Government of **Western Australia**
Department of **Water and Environmental Regulation**

Annual Audit Compliance Report Form

Environmental Protection Act 1986, Part V Division 3

Once completed, please submit this form either via email to info@dwer.wa.gov.au, or to the below postal address:

Department of Water and Environmental Regulation
Locked Bag 10
Joondalup DC WA 6919

Section A – Licence details			
Licence number:	L6826/1994/13	Licence file number:	DER2014/000604
Licence holder name:	Ausvision Rural Services Pty Ltd		
Trading as:	Beaufort River Meats		
ACN:	93 106 075 763		
Registered business address:	46 Macri Road, Beaufort River, WA, 6394		
Reporting period:	01 / 01 / 2022 **to** 31 / 12 / 2022		

Section B – Statement of compliance with licence conditions
Did you comply with all of your licence conditions during the reporting period? (please tick the appropriate box)
☐ Yes – please complete: • section C; • section D (if required); and • sign the declaration in Section F.
☒ No – please complete: • section C; • section D (if required); • section E; and • sign the declaration in Section F.

Section C – Statement of actual production	
Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	**Actual production quantity**
15- Abattoir 55- Livestock saleyard or holding pen	323,569 animals slaughtered with a liveweight of 11,019 tonnes

Section D – Statement of actual Part 2 waste discharge quantity	
Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	**Actual Part 2 waste discharge quantity**

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

Condition no:	3	Date(s) of non-compliance:	Annual period

Details of non-compliance:

Emission of treated wastewater to land:

- Total nitrogen loading rate exceeded annual Licence limit - 358.18 Kg/Ha/Year
- Total phosphorus loading rate exceeded annual Licence limit - 101.06 Kg/Ha/Year

Detailed data is presented in Table 1 below.

Table 1: Emissions to land

Recording Date	Usage for Month of	Irrigation (kL)	Animals processed	Animal liveweight (T)	TN in WQ1 (mg/L)	TP in WQ1 (mg/L)	N Input to Areas (kg/ha)	P Input to Areas (kg/ha)
1/02/2022	January	3,458	27,338	848	100	36	**161.20**	**58.03**
1/03/2022	February	3,640	29,388	911				
1/04/2022	March	4,186	28,122	953				
1/05/2022	April	3,640	45,482	1,583	83	16	**75.11**	**14.48**
1/06/2022	May	3,822	29,100	1,016				
29/06/2022	June	6,112	25,981	896				
3/08/2022	July	3,083	5,140	180	58	13	**11.92**	**2.67**
31/08/2022	August	6,054	23,920	865	66	13	**26.64**	**5.25**
5/10/2022	September	6,395	27,247	1,017	73	15	**31.12**	**6.40**
9/11/2022	October	4,159	27,256	956	87	20	**24.12**	**5.55**
7/12/2022	November	3,338	31,099	1,029	94	23	**20.92**	**5.12**
4/01/2022	December	1,848	23,496	765	58	29	7.15	3.57
Total		**49,735**	**323,569**	**11,019**	-	-	**358.18**	**101.06**

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

Environmental impact is expected to be minimal to none.

The premises is not within a proclaimed water area nor is it located near any public drinking water source areas. A recent drilling estimated depth to groundwater to be at least 50 metres below ground level, as such any excess nutrient input resulting in leaching to the natural water resource is highly unlikely.

In addition, the pasture of the irrigation areas does not exhibit any signs of excessive nutrient build-up, such as stunted root or plant growth, leaf burn or plant death. The pasture area consists of Kikuyu, a perennial grass which responds strongly to applied N and P.

As mentioned in the Kikuyu Factsheet of the Local Land Services (NSW Government), Kikuyu

Section E – Details of non-compliance with licence condition
growth rates average 40 to 60 kg DM/ha/day but are highly variable (0 to 160 kg DM/ha/day) within and between years depending on weather conditions. On site, irrigation occurs routinely and is evenly distributed. As such it is fairly assumed that growth rate averages at around 80 kg DM/ha/day within the irrigation areas over an annual period. As mentioned in the Kikuyu Factsheet, N and P removal by Kikuyu grass is 24 and 3 kg/tDM respectively. As such, over a year, the pasture area on site would theoretically remove up to 700 kg/ha/yr of N (i.e. 80 kg DM/ha/day as growth rate x 365 days / 1000 * 24 kg/tDM N removal) and 90 kg/ha/yr of P (i.e. 80 kg DM/ha/day as growth rate x 365 days / 1000 * 3 kg/tDM P removal). Kikuyu grass on site would therefore remove most, if not all nutrient, applied through irrigation, hence prevent any impact on sensitive resources.
Cause (or suspected cause) of non-compliance:
The exceedance of the emission limits is due to a reduction of the nutrient removal ability of the WWTP complemented with an increase in irrigation. As seen in Table 1, 45% of the yearly nitrogen input and 57% of the yearly P input occurred during the first quarter of 2022. Although the irrigation area was smaller at the time (7 ha), this larger input to land was mainly driven by high N (100 mg/L) and P (36 mg/L) concentrations in the Evaporation Pond. In order to improve the quality of the effluent, *Path to Compliance Actions* were established in the second quarter of 2022. This is further detailed in Table 2 located in the next section of the AACR. Irrigation was particularly higher in 2022 (49,735 kL) compared to the previous year (37,856 kL). A more powerful pump and piping system were installed to accommodate irrigation to the approved Area C. Unexpectedly, it took five months (June to October) to optimise the irrigation scheme. Since November 2022 however, irrigation is more efficient, in which weekly irrigation volume does not exceed weekly influent volume. Although emission limits were exceeded in this annual period, it is emphasised that the input rate is significantly lower than both the 2020 (TN 439.5 kg/ha/yr and TP 144.5 kg/ha/yr) and the 2021 (TN 598.1 kg/ha/yr and 157.9 kg/ha/yr) annual periods. This comparison between the past three periods demonstrates drastic improvements in nutrient emissions.
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:
It was decided to use a cost-efficient and systematic approach, we refer as *Path to Compliance Actions* (PTCA) (Tabe 2), to improve the nutrient emission levels to the irrigation areas. In principle, PTCA consists of improving our WWTP a pond at a time, starting with the influent path structures and gradually moving down-gradient, while reviewing the outcome of each action prior to moving to the next. We believe this approach will result in a more efficient WWTP and lead to compliance. As first action, it was decided to deeply clean the sumps and auger connected to the WWTP. This occurred in April 2022. This first action led to an improvement of the emission level in the second quarter of the 2022 annual period. TN input dropped from around 53 kg/ha/month (100 mg/L TN measured in the Evaporation Pond) to 45 kg/ha/month (83 mg/L N) while TP input dropped from 19 kg/ha/month (36 mg/L P) to 8 kg/ha/month (16 mg/L P). As described in Table 2, our actions target an input of less than 15 kg/ha/month for TN and less than 6.67 kg/ha/month for TP to be below the emissions limits to land on a yearly basis. Subsequent to the first action, irrigation of Area C started in May 2022 (Action 2), following the installation of the new irrigation line, pumps and reticulated water cycles. Overall, TN and TP

Section E – Details of non-compliance with licence condition

input dropped to around 23 and 5 kg/ha/month respectively. Upon the completion of Action 2, while TN input target was not reached, the input target for TP was achieved.

As we write this AACR, Action 3 and Action 4 are currently being started. We note that Action 3 (i.e. installation of new anaerobic pond) was supposed to start in the first or second quarter of 2022. Unfortunately, the builder we commissioned kept on rescheduling the work and ended up withdrawing from the project recently. We are now actively looking for a new builder. Depending of the timing in commissioning a new one, we might have to request an extension of W6452/2020/1.

As part of Action 4, we ordered in December 2022 a SAR surface floating aerator, a powerful aerator commonly used in municipal and industrial treatment plant. This aerator is believed to be much more efficient than our former aeration system. Upon receival (ETA February 2023), testing will be carried out over at least a month. Depending on the results, we might decide to order two more SAR aerators to fully complete the aeration network or trial a more expensive mixing system using submersible pumps (Action 5).

Should the above actions do not bring the TN input levels below the target, EEI will be commissioned to conduct a Situational Analysis to inform the design of an Annamox dosing system.

In conclusion, as mentioned in the previous AACR, we believe compliance will likely be met through the year 2024.

Table 2: *Path-to-Compliance Actions*

Action Taken	Action Description	Target	Outcome	Action Review
Action 1 (April 2022 till now)	**Influent Path Structure** Increased cleaning frequency of auger and sumps to WWTP.	Monthly TN and TP input to irrigation areas: < 15 kg/ha/month TN and < 6.67 kg/ha/month TP	TN and TP input improved. From 53 kg/ha/month TN to 45 kg/ha/month and 19 kg/ha/month TP to 8 kg/ha/month.	Target not achieved so moved to Action 2
Action 2 (May 2022 till now)	Irrigation over larger area (15ha instead of 7ha) and optimisation of irrigation scheme.		TN dropped to around 23 kg/ha/month and TP to around 5 kg/ha/month	TP input target achieved. TN input target not achieved so moved to Action 3 and Action 4.
Action 3 (ASAP. Reliable builder yet to be found)	**Anaerobic Pond** Installation of new anaerobic pond as per W6452/2020/1 to carry out desludging of former pond.		Assessment to start when pond is installed.	If TN input target is not achieved, Action 6 will be carried out.
Action 4 (February 2023)	**Aerobic Pond** Improvement of aeration in aerobic pond: Surface floating aerator.		Assessment to start when system is installed.	If TN input target is not achieved, Action 5 will be carried out.
Action 5 (starting ~June 2023)	**Aerobic Pond** Improvement of aeration in aerobic pond: Submersible pump.		Assessment to start when system is installed.	If TN input target is not achieved, Action 6 will be carried out.
Action 6 (starting ~October	**Evaporation Pond** Situational analysis by EEI to inform for		Assessment to start when system is installed.	To be advised

Section E – Details of non-compliance with licence condition				
2023)	annamox dosing.			

Was this non-compliance previously reported to DWER?	
☒ Yes, and	
☐ Reported to DWER verbally	Date: / /
☒ Reported to DWER in writing	Date: 07 / 01 / 2022 (previous AACR)

Section F – Declaration

I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular[1]. I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.			
Signature[2]:	[redacted]	Signature:	
Name: (printed)		Name: (printed)	
Position:	Managing Director	Position:	
Date:	20/01/2023	Date:	
Seal (if signing under seal):			

[1] It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular.

[2] AACRs can only be signed by the licence holder or an authorised person with the legal authority to sign on behalf of the licence holder.