/TrK63N966KJQSS8	Keep
30	Brooklands - Gate Sensor - Old Rushbrooks Paddock #1 (PowerTec)	PowerTec	34°38'19.7"S 148°55'05.2"E	https://photos.app.goo.gl/3r3PbXpBUuX2bH89	Remove (?)
31	Brooklands - IDS Communication - Big Hill Paddock #1 (IDS)	IDS	34°38'33.4"S 148°55'42.5"E	https://photos.app.goo.gl/3urIK4U7U3V7abW9	Keep
32	Brooklands - Weather Station - Big Hill Paddock #2 (PowerTec)	PowerTec	34°38'11.9"S 148°55'55.9"E	https://photos.app.goo.gl/ZZULNrfN2Su9G9CA	Keep
33	Brooklands - Gate Sensor - High Rock 2 Paddock #1 (PowerTec)	PowerTec	34°38'34.4"S 148°56'48.1"E	https://photos.app.goo.gl/dlFT8VWRnUoRrk9	Remove (?)
34	Brooklands - Gate Sensor - Morefields Paddock #1 (PowerTec)	PowerTec	34°37'38.8"S 148°56'28.4"E	https://photos.app.goo.gl/4zT1T1Yn1vEwPw56	Remove (?)
Clouds					
1	Clouds - Gate Sensor - Main Gate #2 (GoannaAg)	Goanna Ag	35°18'01.1"S 149°24'44.6"E	https://photos.app.goo.gl/nMwzQCVein6xscQj9	Remove (?)
2	Clouds - Gate Sensor - Valley Paddock East #1 (GoannaAg)	Goanna Ag	35°17'53.9"S 149°24'53.4"E	https://photos.app.goo.gl/AvTfG028UkK4T3n7	Remove (?)
3	Clouds - Gate Sensor - Valley Paddock North #2 (GoannaAg)	Goanna Ag	35°17'46.1"S 149°24'40.1"E	https://photos.app.goo.gl/30FhFmVctAxV93	Remove (?)
4	Clouds - Gate Sensor - Cattle Ramp (GoannaAg)	Goanna Ag	35°17'45.4"S 149°24'40.3"E	https://photos.app.goo.gl/X93rXrXgVUP5FF6	Keep
5	Clouds - Weather Station - Cattle Yard Paddock #1 (GoannaAg)	Goanna Ag	35°17'45.5"S 149°24'43.0"E	https://photos.app.goo.gl/fW63eLDBQ3KRDH56	Keep
6	Clouds - Rain Gauge - Cattle Yard Paddock #1 North (GoannaAg)	Goanna Ag	35°17'20.8"S 149°24'50.7"E	https://photos.app.goo.gl/PTDWPQkVsl9h938	Keep
7	Clouds - Gate Sensor - Cattle Yard Paddock West #1 (GoannaAg)	Goanna Ag	35°17'32.2"S 149°24'20.3"E	https://photos.app.goo.gl/wW2WVESL9pRkRfA9	Remove (?)
8	Clouds - IDS Communication - Yards HP Paddock #3 (IDS)	IDS	35°17'44.7"S 149°24'30.4"E	https://photos.app.goo.gl/d93AGvFuEujL5v8	Keep
9	Clouds - Gate Sensor - Solar Pump Compound #1 (GoannaAg)	Goanna Ag	35°17'51.1"S 149°24'18.0"E	https://photos.app.goo.gl/1to03KizPBtUjL5v8	Remove (?)
10	Clouds - Rain Gauge - Solar Pump Compound #2 (GoannaAg)	Goanna Ag	35°17'50.9"S 149°24'18.1"E	https://photos.app.goo.gl/P98h8dk2A2sd2d6	Keep
11	Clouds - Gate Sensor - Valley Paddock #1 South	Goanna Ag	35°18'00.2"S 149°24'08.4"E	https://photos.app.goo.gl/mvnp2M38vKqKMLJWLGA	Remove (?)
12	Clouds - Gate Sensor - Valley Paddock #1 South West (GoannaAg)	Goanna Ag	35°17'59.6"S 149°24'02.9"E	https://photos.app.goo.gl/3kD4rthNwYmbN6	Remove (?)
13	Clouds - IDS Communication - Hill Paddock #1 (IDS)	IDS	35°17'46.8"S 149°23'43.8"E	https://photos.app.goo.gl/gDvAo14NpN5XnInG7	Keep
14	Clouds - Rain Gauge - Hill Paddock #1 Centre (GoannaAg)	Goanna Ag	35°17'47.0"S 149°23'43.8"E	https://photos.app.goo.gl/rmsS8YV6V7KjNcZv6	Keep
15	Clouds - Communication Tower - Hill Paddock #1 (GoannaAg)	Goanna Ag	35°17'45.4"S 149°23'43.5"E	https://photos.app.goo.gl/1dECLFBzIP5un1A	Keep
16	Clouds - Rain Gauge - Hill Paddock #1 North (GoannaAg)	Goanna Ag	35°17'26.9"S 149°23'30.0"E	https://photos.app.goo.gl/2DkFwKYGvH6657	Keep
17	Clouds - Gate Sensor - Valley Paddock North West #1 (GoannaAg)	Goanna Ag	35°17'32.5"S 149°24'03.8"E	https://photos.app.goo.gl/41mb4m5VgrHfM8B8	Remove (?)
Taliesen					
1	Taliesen - Gate Sensor - Long Paddock (GoannaAg)	Goanna Ag	35°23'55.00"S 149°18'36.72"E	https://photos.app.goo.gl/SrafsPwFYEf3ikTr8	Keep
2	Taliesen - Gate Sensor - Main Gate (GoannaAg)	Goanna Ag	35°23'46.6"S 149°18'25.7"E	https://photos.app.goo.gl/Ek4A2VQfPwmgdeX7	Keep
3	Taliesen - Gate Sensor - Queenbeyn Paddock East #2 (GoannaAg)	Goanna Ag	35°23'55.5"S 149°18'36.5"E	https://photos.app.goo.gl/dhrKxiVbBx45BAz6	Keep
4	Taliesen - IDS Communications - Shed Paddock (IDS)	IDS	35°24'18.3"S 149°18'53.1"E	https://photos.app.goo.gl/728NawTEXGmna95	Keep
5	Taliesen - Gate Sensor - Queenbeyn Paddock East #4 (GoannaAg)	Goanna Ag	35°24'03.8"S 149°18'54.3"E	https://photos.app.goo.gl/zaAWdPteITKDUL7	Keep
6	Taliesen - GoannaAg Communications - Knox Paddock (GoannaAg)	Goanna Ag	35°24'26.5"S 149°19'46.8"E	https://photos.app.goo.gl/WRk3L2gQKfA7H8	Keep
7	Taliesen - IDS Communications - Yarrow Paddock (IDS)	IDS	35°24'39.1"S 149°20'04.2"E	https://photos.app.goo.gl/yUge866TP1MlyvR7A	Keep
8	Taliesen - Rain Gauge - Yarrow Paddock (GoannaAg)	Goanna Ag	35°25'05.9"S 149°19'51.5"E	https://photos.app.goo.gl/2LU4dWZ2Vg7b6	Keep
9	Taliesen - Rain Gauge - Poplar Paddock (GoannaAg)	Goanna Ag	35°24'32.4"S 149°20'33.8"E	https://photos.app.goo.gl/EF9YEdvzh3bFah56	Keep
10	Taliesen - Weather Station - Pine Paddock (GoannaAg)	Goanna Ag	35°24'03.9"S 149°20'19.2"E	https://photos.app.goo.gl/4HhshgTpk5rQ8Y57	Keep
11	Taliesen - Rain Gauge - Swan Paddock (GoannaAg)	Goanna Ag	35°23'41.30"S 149°19'43.46"E	https://photos.app.goo.gl/2NcDukFmvaom3hdA	Keep
12	Taliesen - IDS Communications - Pine Paddock (IDS)	Goanna Ag	35°23'57.5"S 149°19'52.2"E	https://photos.app.goo.gl/1MCAK08nGmRq5U6	Keep
13	Taliesen - Rain Gauge - Rutledge Paddock (GoannaAg)	Goanna Ag	35°24'42.66"S 149°19'19.7"E	https://photos.app.goo.gl/2fPpKhBUccHrw5v6	Keep
14	Taliesen - IDS Communications - Roo Paddock (IDS)	IDS	35°24'48.4"S 149°18'30.7"E	https://photos.app.goo.gl/Gtcm2p2EaK/N9iCo2A	Keep
15	Taliesen - Weather Station - Pollack Paddock (GoannaAg)	Goanna Ag	35°24'14.7"S 149°18'48.9"E	https://photos.app.goo.gl/EQU44U1mcG0M52FA7	Keep
16	Taliesen - Gate Sensor - Pollock Paddock East #4	Goanna Ag	35°23'58.6"S 149°18'59.0"E	https://photos.app.goo.gl/XQe5wivKY2s1bR8P9	Keep
17	Taliesen - Gate Sensor - Shed Paddock South Gate	Goanna Ag	35°24'00.1"S 149°18'59.5"E	https://photos.app.goo.gl/mn3nV1nJLr8X99	Keep
18	Taliesen - Gate Sensor - Shed Paddock South Gate #2 (GoannaAg)	Goanna Ag	35°24'00.1"S 149°18'59.4"E	https://photos.app.goo.gl/fw8W1Nt0D0VnYGI7	Keep
19	Taliesen - Rain Gauge - Shed Paddock (GoannaAg)	Goanna Ag	35°24'01.4"S 149°18'57.4"E	https://photos.app.goo.gl/yufzK4PioQK78A47	Keep
Carwoola					
1	Carwoola - Gate Sensor - Main Gate #1 (GoannaAg)	Goanna Ag	35°24'59.8"S 149°22'52.1"E	https://photos.app.goo.gl/yVfGgCxm5bZ64zCb6g	Keep
2	Carwoola - Environmental Sensor - Sola #1 (GoannaAg)	Goanna Ag	35°25'00.5"S 149°23'05.0"E	https://photos.app.goo.gl/txmFwQfPwmgdeX7	Keep
3	Carwoola - Rain Gauge - Sillis Paddock #1 (GoannaAg)	Goanna Ag	35°24'11.3"S 149°23'10.7"E	https://photos.app.goo.gl/7QVz35vWB1Hqz7Y8	Keep
4	Carwoola - River Flood Sensor - Bottom Flat Hole #1 (WaterWatch)	WaterWatch	35°24'29.7"S 149°23'33.1"E	https://photos.app.goo.gl/ZrfmeG1P5xkv9	Keep
5	Carwoola - Gate Sensor - Bottom Flat #1 North East (GoannaAg)	Goanna Ag	35°24'34.0"S 149°23'39.6"E	https://photos.app.goo.gl/tb2rxZ6G898N19	Remove (?)
6	Carwoola - Gate Sensor - No 8 Paddock #1 North West (GoannaAg)	Goanna Ag	35°24'35.4"S 149°23'40.7"E	https://photos.app.goo.gl/TjgsqP4dSd8dbw7	Remove (?)
7	Carwoola - Gate Sensor - No 8 Paddock #1 North East (GoannaAg)	Goanna Ag	35°24'38.6"S 149°23'54.9"E	https://photos.app.goo.gl/fE4h4hLrMjNCKT7	Remove (?)
8	Carwoola - Gate Sensor - No 8 Paddock #2 North East (GoannaAg)	Goanna Ag	35°24'38.7"S 149°23'55.1"E	https://photos.app.goo.gl/dkqCn5VbDY41JN9	Remove (?)
9	Carwoola - Gate Sensor - Turkeys Nest Paddock #1 (WaterWatch)	Ento	35°24'39.2"S 149°23'59.8"E	https://photos.app.goo.gl/1MNA68LDKgs5aPvR8	Remove (?)
10	Carwoola - Water Tank Sensor - Turkeys Nest Paddock #1 (WaterWatch)	WaterWatch	35°24'40.1"S 149°23'59.0"E	https://photos.app.goo.gl/MzHgK3R71slQ06	Keep
11	Carwoola - Rain Gauge - Turkeys Nest Paddock #1 (GoannaAg)	Goanna Ag	35°24'40.1"S 149°23'58.9"E	https://photos.app.goo.gl/YigfC2SnBDZ4VHNZA	Keep
12	Carwoola - Water Level - Turkeys Nest North #1 (WaterWatch)	WaterWatch	35°24'41.0"S 149°23'58.7"E	https://photos.app.goo.gl/gH25mS22eQ58NP18	Keep
13	Carwoola - Dam Water Level Sensor (South Turkeys Nest)	Goanna Ag	35°24'42.4"S 149°23'57.5"E	https://photos.app.goo.gl/V8Cv5CqH6Wz8CG8	Keep
14	Carwoola - Water Level - Turkeys Nest South #1 (WaterWatch)	WaterWatch	35°24'42.4"S 149°23'57.6"E	https://photos.app.goo.gl/EZ5malfiSzszT47	Keep
15	Carwoola - Rain Gauge - Turkeys Nest #1 (AxisTech)	AxisTech	35°24'41.1"S 149°23'59.1"E	https://photos.app.goo.gl/3HhNvMvEw1DrYQd6	Repurpose
16	Carwoola - Asset Tracker - Fuel Trailer #1 (GoannaAg)	Goanna Ag	35°24'41.6"S 149°23'59.7"E	https://photos.app.goo.gl/yH86uNDRExAV92T9	Keep

17	Carwoola - Asset Tracker - Fuel Trailer #1 (Thintra)	AxisTech	35°24'41.6"S 149°23'59.7"E	https://photos.app.goo.gl/c1k28PaFhTwiG6E7	Keep
18	Carwoola - Diesel Tank Level - Turkeys Nest #2 (GoannaAg)	Goanna Ag	35°24'41.0"S 149°23'59.2"E	https://photos.app.goo.gl/B28PBj4d9zmmDku9	Keep
19	Carwoola - Water Trough Level - Ln 8 1 Paddock #1 (WaterWatch)	WaterWatch	35°24'40.1"S 149°24'00.7"E	https://photos.app.goo.gl/r7zrcvmeT9NPLQ8	Keep
20	Carwoola - Water Trough Level - No 1 Paddock #1 (WaterWatch)	WaterWatch	35°24'35.7"S 149°23'57.6"E	https://photos.app.goo.gl/pesL37msw7Pk56	Keep
21	Carwoola - UHF Water Trough Reader - No 1 Paddock #1 (Agriscan)	Agiscan	35°24'36.1"S 149°23'58.0"E	https://photos.app.goo.gl/92zSG5QPNeMF7Dl6	Remove
22	Carwoola - Gate Sensor - No 7 Pivot Paddock #1 (GoannaAg)	Goanna Ag	35°24'41.1"S 149°24'12.1"E	https://photos.app.goo.gl/AMkStJltedB2kMB8	Remove (?)
23	Carwoola - Soil Probe - No 7 North Paddock North West #1 (GoannaAg)	Goanna Ag	35°24'46.2"S 149°24'05.3"E	https://photos.app.goo.gl/X236NdErm3e2z3V88	Keep
24	Carwoola - Soil Probe - No 7 North Paddock South West #1 (AxisTech)	AxisTech	35°24'54.4"S 149°24'03.8"E	https://photos.app.goo.gl/bwctc7G6QvNmABCNx8	Repurpose
25	Carwoola - Rain Gauge - No 7 North Paddock South West #1 (AxisTech)	AxisTech	35°24'54.4"S 149°24'03.9"E	https://photos.app.goo.gl/2XQxhXfGNpPMZsh9	Keep (?)
26	Carwoola - Soil Probe - No 7 South Dam Paddock #1 (GoannaAg)	Goanna Ag	35°24'59.5"S 149°24'09.8"E	https://photos.app.goo.gl/3Q3nb70hepb47mz8	Keep
27	Carwoola - Dam Level - SC Paddock #1 (WaterWatch)	WaterWatch	35°24'56.6"S 149°24'19.4"E	https://photos.app.goo.gl/AtiWqoqzAHzWUueA	Keep
28	Carwoola - Soil Probe - No 7 North Paddock #1 At Pivot Head (GoannaAg)	Goanna Ag	35°24'51.8"S 149°24'13.3"E	https://photos.app.goo.gl/gSFKsmDpwinVE34F7	Keep
29	Carwoola - Rain Gauge - No 7 North Paddock #1 North East (AxisTech)	AxisTech	35°24'45.2"S 149°24'16.7"E	https://photos.app.goo.gl/cnYgaxCs4aaM47T8	Keep (?)
30	Carwoola - IDS Communication - No 7 North Paddock #1 (IDS)	IDS	35°24'41.5"S 149°24'15.5"E	https://photos.app.goo.gl/3BLrGKHMAwdaHn82	Keep
31	Carwoola - Water Trough Level - EX25 Paddock #1 (WaterWatch)	WaterWatch	35°24'42.6"S 149°24'20.8"E	https://photos.app.goo.gl/6WAgpn2T93dGzaxKtM8	Keep
32	Carwoola - Gate Sensor - EX25 Paddock #1 (GoannaAg)	Goanna Ag	35°24'41.9"S 149°24'22.9"E	https://photos.app.goo.gl/Dn2nAtP1XsDUUW7	Remove (?)
33	Carwoola - Water Trough Level - No 6 Paddock #1 (WaterWatch)	WaterWatch	35°24'45.1"S 149°24'25.9"E	https://photos.app.goo.gl/AtEER7cGVWm7ndk9	Keep
34	Carwoola - Gate Sensor - No 6 #1 (GoannaAg)	Goanna Ag	35°24'45.1"S 149°24'40.6"E	https://photos.app.goo.gl/Tvta5YeXetUed7c9	Remove (?)
35	Carwoola - Gate Sensor - No 2c Paddock #2 (GoannaAg)	Goanna Ag	35°24'42.0"S 149°24'22.4"E	https://photos.app.goo.gl/bn8FePcQzUqU936	Remove (?)
36	Carwoola - Gate Sensor - No 2c Paddock #3 (GoannaAg)	Goanna Ag	35°24'42.0"S 149°24'22.6"E	https://photos.app.goo.gl/5eI2fboxb8Fme17A	Remove (?)
37	Carwoola - Rain Gauge - No 2c Paddock #1 (AxisTech)	AxisTech	35°24'35.2"S 149°24'14.2"E	https://photos.app.goo.gl/5H5HrH6B13sCmZ7A	Keep (?)
38	Carwoola - Soil Probe - No 2c Paddock #1 (AxisTech)	AxisTech	35°24'35.2"S 149°24'14.2"E	https://photos.app.goo.gl/uk54fYdnabXKra3a8	Repurpose
39	Carwoola - Dam Level - No 2d Paddock #1 (WaterWatch)	WaterWatch	35°24'33.9"S 149°24'06.6"E	https://photos.app.goo.gl/5z86dT73ZINRZ2b7	Keep
40	Carwoola - Soil Probe - No 2a Paddock #2 (AxisTech)	AxisTech	35°24'27.7"S 149°24'09.9"E	https://photos.app.goo.gl/b4KessRp60tJ88	Repurpose
41	Carwoola - Rain Gauge - No 2b Paddock #1 (AxisTech)	AxisTech	35°24'42.9"S 149°24'21.7"E	https://photos.app.goo.gl/WwzU16zBdK6m47T8	Keep (?)
42	Carwoola - Soil Probe - No 2b Paddock #2 (AxisTech)	AxisTech	35°24'29.2"S 149°24'21.7"E	https://photos.app.goo.gl/6GASZhhHmRVK419	Repurpose
43	Carwoola - Water Trough Level - No 2b Paddock #1 (WaterWatch)	WaterWatch	35°24'32.6"S 149°24'23.2"E	https://photos.app.goo.gl/M7TwyU8VMNq4p2Cy6	Keep
44	Carwoola - Dam Level - No 3 Paddock #1 (WaterWatch)	WaterWatch	35°24'41.3"S 149°24'35.2"E	https://photos.app.goo.gl/2CnriHid59w7Qj9	Keep
45	Carwoola - Water Trough Level - No 4 Paddock #1 (WaterWatch)	WaterWatch	35°24'46.4"S 149°24'51.7"E	https://photos.app.goo.gl/qLTYW6oFDPOp98	Keep
46	Carwoola - Gate Sensor - Back Corner West Paddock #2 (WaterWatch)	Ento	35°24'47.7"S 149°24'59.5"E	https://photos.app.goo.gl/wrf4eY6W5H5KfVn7	Remove (?)
47	Carwoola - Water Tank Sensor - Back Corner West North Tank #1 (WaterWatch and Farmbot)	WaterWatch & Farmbot	35°24'48.3"S 149°25'06.6"E	https://photos.app.goo.gl/5ErKmeEdP5imXm95	Keep
48	Carwoola - Gate Sensor - Back Corner West Tanks Paddock #1 (WaterWatch)	Ento	35°24'48.7"S 149°25'06.6"E	https://photos.app.goo.gl/7547uCRKFPnZd06	Remove (?)
49	Carwoola - Weather Station - Back Corner West Paddock #1 (AxisTech)	AxisTech	35°24'49.2"S 149°25'06.4"E	https://photos.app.goo.gl/XvPLuB3mb5Pn30dM9	Repurpose
50	Carwoola - Weather Station - Back Corner West Paddock #1 (GoannaAg)	Goanna Ag	35°24'48.7"S 149°25'07.0"E	https://photos.app.goo.gl/ZoepYySUz6tXk18	Keep
51	Carwoola - Water Tank Sensor - Back Corner West South Tank #1 (WaterWatch)	WaterWatch	35°24'48.8"S 149°25'06.6"E	https://photos.app.goo.gl/WXW6su8GHwWk4Do7	Keep
52	Carwoola - Dam Level - Back Corner West Paddock #1 (WaterWatch)	WaterWatch	35°24'29.8"S 149°25'06.4"E	https://photos.app.goo.gl/471WbKULB58ph25	Keep
53	Carwoola - Rain Gauge - Bush Paddock (Dam 1) #1 (GoannaAg)	Goanna Ag	35°25'26.7"S 149°25'15.2"E	https://photos.app.goo.gl/H5bG4m13ab30d86	Keep
54	Carwoola - Weather Station - Yards 3 (GoannaAg and AxisTech)	Goanna Ag	35°25'41.8"S 149°22'46.9"E	https://photos.app.goo.gl/H2vgthrtB8k1f7	Keep
55	Carwoola - Beef Crush - Yards (Teparari)	Te Pari	35°25'38.6"S 149°22'48.1"E	https://photos.app.goo.gl/PnRMdVrWp8B8Kcr76	Keep
56	Carwoola - Water Tank Sensor - Homestead (WaterWatch)	WaterWatch	35°25'30.7"S 149°22'49.7"E	https://photos.app.goo.gl/rmJznceKQ9i314qd7	Keep
57	Carwoola - Door Sensor - Chemical Shed (WaterWatch)	Ento	35°25'31.0"S 149°22'46.8"E	https://photos.app.goo.gl/3eRkKs4ZTMTNMCl56	Keep
58	Carwoola - Door Sensor - Maintenance Shed (WaterWatch)	Ento	35°25'31.0"S 149°22'47.9"E	https://photos.app.goo.gl/hHrH6p4L25aN9YcG7	Keep
59	Carwoola - Dashboard - Maintenance Shed #1 (Pairtree)	Pairtree	35°25'29.8"S 149°22'46.4"E	https://photos.app.goo.gl/QuU3GQmg3m4dCK9	Keep
60	Carwoola - Asset Tracker - Honda Quad (GoannaAg)	Goanna Ag	35°25'30.9"S 149°22'47.6"E	https://photos.app.goo.gl/Z9qzTeRScCwSfXkA	Keep
61	Carwoola - Asset Tracker - New Holland T115 (GoannaAg)	Goanna Ag	35°25'30.6"S 149°22'45.8"E	https://photos.app.goo.gl/7ZCRbyDYdc7pHbU9	Keep
62	Carwoola - Water Tank Sensor - Opp (Farmbot)	Farmbot	35°25'30.0"S 149°22'41.6"E	https://photos.app.goo.gl/no7Sic2HA649zDZG7	Keep
63	Carwoola - Water Tank Sensor - Opp (WaterWatch)	WaterWatch	35°25'29.9"S 149°22'41.6"E	https://photos.app.goo.gl/CoEId9RoPDz93v67	Keep
64	Carwoola - River Flood Sensor - Middle Flat Hole #1 (WaterWatch)	WaterWatch	35°25'13.9"S 149°23'19.1"E	https://photos.app.goo.gl/8EWFvAe52WtwPGu9	Keep
65	Carwoola - IDS Communication - Windmill (IDS)	IDS	35°25'07.7"S 149°23'35.1"E	https://photos.app.goo.gl/z3UsKwSumZnV8MhR9	Keep
66	Carwoola - Asset Tracker - Drill Seeder (GoannaAg)	Goanna Ag	35°25'10.0"S 149°23'33.2"E	https://photos.app.goo.gl/4T4PF5SSoMTULM068	Keep
67	Carwoola - Gate Sensor - Windmill #1 (WaterWatch)	Ento	35°25'09.6"S 149°23'33.5"E	https://photos.app.goo.gl/Vz2bE83LXXgRbw1sm9	Remove (?)
68	Carwoola - Dam Level - Windmill (WaterWatch)	WaterWatch	35°25'22.8"S 149°23'45.4"E	https://photos.app.goo.gl/mwWjJbwJfZ2pWt86	Keep
69	Carwoola - Dam Level - Long (WaterWatch)	WaterWatch	35°25'26.2"S 149°23'39.8"E	https://photos.app.goo.gl/ndGKSUJKtGzBckR6	Keep
70	Carwoola - IDS Communication - Foxlow Hill (IDS)	IDS	35°25'50.9"S 149°24'24.3"E	https://photos.app.goo.gl/EhaYvsP3GkBeU3ny7	Keep
71	Carwoola - Rain Gauge - Foxlow Flat #1 (GoannaAg)	Goanna Ag	35°26'18.3"S 149°24'02.7"E	https://photos.app.goo.gl/f7MUbC5caF4cdHgFA	Keep
72	Carwoola - River Flood Sensor - Top Flat Hole #1 (WaterWatch)	WaterWatch	35°26'32.2"S 149°24'02.3"E	https://photos.app.goo.gl/DiEe1KRPU8Ry75f6	Keep
73	Carwoola - Communications Tower - Long #1 (GoannaAg)	Goanna Ag	35°25'24.2"S 149°24'23.1"E	https://photos.app.goo.gl/ELseY9fUceXfCMPS6	Keep
74	Carwoola - Rain Gauge - Long (GoannaAg)	Goanna Ag	35°25'24.3"S 149°24'23.1"E	https://photos.app.goo.gl/KhZoshvHh8CPTBdRA	Keep
75	Carwoola - Cattle Grid Sensor #1 (GoannaAg)	Goanna Ag	35°25'31.2"S 149°22'37.0"E	https://photos.app.goo.gl/v7G9s8AW1CFwKv5	Keep
76	Carwoola - Gate Sensor - Shearing Shed (GoannaAg)	Ento	35°25'13.9"S 149°22'43.6"E	https://photos.app.goo.gl/SLRBRAthirMFxdu9	Remove (?)
77	Carwoola - Gate Sensor - Shearing Shed Entrance (WaterWatch)	Ento	35°25'15.0"S 149°22'41.3"E	https://photos.app.goo.gl/c1VKUoxvuKvYUc8	Keep (?)
78	Carwoola - Communication System (Thintra)	Thintra	35°25'15.0"S 149°22'41.2"E	https://photos.app.goo.gl/NvF4BxAVFvXtU56	Keep
79	Carwoola - Environment Sensor - Shearing Shed (GoannaAg)	Goanna Ag	35°25'15.1"S 149°22'41.0"E	https://photos.app.goo.gl/c688xuEMv4skvNA	Keep
80	Carwoola - Gate Sensor - Shearing Shed Loadout (WaterWatch)	WaterWatch	35°25'15.2"S 149°22'40.7"E	https://photos.app.goo.gl/ADBeBpV2Y1Q2s79	Keep (?)
81	Carwoola - Cattle Tags (Various)	Various	35°25'15.4"S 149°22'40.2"E	https://photos.app.goo.gl/DkRkmuAWUwUwV4MA	Keep