

Before an Independent Hearing Commissioner at Hurunui District Council

under: the Resource Management Act 1991

in the matter of: application RC210098 for land use consent to install
and operate a Gravity-Based Recreation Activity within
the Conical Hill Reserve, Hanmer Springs

between: **Hanmer Springs Thermal Pools & Spa**
Applicant

and: **Hurunui District Council**
Consent Authority

Statement of Evidence of Nathan Derek Broerse BVSc

Dated: 27th September 2021

REFERENCE: J M Appleyard (Jo.Appleyard@chapmantripp.com)

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STATEMENT OF EVIDENCE OF NATHAN DEREK BROERSE

INTRODUCTION

- 1 My full name is Nathan Derek Broerse.
- 2 I am a large animal veterinarian at North Canterbury Veterinary Clinics Ltd. I earned my Bachelor of Veterinary Science from Massey University in 2012 and have been in rural practice ever since. In the course of my veterinary practice I perform the bulk of the horse work seen by my practice.
- 3 I am familiar with horses and their behaviour, to which this matter relates. I have undertaken a site visit and walked the section of the track in proximity to the proposed attraction.
- 4 I have considerable experience with horses having owned, trained and worked with them for over 25 years. I have been a riding instructor for over 15 years.

CODE OF CONDUCT

- 5 Although these proceedings are not before the Environment Court, I have read the Environment Court's Code of Conduct for Expert Witnesses in its Environment Court Practice Note 2014 and I agree to comply with it as if these proceedings were before the Court. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

- 6 My evidence will deal with the following:
 - 6.1 Horse behaviour and physiology;
 - 6.2 Visibility of the attraction from the Lucas Lane track with respect to horses;
 - 6.3 Noise effects of the Flyride attraction with respect to horses; and
 - 6.4 Response to the submission made by Hanmer Springs Horse Riders Inc. (HSHR).

SUMMARY OF EVIDENCE

- 7 I have assessed the effects of the proposed Flyride on existing horse riders using the Lucas Lane track. This has included a site visit, a review of relevant evidence relating to the expected noise emanating from the proposed attraction, and consideration of HSHR's submission.

- 8 I consider the operation of the Flyride attraction will not compromise horse welfare whilst using the Lucas Lane track and will not create an unsafe riding environment rendering the current track unusable during operation of the flyride.
- 9 In particular, I believe that noise from users of the Flyride will be no more confronting to a horse than that which may be experienced by encountering other users of the track. I also conclude that it is unlikely a horse would be able to see the attraction.
- 10 Notwithstanding these conclusions, I believe that installing signage on the Lucas Lane track to offer notice to riders of the track of the Flyride's operation would be appropriate.

HORSE BEHAVIOUR AND PHYSIOLOGY

- 11 In the wild, horses were prey animals. Horses needed to be aware of any possible threats nearby and hence have extremely well-developed senses. This includes sight, hearing, smell and a corresponding well-developed fight or flight response.
- 12 The fight or flight response is a mechanism by which horses fight an adversary or flee from it, for optimum chances of survival. It involves a complex physiological response that provides the greatest ability for a horse to escape from perceived danger.
- 13 In most situations flight is the dominant response. Horses may react adversely to any aspect of the environment. In particular, horses can be easily spooked by new sights or sounds suddenly occurring and these can stimulate a flight reaction. Slow steady movements or low noises are a lot less likely to frighten a horse.
- 14 Not all horses react with the same magnitude of fear. This means that horses' severity of flight response when exposed to the same stimulus differs. There are multiple reasons for differing responses to the same stimulus, but generally these are due to differences in temperament, habituation and desensitisation.
- 15 Vision is considered the primary danger detector for horses (McGreevy, Dr. P., 2004 and Burton, F., 1999). Horses have a visual field that is nearly 360 degrees in the horizontal plane and nearly 180 degrees in the lower half of the vertical plane.
- 16 Horses have a well-developed sense of hearing and use it to detect threats.
- 17 Despite their evident sensitivity, horses do not react to all sounds in their environment. Research indicates that a large amount of filtering takes place in the brain to ensure that only relevant sounds are acted upon (Burton, F., 1999).

VISIBILITY OF THE ATTRACTION FROM THE LUCAS LANE TRACK WITH RESPECT TO HORSES

- 18 I have undertaken a site visit and walked the section of the Lucas Lane track in proximity to the proposed attraction.

- 19 The Applicant has provided me with the satellite image in Figure 1. This illustrates the horizontal proximity of the Flyride attraction to the Lucas Lane track. Horizontally, pole 5 is approximately 52 metres from the track and pole 6 is approximately 45 metres away from the track.
- 20 Figure 1. does not adequately address the vertical proximity between the proposed Flyride attraction and the Lucas Lane track. The topography of the terrain in this area is very steep and is covered in tall thick vegetation.
- 21 Figure 2. provides a view looking north along the Lucas Lane track and Figure 3. provides a view looking south. These photographs provide a view of the dense vegetation present.
- 22 I understand that there are markers installed at the proposed location of each pole. During my site visit I was unable to see any of the installed markers through the tall thick vegetation.
- 23 Due to the nature of horses' visual field's, the topography of the terrain and dense vegetation providing visual blockade between the Lucas Lane track and the Flyride attraction, in my opinion it is reasonable to conclude that a horse on the track will be unable to see the attraction. I therefore consider it is unlikely that any horse would react to any sudden movement associated with the Flyride.

NOISE EFFECTS OF THE ATTRACTION WITH RESPECT TO HORSES

- 24 I have consulted the noise assessment performed by Acoustic Engineering and the review by Marshall Day Acoustics. My understanding is that noise generated by the attraction itself will be low.
- 25 The report from Acoustic Engineering states that "the main noise source from this activity will be the noise from participants' vocal reactions to the ride, screaming and/or shrieking during the ride experience."
- 26 I consider that horses are unlikely to perceive the types of noise outlined above to be a threat. This is due to the distance (both horizontally and vertically) between the track and the proposed Flyride route. In general, the further away the stimuli the less likely the horse is to react. In my opinion, noise heard from a distance is more likely to elicit alertness and curiosity than a fear response.
- 27 I also understand from the Acoustic Engineering report that the level of noise expected to be heard from the track is similar to occasional noise events generated by vehicles, mountain bikers, bird calls or broken branches. In my view, distant shouts and screams from users of the Flyride would be no more confronting to a horse than these other noises already experienced in the area.

- 28 Therefore, I consider it is reasonable to conclude that a horse on the track is unlikely to be spooked by sounds emanating from the Flyride attraction.

RESPONSE TO THE SUBMISSION MADE BY HANMER SPRINGS HORSE RIDERS INC. (HSHR)

- 29 HSHR outlines in its submission that horses are prey animals and 'spook' easily at sudden movements or loud noises, which can invoke a dangerous flight response in even the most well-trained horse. HSHR are concerned that unaccustomed overhead movements and shrieks and screams of patrons will create an unsafe riding environment rendering the current track unusable during operation of the ride. HSHR suggests that the applicant should install an alternative 'cross-town' horse riding track prior to construction of the Flyride.
- 30 I agree with HSHR that horses are prey animals and can be easily spooked by new sights or sounds. Horses may react adversely to any aspect of the environment.
- 31 However, I consider noise from users of the Flyride to be no more confronting to a horse than that which may be experienced by encountering other users of the track. In this respect, I note that the track a "mixed-use" track also shared with walkers and mountain bikers.
- 32 Further, I consider that it is unlikely that a horse would be able to see the attraction. This is based on my site visit, the nature of horses' visual fields, the topography of the terrain and dense vegetation providing visual blockade between the Lucas Lane track and the Flyride attraction. I therefore consider it is unlikely that any horse would react to sudden movement associated with the overheard movements.
- 33 Accordingly, I disagree that the operation of the Flyride attraction will create an unsafe riding environment over and above the current risks inherent within the existing environment or horse riding more generally. Given my conclusions, I do not consider that installing an alternative 'cross-town' horse riding track is the most suitable mitigation method and, in my opinion, establishing an alternative track is not necessary to ensure the safety of horse riders using the existing track.
- 34 Notwithstanding my views expressed above, I consider that alerting horse riders to the Flyride attraction would be a good mitigation measure. This could be through appropriate signage installed on the track which would offer notice to users of the track to be aware of the Flyride's operation.

CONCLUSIONS

- 35 I consider the operation of the Flyride attraction will not compromise horse welfare whilst using the Lucas Lane track and will not create

an unsafe riding environment rendering the current track unusable during operation of the Flyride.

Dated: 27 September 2021

A handwritten signature in blue ink, appearing to read "Nathan Broerse". The signature is stylized and cursive.

Nathan Derek Broerse

APPENDIX 1. FIGURES

Figure 1.



Figure 2.



Figure 3.



APPENDIX 2. CITATIONS

Burton, F., 1999, Ultimate Horse Care - Chapter 7 The Horse's World, Ringpress Books.

McGreevy, Dr. P., 2004, Equine Behaviour, Elsevier Ltd.