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Regarding: Woolamai to Nyora Rail Trail Project

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1. Project overview:

This report was commissioned by *Michael Smith and Associates Landscape Architecture and Urban Design*, as the lead consultant, to address and advise on potential biosecurity issues associated with the proposed Nyora to Woolamai Rail Trail.

In addition to biosecurity issues, this report discusses land management issues during the construction phase of the trail, ongoing communication processes with farmers and landholders; and design of stock crossings.

This report addresses the key issues of biosecurity risks to landholders during construction and post-construction of the Rail Trail as well as land management issues during construction and post-construction, including the crossing of stock and vehicles during and construction.

- The key biosecurity risks include:
  -pest and disease infection between properties during trail construction by construction staff.
  -pest and disease transfer via the public using the Rail Trail.
  -pest and disease transfer via horses or dogs on the Rail Trail.
  - weed infestation along the reserve corridor once stock are excluded from the reserve.
  -spread of weeds during the construction phase.
  -biosecurity risks associated with trail crossings where there is interface with livestock and trail users.

- Rubbish and public waste including food can be a biosecurity hazard as well as a concern to landholders.

- Issues of livestock scare by people, dogs and horses can be of concern to landholders.

- A Universal Risk Matrix and suggested mitigation measures for key agricultural risks.

- The Rail Trail will dissect some landholder's properties, as the reserve corridor does currently, and as such, crossings need to be installed.

- Properties that are dissected by the Rail Trail will require water lines to be re-instated during-construction, fencing constructed as well as access for stock and vehicles during and after construction. Management of this process is critical to reduce the disturbance to landholders.

- Communication and engagement protocols and methods are highly recommended, both for Project Team members, construction staff, once commissioned, for the general public and Rail Trail users.

Between May and August 2024, key members of the consulting team met with most farmers along the route to obtain feedback, encourage suggestions and document farmers' concerns. A number of farmers raised the issue of biosecurity.

This proposed section of trail is important for South and West Gippsland; and if constructed will provide a strategic link between the Great Southern Trail and the Wonthaggi, Phillip Island and Inverloch connections.

Biosecurity issues are likely to be more prevalent in the Nyora-Woolamai section than in some other Gippsland trails because the trail will interface more directly with adjacent farmland, compared to the Great Southern and Wonthaggi trails where the trail is more separated from farmland and follows road reserves to a greater extent.

In addition, in the Nyora to Woolamai section, adjacent farm landholders have been using the Crown land former rail corridor for over 40 years since closure of the line, for grazing of livestock, movement of animals, storage of fodder and other uses. Such usage has been without authorising leases or licences being in place. With no active management or monitoring of the Crown land corridor by government agencies, it is not surprising that some farmers have spread their operations over the land as if it was their own, even though legally the former rail corridor is Crown Land and cannot be subsumed by adjacent farms through adverse possession.

ONFARM Consulting was involved in consultations with farmers along this route some years ago as part of the Desalination Plant pipeline construction. That project raised biosecurity concerns amongst farmers similar to the current rail trail proposal.

Farmers' concerns about biosecurity can be legitimate but can also be based on perceptions or fear. Section 5 outlines the range of biosecurity risks for a project of this type.

It is important to note that many of the risks landholders raise will or may exist in any rural area every day, such as visitors to farms and properties, vehicular movement along roads, easements, driveways and other thoroughfares. Stock movements occur regularly across properties, through saleyards, across and along roadways and the like and landholders manage these risks. People and dogs, horses and bikes travel around roads in rural areas, sometimes only metres from property boundaries; and there are few reported incidents of contamination, disease, litter, illegal activities and the like. Foxes, rabbits, native animals and birds habitate on and transit through properties and between properties on a regular basis. Spread of diseases and infections does take place from native animals to livestock (for example Thileria, spread by ticks on native animals) but landholders manage these risks and accept the risks as part of their business activities. Whilst it is always desired that agriculture be risk-free, the reality is that it is not and cannot be.

In our opinion, the construction of the rail trail will not noticeably increase risk to landholders and farmers along its course from spread of disease, weeds, contamination, animal disturbance or other forms of business impact or loss.

It is possible that some of the perceived biosecurity concerns raised by landholders could be motivated by a sense of business loss, in that former rail corridor land used by farms will no longer be available, notwithstanding that the use was unauthorised and the land remains Crown land. These circumstances naturally can influence farmers' responses to and perceptions of the rail trail.

Nevertheless, many of these concerns can be ameliorated by the way the rail trail is designed. Relatively modest investment in features such as well-constructed crossings and stock thoroughfares, including underpasses and gates, new water troughs and lines where previous infrastructure is altered, new fencing where existing fencing is old and in poor condition, and other features such as signage can go a long way in gaining local acceptance of the project.

Meaningful and genuine engagement with farmers and landholders will also assist greatly in understanding the impacts of the trail on farming businesses. During the detailed design phase and the construction phase it is recommended that a dedicated farmer liaison person be appointed as part of the project team, to act as a direct point of contact and "go-to person" for farmers, to minimise construction impacts on farming operations.

2. Land management issues - management of the construction process and impacts on landholders:

2.1 Business impact:

The landholders need to be well-informed and well engaged during this phase. They need to know who they speak to if there is an issue, and this person needs to know who they are, where they are and how they are being impacted and why.

Construction activities, vegetation removal, movement of soil, gravel, rock, bridges, culverts and the like should as much as possible be all accessed via the corridor which is accessible along the length at local road intersections with the trail, rather than via property access. This not only reduces the impact on landholders, but significantly lowers biosecurity risk.

For those landholders with land on each side of the reserve, stock will still need to traverse the reserve to access paddocks on either side, and this needs to be managed as part of the project construction. Specific management plans and arrangements need to be considered, developed and discussed with these individual landholders.

2.2 Water

For some of the landholders, particularly those where land is owned or managed on each side of the reserve, water lines will be disrupted temporarily or permanently. Re-instatement of these lines needs to be done well and swiftly, as grazing and use by stock may be prevented. New polypipe line of suitable size with new water troughs would be advised, as older and smaller existing troughs may not cope with higher flow levels new pipe will offer.

2.3 Fencing

Fencing will be a major project expense and will be a significant concern for landholders. Constructed fencing needs to be suitable for stock control but also to minimise the risk of people and dog intrusion onto private property. Suggested fencing would be treated pine posts with one or two barbed wires at the top and ringlock at the bottom, constructed by a suitably qualified agricultural fencing contractor. I noted on inspection of the trail corridor at

many sites, the existing fencing is strong, well-constructed and permanent and as a result, may not need replacing. This will be a case-by-case occurrence.

The construction of new fencing or improvements to existing fencing may in places require property access, and so there is a biosecurity issue to be managed as well as a requirement for strong liaison with property owners and managers. Due to vegetation along the reserve as well as steep gradient in some parts, access for construction and ramming of posts and installation of wires may be best to be done from the landholder's side. Again, this is where the communication between the project team and landholders needs to be strong and consistent.

Some landholders may wish for electric fencing to be installed on the new fenceline inside their boundary. This may require regular signage notifying Rail Trail users of the presence of an electric fence.

2.4 Laneways, tracks and access points:

Laneways, tracks and stock and vehicle thoroughfares will be required for some landholders where land is owned on each side of the reserve. These crossings will need to be all-weather gravel access, either across the trail with associated gates, or as an underpass. The newly constructed Great Southern Rail Trail section from Welshpool to Yarram has several underpasses to allow stock and vehicle movement in an uninterrupted manner, and whilst considerably more expensive, offer a far easier stock management system than gates, which not only can be left open, be removed or broken but also result in manure being left on the trail when animals cross, posing a biosecurity and health risk to other landholders along the trail or to users of the trail.

Track construction for stock movement will be required from fence to fence across the reserve at right angles to the trail (see photos 15 and 16), and in some areas this may need to be raised due to risk of flooding or water movement, or to allow stock to reach the level of the trail and cross smoothly without too steep a gradient. Equally, an underpass may be best where the trail surface will be at significant height, or the trail may need to be gradually raised to go over the underpass culvert. Attention needs to be given to ensuring that works involving underpasses, surface-level trail crossings and gateways have appropriate gradient for stock and vehicular movement, are appropriately sized for the number of stock moving across the trail, are sized appropriately to allow for mobile farm plant and equipment to move freely across the trail and are constructed such that cleaning isn't required. If cleaning is required, it must be able to be done easily, efficiently and effectively given a lack of power and water supply on most sites. Water points may be required where cleaning must be done on a concrete stock crossing. It is likely that most properties along the corridor will not have water at appropriate places to allow for the washing of a concrete crossing.

Underpasses must be constructed such that floor level is above the natural ground level, or water will enter the underpass and cause flooding. A simple elevation and adequate sloping on the entry and exit to the underpass should be sufficient to prevent water entering (see photos 13 and 14).

Any underpass needs to be suitably sized to allow for entry and exit for basic farm machinery and vehicles, as well as to provide adequate and appropriate stock flow. This is likely to only be an issue with dairy farms, but trying to push large numbers of cows through a single underpass will result in extremely bad animal flow and poor time efficiency. I liken it to a four-lane freeway at peak hour merging into two lanes…it doesn't bode well for stock movement or the mood of farmers and stock!

Above-ground crossings will generally always involve gates. Allowance needs to be made as to whether the gates are default closed to stock and open to Rail Trail users, or vice-versa. Given the lower number of farm businesses traversing the trail once constructed and the fact that most are not dairy farm businesses where stock rotate regularly around the farm area, it would be advised that gates be open to Rail Trail users as the default and landholders must physically open and close gates when moving stock, rather than the other way around. This way it reduces the risk of gates being inadvertently left open by trail users when a landholder is expecting that it is closed.

Again, during the construction of the crossings, underpasses, vehicle and stock thoroughfares, access may be easier and smoother via properties rather than along the corridor. In such cases, biosecurity needs to be managed and adhered to.

2.5 Access:

Access to properties for the works mentioned above (fencing, waterlines, crossings and underpasses) where this cannot be done via the reserve corridor, should only take place during months when soils are suitable for access and are not wet or waterlogged, or damage to properties will be significant and works more difficult to undertake. Whilst every season is different, it can generally be advised that access to properties for construction only take place between November and May in any year. Outside these times, soil, pasture and track damage could be significant and angst amongst landholders greater. Given the length of the project (some 24km), it is worth noting that to adequately meet the most suitable works time (Nov-May), a two or three-year construction period may be required. This will differ across different Rail Trails, as I note the construction of the Welshpool to Alberton section of the Great Southern Rail Trail was completed quite quickly (around 12 months for around 23km), but is in a considerably lower rainfall area than the Woolamai to Nyora trail.

Many landowners require time and planning to manage grazing rotations, adjust plans for stock movement, manage periods of possible paddock exclusion or limited access during the construction phase. It is strongly recommended that as long a notice period as possible is given to landholders when activities are going to commence or take place. This gives appropriate time for management planning to take place. As a minimum, 12 weeks' notice should be given, and it isn't unrealistic to allow double this time to be provided especially if major works are to be undertaken.

3. Biosecurity:

3.1 It should be noted that Biosecurity is a shared responsibility across a range of entities, being stakeholders/landholders/managers, Government and industry. It is not the sole responsibility of any one party. Whilst landholders impacted by the Woolamai to Nyora Rail Trail have, and will raise biosecurity concerns with the project team, and see the Trail's construction as a risk to their own property's biosecurity, some of the risks they see are actually managed at a National level, and already pose an ongoing risk to their businesses. In my opinion, the the Rail Trail will add little additional risk to their businesses from a biosecurity perspective, with the possible exception of during the construction phase.

Commercial livestock farming and milk producers abide by industry and processor Quality Assurance programs. Examples for livestock producers are (but not limited to) Livestock Production Assurance (LPA) as part of Meat and Livestock Australia (MLA) and SafeMeat, and Milkcare for Saputo Dairy Australia for dairy farmers. Under such programs, producers are required to implement and manage biosecurity on their properties and be subject to external auditing of such protocols, amongst other things. A producer's biosecurity 'status' should not be affected by such a project or its construction, but contractors, workers and project team members should be aware of, and adhere to such biosecurity measures at all times when working on a landholder's property. Details of such biosecurity measures are detailed below.

3.2 Greatest agricultural biosecurity risks and common modes of transmission

3.2.1 Weeds:

Most transmission of noxious and problematic agricultural weeds is via wind, animals and birds, where seeds are transmitted in the air or via animal furs, skins or hides, or faeces.

Whilst the Rail Trail may increase the risk of dogs or horses transferring weed seeds via fur or hides or in some cases via feet, in reality, the greatest form of spread of weeds will be from birds, foxes and other mammals consuming fruit and spreading seeds via feaces and transfer via natural wind flow.

Movement of weed seeds via wind will not change with the construction of the rail trail.

Movement of weeds by the public using the trail will be minimal to negligible in comparison to other modes of transfer such as spread by birds or foxes in faeces. It could be considered that bike tyres or frames pose minimal risk to transmission of weeds.

3.2.2 Diseases:

Most transfer of high-risk animal diseases is from animal to animal transfer, or transfer from human to animals via shoes, boots, soil, manure and organic matter on footwear or discarded foodstuffs that are consumed by animals.

Animal to animal transfer may be via a vector such as ticks (eg Thileria), or close contact and transfer from saliva, urine, faeces and the like (eg pestivirus, leptospirosis). The Rail Trail is unlikely to dramatically increase the risk of animal-to-animal transmission of diseases or pests above what may currently take place across property boundaries. See section 5.5.

3.3 Other landholder concerns involving agricultural issues:

3.3.1 livestock scare and attack by dogs:

There is a risk from scare of animals by Rail Trail user's dogs (or horses) when the public use the trail. Adequate fencing and barriers can certainly lower the risk or frequency of occurrence. The risk is magnified when stock cross the trail under a droving situation, hence the incorporation of underpasses as opposed to above-ground crossings.

Fencing should ideally be made of ringlock and treated timber posts, with one or two barbed wires on the top. However it should be noted that whilst this minimises access by trail user's dogs, it also prevents movement through fences by native fauna and this can result in fence damage as animals burrow under or attempt to get through the ringlock.

Most properties have road frontages, and the risk posed by the Rail Trail in relation to dogs, horses and people and animal scare is likely to be no greater than the incidence of such problems with road frontages.

3.3.2 rubbish and waste:

The impact of rubbish and waste disposal is likely to be more of a visual and inconvenience than posing a biosecurity risk. Whilst it isn't desirable in any way, the impact on agricultural businesses from a biosecurity or production risk perspective is low to negligible. The exception is where the rubbish involves food scraps, which may contain diseases or animal products that may then be consumed by livestock. Such incidences may be foods containing meat products which must not be consumed by ruminants, or contaminated food products from overseas containing diseases such as Foot and Mouth disease.

3.4 Universal Risk Matrix

It is worth approaching this project and stages within this project under a "Universal Risk Matrix" approach.

Likelihood		Consequences				
		Insignificant	**Minor**	**Moderate**	**Major**	**Catastrophic**
	Almost certain	Medium	High	Very High	Very High	Very High
	Likely	Medium	Medium	High	Very High	Very High
	Possible	Low	Medium	Medium	High	Very High
	Unlikely	Low	Low	Medium	High	High
	Rare	low	Low	Medium	Medium	High

Definitions for likelihood ratings:

- Almost certain: May occur several times over a short period or continuously;
- Likely: May occur monthly to several times a year;
- Possible: Might occur once in a period of one to three years;
- Unlikely: Could occur over time (eg five to ten years);
- Rare: May occur only in exceptional circumstances (eg 10-20 years).

When investigation into other Rail Trail projects across the country were undertaken, a process of assessment of the biosecurity risks and impacts were undertaken. I reviewed such assessments of the Tweed section of Northern NSW Rail Trail (https://www.lls.nsw.gov.au/__data/assets/pdf_file/0013/1153003/NCLLS_Biosecutity-Risk-Assessment_Final.pdf) and New Englad Rail Trail (https://www.gisc.nsw.gov.au/files/assets/public/v/1/economic-development/documents/nert-biosecurity-risk-assessment-and-biosecurity-implementation-plan.pdf)

The Tweed project identified 51 biosecurity risks and benefits and broke the biosecurity risks into seven categories- livestock; animal welfare; horses using the trail; dogs using the trail; horticulture; wildlife and the environment; humans. It is fair to say, at this point on the Woolamai to Nyora corridor there is little to no horticultural impact other than some private horticulture for domestic use.

The Tweed report found that 10 risks (of 51) may be exacerbated by the Rail Trail, four in relation to Wildlife and the Environment, two to Animal Welfare, two to Human, one to Livestock and one to Horses using the trail. Twenty one risks were mitigated or benefited from the Trail implementation (some with mitigation options), 20 risks were identified to increase in likelihood of occurrence but returned to pre-existing ratings or likelihood of occurrence if appropriate treatment options are applied. Two biosecurity risks were identified with a high risk rating after treatment options were implemented and these both involved livestock, but in particular Exotic Animal Diseases introduced by footwear and by foodstuffs. Unfortunately both these events have a High consequence rating, but with Rare likelihood before a trail construction and Unlikely rating after construction. To me, this is of major concern to landholders and industry, but this risk exists currently and will essentially be no different should the Trail be constructed. It exists with roads, transport of livestock, produce, inputs, contractors and the like. It is an issue that livestock industries (beef, dairy, pigs) assess, mitigate, educate and inform about, and one that Governments manage at a National level.

3.5 Agricultural risks

As the scope of this report is to only deal with agricultural impacts and issues regarding Landholders along the reserve, and not the wider community or users of the Trail, I summarise the findings of the two similar reports cited above, adapted where relevant to the Woolamai to Nyora Rail Trail.

Risk	Perceived Risk Rating	Mitigation Actions	Risk Rating After Mitigation Actions
Construction staff, contractors or Trail users introducing or transmitting exotic diseases (via footwear, foodstuffs, person etc)	High	-education and implementation of procedures such as disinfection of footwear and a food disposal process by construction staff and contractors; -vehicular washing and disinfection points when private property needs to be accessed. -signage regarding biosecurity during construction and at commissioning; -signage detailing food and rubbish disposal at all entry points; -signage detailing biosecurity risks for people having been outside the country within last 7 days; - signage detailing no access to private property, touching or approaching livestock; -foot scrub points at entry and exit areas for shoes, boots, bike tyres.. -maximise number of underpasses for stock and vehicular crossing as opposed to above-ground crossing points. -stock-proof fencing and ringlock to minimise risk of people and dogs entering private property. -emergency response plan to ensure closure of trail during a disease outbreak or emergency.	High
Livestock enter Trail reserve via broken fences, open gates,	Medium	-signage to warn of trespassing, opening gates, staying away from livestock;	Medium

intentional or non-intentional escape		-maintenance staff regularly inspect trail for fence damage and repair appropriately; -gates locked where possible; - maximise number of underpasses to minimise crossings and gates. -regular monitoring by Council to ensure compliance by landowners and monitor maintenance requirements.	
Trail users, dogs or horses impact negatively on livestock	Medium	-signage to warn of trespassing, opening gates, staying away from livestock; - dogs should be on leash and regular signage along the trail and enforcement in place. -signage detailing impacts of dogs on livestock;	Medium to low
Trail users frighten or negatively impact livestock	Medium to low	-signage to warn of trespassing, opening gates, staying away from livestock; -fences to be constructed of barbed wire and ringlock; -gates locked where possible. -incorporation of underpasses rather than above-ground crossings.	Medium to low
Weed are transferred along the corridor from other properties and from outside areas on person, bikes, clothing, dogs, horses etc	Medium to low	-signage detailing biosecurity risks, identifying weeds, explaining risks if been outside country within last 7 days; - signage to warn of trespassing, opening gates; -engagement of Landcare and other local organisations to monitor and provide weed control; -foot scrubs at entry points for shoes, boots, bike tyres.	Medium to low
Spray drift from herbicides by contractors to control weeds on Trail impacts	Medium	-ensure safe and appropriate use of chemicals by	Low

neighbouring properties		maintenance staff and contractors; -liaising with adjacent landholders as to when spraying will take place; -only accredited chemicals used which are accepted by relevant industry bodies and processors and meet APVMA guidelines.	
Contamination of Trail users by livestock manure at trail crossing points	Medium to low	-minimising surface level crossings and maximising underpass crossings to prevent contamination of trail with livestock manure.	Low
General biosecurity, weed control, fire prevention, stock control, anti-social behaviour issues along the trail	Medium	-appropriate signage with list of major issues and associated contact numbers/QR codes; -regular consultation with adjoining landholders before, during and after construction to seek concerns and suggested mitigation measures.	Medium to low

3.6 Specific biosecurity requirements, responsibilities and actions recommended during construction phase:

It is strongly advised that the following practices and procedures are adopted by all contractors and construction workers during the construction phase:

- Vehicle washing between properties with an approved and appropriate disinfectant such as a chlorine-based products
- Contractors not having contact with livestock on properties
- Foot scrubbing when entering properties and paddocks and moving between farms, removing soil and organic matter and then disinfecting with an appropriate and approved disinfectant
- No mixing of soil from different properties on equipment, bodies, footwear, clothing
- No mixing of vegetation or plant material from different properties
- No disposal of food scraps on properties or on the Trail reserve
- Disinfection of tools, equipment and footwear with a chlorine-based or similar disinfectant, when working across different properties
- Limitations imposed on contractors as to where they can access, park vehicles, eat, set up works areas etc to contain impacts and minimise risk of biosecurity threats



Figure 1: example of an 'automatic' foot scrubbing station sometimes found in National Parks and the like for control of pests, diseases and pathogens such as *Phytopthora cinnamomi.* Such facilities could be installed at major entry and exit points along the trail to help control any spread of pests and diseases. Source https://www.nature.com/articles/s41598-023-32681-7

4. **Communication process:**

It is strongly recommended that there be a key contact for landholders during the pre-construction phase, the construction phase and a period of time post-construction and once commissioned, possibly for up to two years. This person should be someone who is aware of, and understands the issues of the affected landholders, as well as who know how a particular landholder has been impacted. This way, proper discussions and communication can take place between the parties, and the affected landholder doesn't feel like they are getting the 'run around'. It will make for a far smoother construction phase, as well as period 'post-construction', as the key contact will know what has been done on a property (or not done), and why.

Contractors and people engaged on the project need to understand the issues at hand and fully briefed regarding biosecurity, as well as the impacts of the projects on landholders. They need to be respectful and attuned to working with farmers, where management of stock, timeliness and minimising impacts are paramount. They need to understand, appreciate and respect that many of these impacted landholders are running a business, and their actions impact on this business.

Post-construction and post-commissioning, landholders and users need to know who the responsible party is, and who they should speak to around ongoing maintenance of infrastructure, issues arising with the trail and concerns they have about the trail or biosecurity/weeds/vermin/vegetation issues and maintenance. This may be best being a specific person, or if not possible, which Local Government department/s are responsible for management, upkeep and maintenance of the Rail Trail. This will assist with easing some landholder concerns regarding getting swift action when there may be a particular issue requiring action. As an example, who assists with fencing repairs should a tree fall from the Rail Trail reserve, who replaces a gate that has been broken or removed, who deals with pests and weeds, who handles complaints regarding users of the trail or their activities.

5. Crossings for agricultural use and access to land on both sides of the Trail:

It should be noted that initially, the highest biosecurity risk will be during the construction phase, when there is movement of vehicles and contractors across properties and within properties for the construction of the trail and associated crossings, fencing, vegetation removal and the like. It is why it is highly recommended that as many of the activities as possible are done utilising the reserve corridor and associated local roads rather than private properties. Once constructed, the greatest risks and issues will be where stock cross the trail to access an area of a dissected property. To minimise the risk of contamination of the trail, damage to the trail surface, any biosecurity risks and the like, an underpass is a far superior means of stock moving across the trail from one side of a property to another. There would be no direct interaction between livestock and the trail surface and therefore it lowers the risk of an incident taking place. Any such underpass must be large enough to allow for the passing through of a motorised vehicle, for example side-by-side, buggy, motorbike, with large vehicles such as tractors using gate accesses only.

5.1 Any construction of an underpass needs to meet some specific but manageable requirements:

- Appropriately sized for the number of stock to move through. In instances of large herd numbers, two culverts may be required at the one crossing;
- Appropriately sized for small motorised vehicles to access and move through;
- Concrete construction with enough lead-in and flow-out concreted to prevent the breaking of the surface at pressure-points (see photos 12 and 13 below);
- Ideally slightly raised with the trail running over the top and elevated above the natural surface. This will prevent water pooling inside or flooding the underpass (see photos 12 and 13 below).

While it is acknowledged that an underpass will be a considerably more expensive option than an above-ground stock crossing, it should be noted that the following applies to an above-ground crossing where there is interface with the trail and livestock crossing:

- There is always a risk of contamination of the trail surface with manure from moving stock;
- There is a biosecurity risk where people and livestock may come into contact with each other or animal effluent;
- There is a risk of gates being left open by public or by landholders;
- There is a risk that moving stock will result in spooking by the public if they come into contact.
- There is a risk of injury to the public should stock movement take place when public are in the vicinity/using the trail.

Below are examples of surface-level crossings on the Wonthaggi to Kilcunda stretch of the Rail Trail:













Photos 1,2,3,4,5,6: crossing on the Wonthaggi rail trail between South Dudley and Lower Powlett Rd. These photos show the gates which are permanently closed across the trail with small access gates that can be closed to allow stock to move across the trail when required. Machinery can traverse the trail relatively freely. There is a hose provided to wash the trail when stock have manured on the trail. Note the aged fencing along the stock access areas which need to remain stock-proof.

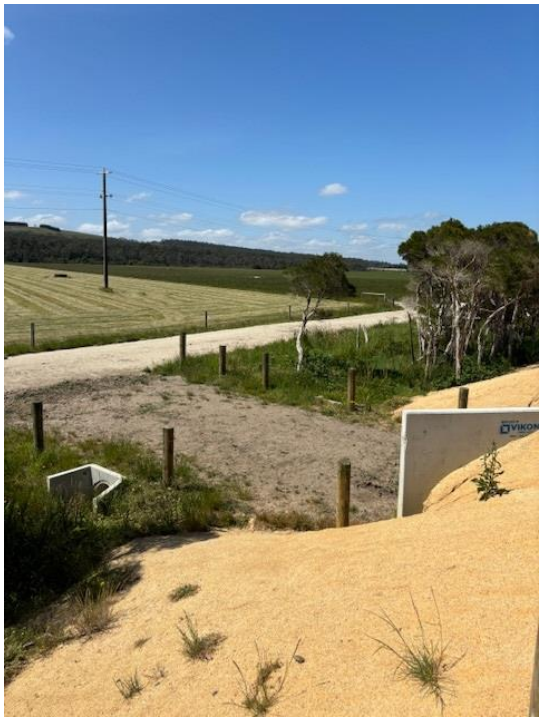




Photos 7,8,9: stock crossing on the Wonthaggi trail between Dalyston and Powlett River Rd, This crossing is on a wide section of the trail corridor and as such has long lead up to the trail on either side of the trail, again with aged fencing that needs to be maintained in good repair. There were no wash facilities at this crossing to remove animal manure from the trail. It appears that machinery uses this crossing regularly. Gates are permanently open to Trail users and closed to stock.

Below are photos of recently constructed underpasses on the Welshpool to Alberton section of the Great Southern Rail Trail.



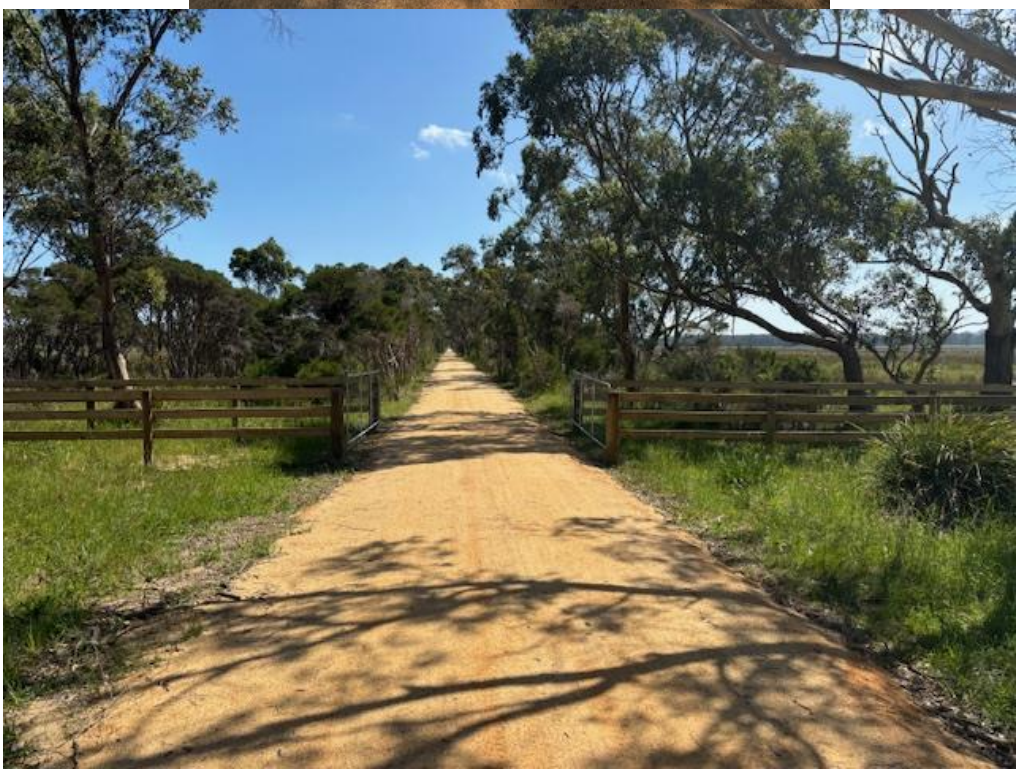


Photos 10, 11 and 12: recently constructed stock underpass at Hedley. These photos display the elevation required as well as the construction and lead-in access involved in such a trail crossing.



Photos 13 and 14: the same underpass in the photos above, displaying the lack of elevation internally for the stock crossing, hence water accumulates inside the underpass and the gravel erodes at the junction of the gravel and concrete. Over time, this will see stock and vehicle access difficult and when extensive rainfall takes place, use of the underpass will be impossible until water subsides.





Photos 15 and 16: recently constructed surface-level stock crossing at Hedley, showing the long side fencing to account for the width of the reserve and the type of fencing materials required at such crossings to prevent stock breaching the fencing at the pressure points.

Please do not hesitate to contact me if any questions, comments or concerns arise from the above information.

Thanks for the opportunity to prepare this for you and for the wider Woolamai to Nyora Rail Trail project.



Matt Harms

ONFARM Consulting