Agricultural Impact Assessment

Waurn Ponds Train Maintenance and Stabling Facility

By

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An Assessment of the Agricultural Impact of a Proposed Acquisition of Farming Land for the Waurn Ponds Train Maintenance and Stabling Facility

I have been instructed to prepare an assessment of the impact of the proposed acquisition of land for the Waurn Ponds Train Maintenance and Stabling Facility (the Facility) from the farming property and farming business based at 255 Reservoir Road, Waurn Ponds. I provide this preliminary assessment based on the information that I have been able to obtain, the meeting that I had with the landowners [redacted] on 1 December 2017, and documents which have been provided to me by AECOM and Rail Projects Victoria (RPV). More information may become available as the acquisition process evolves, and I may need to amend or modify statements within this document in response to additional information.

1. The Farming Business of the [redacted] Family

The [redacted] family farm consists of a number of adjacent freehold allotments and a leasehold from Boral Australia. The total grazing area is estimated to be approximately 700 hectares, 480 hectares (1200 acres) of freehold and 220 hectares (500 acres) of leasehold. The farm operates a self-replacing flock of fine wool Merino sheep, with two brothers [redacted] and [redacted], as the farm and business owner/managers. They are assisted in the day to day farm management by their grandson/grandnephew Joshua, and also by their daughter/niece [redacted] on a part time basis. Additional contract and casual labour are employed as required. Th [redacted] flock nominally consists of 3500 ewes, 2,950 wethers, 1600 lambs and 110 rams. Actual numbers will vary through the year depending on culls and lambing. Ewe lambs from each lambing are taken through to around 5 years of age, after which they are sold as fat lamb mothers for further breeding. Wethers are only kept for two or three years and are sold for slaughter for export. Replacement rams are the only stock brought onto the farm and they come from a ram stud in East Gippsland.

Shearing each year is in November. Casual staff (approximately ten) are employed to assist with the shearing. Other major operations through the year are crutching and marking. Individual mobs of sheep are limited to 100 or 200 head for ease of management, and mobs are frequently being brought to the stockyard area for various animal health treatments or drafting operations. Only 1800 ewes are joined each year, such that lamb numbers are considerably lower than ewe numbers. No young stock are sold from the farm.

The property has very significant farm infrastructure. Most of the farm infrastructure is located within the north part of the land parcel described as 255 Reservoir Road, Waurn Ponds. This land parcel is referred to as the home block in this report. The north side of this home block is on a rocky rise and this is where the shearing shed, stockyards, fodder stores and much of the farm shedding is located. It is also where one of the brothers resides.

The home block, and indeed the whole farm, is currently severed into two parts by the Geelong Warrnambool railway line corridor. Internal access between the north and south parts of the farm is achieved by a single level crossing located along a central farm laneway. Additional access is also provided along the public roadways along the east and west sides of the farm. There are approximately 20 large paddocks and at least 10 small paddocks, most of which are serviced by this central farm laneway. Most of the farm land is on the south side of the rail easement while most of the farm infrastructure is on the north side. Figure 1 shows some of this farm infrastructure.

Figure 1 Farm photomap showing key farm infrastructure.

2. Project Description

RPV is seeking to compulsorily acquire approximately 61 hectares of land from this property along the south side of the existing railway line running between Bogans Lane in the east and Pettavel road in the west. The acquisition is for the purpose of constructing the Facility. The construction of the facility is to be staged, with the stage 1 development occurring once the acquisition is complete and subsequent

development occurring in a future Stage 2 as the needs for further servicing and stabling grows. The land to be acquired will be all that land required for full development of the facility.

2.1 Land Requirements.

Project Land – All areas of land required within the Site for the purposes of the Project:

- At 255 Reservoir Road:
  - 350 metres south of the rail corridor between Pettavel Road and Bogans Lane.

Wider Project Land – All land that the Project requires for the delivery of ancillary infrastructure and associated construction activity:

- At 255 Reservoir Road:
  - Approximately 50 metres north of the rail corridor between Pettavel Road and Reservoir Road/Bogans Lane. It is anticipated that only a small portion of this wider project land will be required, subject to the determination of the ultimate location of the occupational crossing as part of Stage 2 of the project.
- Surrounding 255 Reservoir Road:
  - Within the existing rail corridor for approximately 3040 metres west and for 3550 metres east of Bogans Lane inclusive;
  - Within the Bogans Lane road reservation, 500 metres south of Reservoir Road;
  - Within the Pettavel Road road reservation, 170 metres north of the rail corridor and 480 metres south of the rail corridor;
  - Within the Reservoir Road road reservation, 800 metres east of, and including its intersection with Bogans Lane.

Figure 2 shows the regional context of the Project Land and Wider Project Land. Figure 3 shows the above Project Land and Wider Project Land in closer detail.

2.2 Staged Delivery

It is proposed to deliver the Project in stages:

- Stage 1 is funded and is expected to be delivered by 2021;
- Delivery of the balance of the Facility (referred to in this report as Stage 2) is subject to further Government decision making in relation to the funding and procurement of new trains to service the Geelong Line and broader regional rail network and associated stabling and maintenance requirements. The timing for delivery of Stage 2 is unknown at this time. Stage 2 may be delivered in one or more stages depending on the outcome of this decision making.

Figure 4 presents the Concept Design for the Project. The Concept Design is indicative only and may be subject to change through the detailed design process.

Figure 2 Regional Context Map

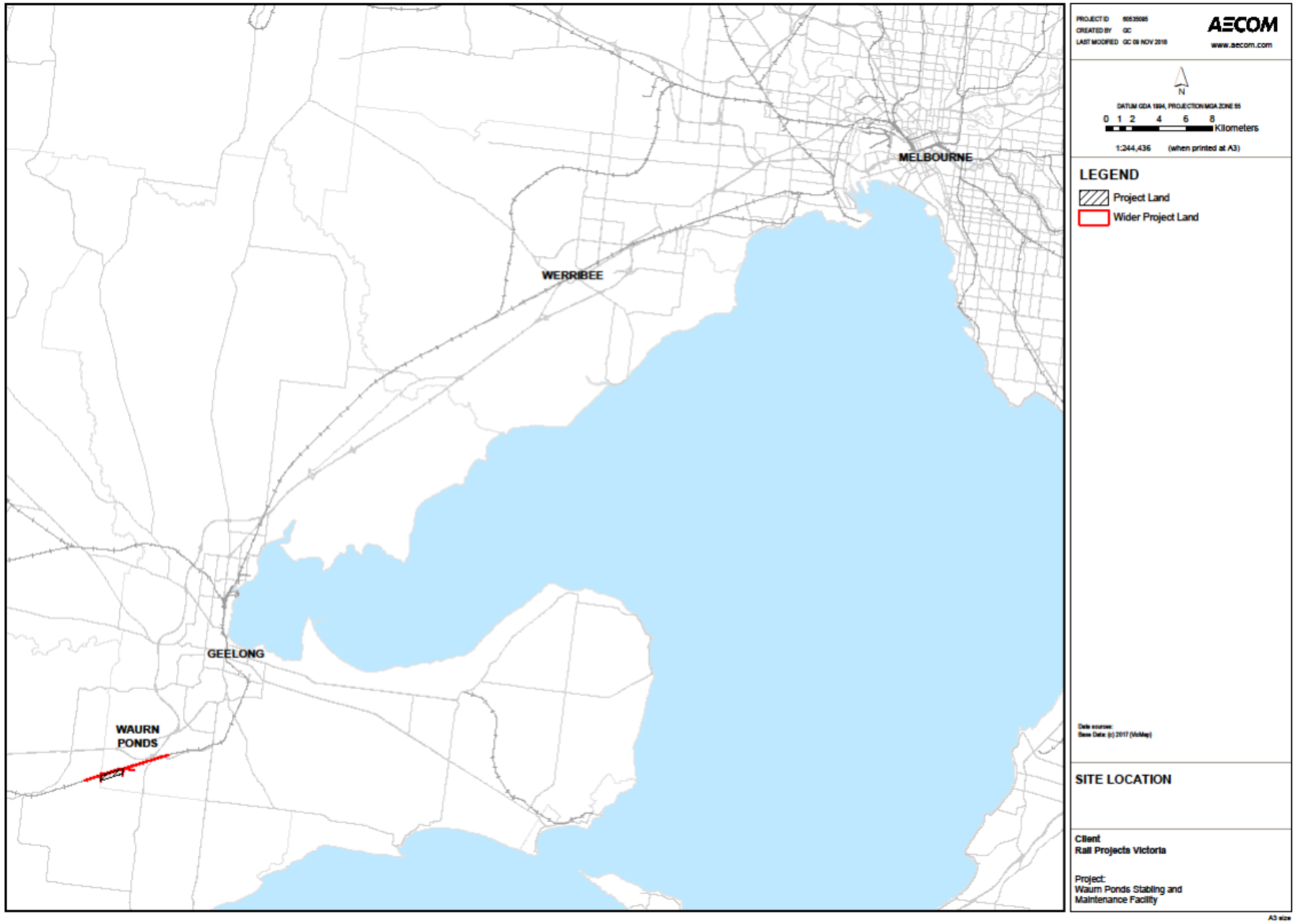


Figure 3 Project Land and Wider Project Land

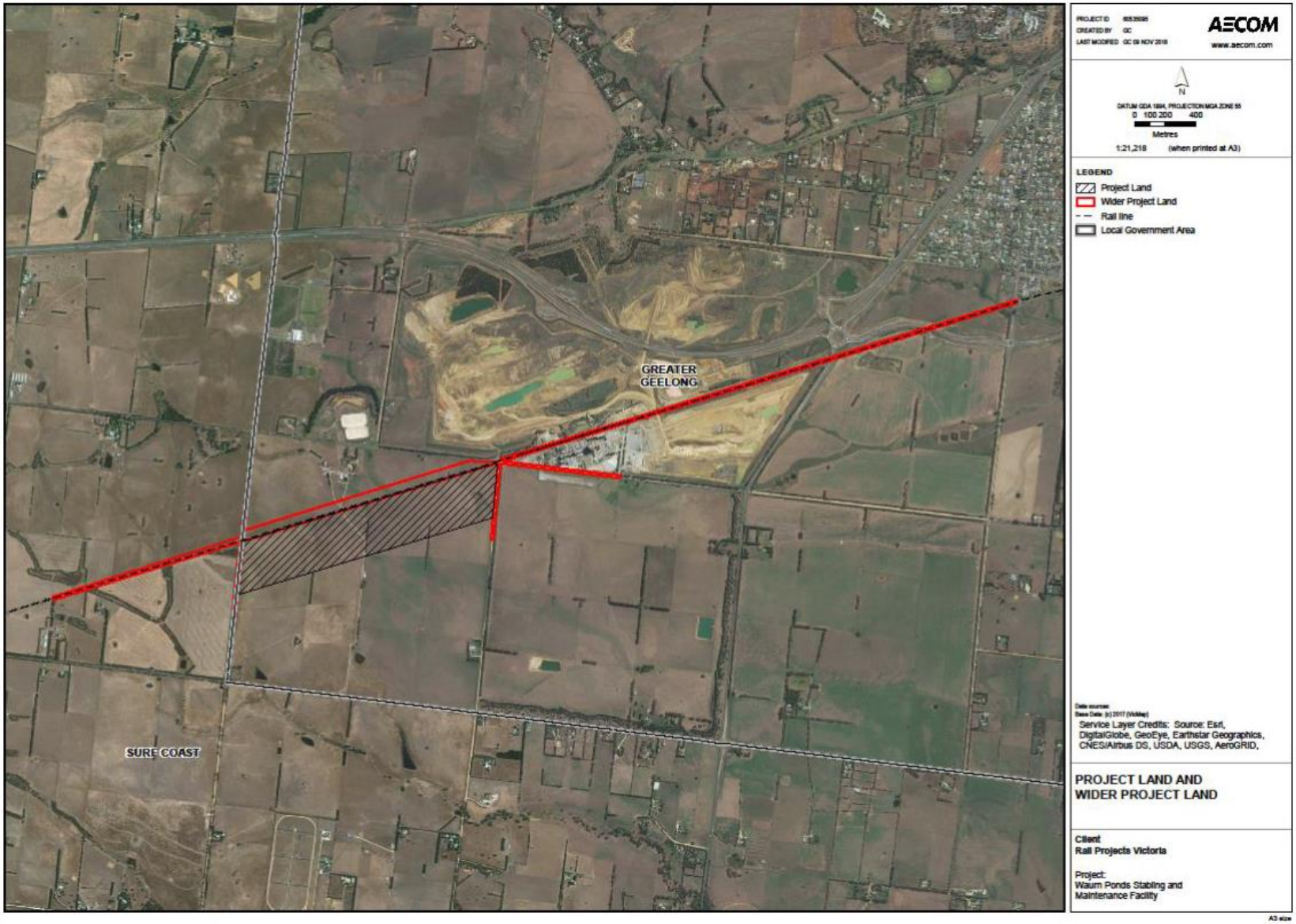
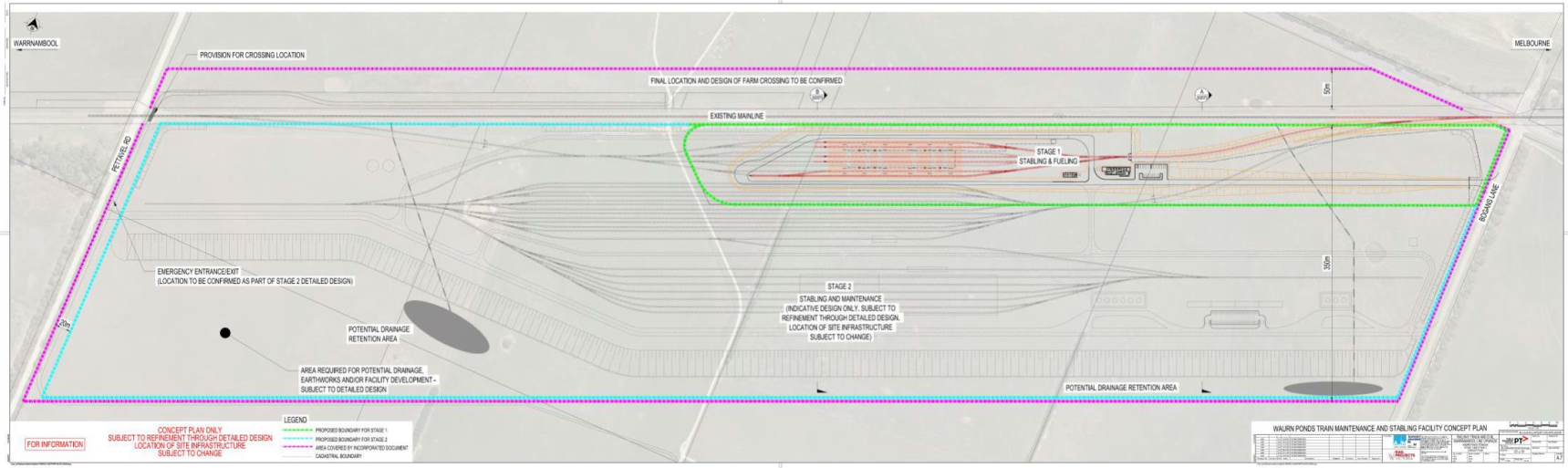


Figure 4 Concept Design



2.2.1 Stage 1 Infrastructure

Stage 1 is anticipated to deliver a train stabling facility with the capacity to stable 6 trains. It is anticipated that the facility will primarily cater for VLocity/DMU trains, however, it is proposed to have capacity to cater for 3 locomotive trains in the short-term while locomotives continue to be phased out of the V/Line fleet. The facility would be located south of the existing railway corridor, directly east of the existing farm laneway at the centre of the Site, and west of Bogans Lane. The Stage 1 facility would occupy an area of approximately 11 hectares, and would be in the order of 1030 metres long, 150 metres wide at its widest section and 100 metres wide at its most narrow point.

Stage 1 is anticipated to comprise:

<u>Initial site development</u>

- Land acquisition for the entire footprint of Stage 1 and Stage 2;
- On-site mobilisation;
- Connections to key services (electricity, water, sewerage, drainage, communications, etc.);
- Security fencing and entrance/exit gates around the perimeter of the stabling roads and Stage 1 facilities;
- Earthworks to support initial facilities and trackwork;
- Landscaping;
- Road access from Bogans Lane;
- Power and dam infrastructure works resulting from the acquisition of farmland for the facility site;
- Modified stock crossing and vehicular access to the adjacent leasehold farm property (i.e. the Boral owned land to the east);
- It is expected that the existing level crossing that serves the central farm laneway will remain in operation at its current location, potentially with some modifications as required by V/Line.

<u>Track layout</u>

- Six stabling roads, comprising four single ended and two double ended stabling roads;
- One single entry/exit train access point from existing rail corridor towards the eastern end of the site, just west of Bogans Lane.

<u>Servicing facilities</u>

- Fuelling facilities on four stabling roads;
- Power, toilet extraction and water replenishment equipment, footpaths and yard lighting provided on all of the stabling roads.

<u>Ancillary facilities</u>

- Upgrades to the existing signalling system within the rail corridor;
- Waste compound for rubbish and hard waste;
- Bunded fuelling area;
- Water storage and supply for stabling sidings;

- Drainage systems, including water sensitive urban design (WSUD) and the modification or relocation of farm dams;
- Telecommunications;
- Asphalt footpaths;
- CCTV to cover stabling sidings area;
- Driver and cleaner's amenities;
- Formed and sealed access roadways, with capacity to allow for B-double truck access and turnaround;
- Car parking for drivers, visitors and cleaners.

2.2.2 Stage 2

As stated above, Stage 2 is subject to further Government decision making. However, it is anticipated that Stage 2 will increase the stabling capacity of the Facility to 26 trains and will introduce a train maintenance facility. Based on an indicative concept design, the Stage 2 facility is anticipated to occupy an area of approximately 46 hectares, and be in the order of 1720 metres long, 320 metres wide at its widest section and 160 metres wide at its narrowest.

Stage 2 is anticipated to comprise:

<u>Site development</u>

- Security fencing and entrance/exit gates around the perimeter of the Stage 2 facility;
- Earthworks to support expansion of facilities and trackwork;
- Landscaping;
- A rerouting of the farm laneway to cross the rail corridor in proximity to the Pettavel Road boundary of the Site.

<u>Rail facilities</u>

- Two access points from existing rail corridor, one towards the eastern end of the site and one towards the western end of the site;
- Stabling roads for up to 26 trains;
- Bio-wash facilities;
- Train wash facilities;
- A maintenance facility with 5 maintenance roads.

<u>Servicing facilities</u>

- Expansion of fuel and water facilities;
- A substation;
- Expansion of staff facilities;

One gatehouse along the entry road.

Ancillary facilities may include the following:

- Drainage systems, including WSUD and the modification or relocation of farm dams;
- Telecommunications;
- Internal/external access arrangements;
- Utility protection and installation;
- Signalling infrastructure;
- Emergency access via Pettavel Road.

2.3 Construction Phase

2.3.1 Construction Activities

Key construction activities anticipated for the Project include:

Table 1 Construction Activities

Stage	Construction Activities
Stage 1	
Site Development	• On-site mobilisation; • Connections to key services (electricity, water, sewerage, drainage, communications); • Security fencing and entrance/exit gates; • Earthworks to support initial facilities and trackwork; • Road access from Bogans Lane; • Initially required internal roads; and • Security and safety facilities.
Works	• Construction of internal roads, footpaths, car parking and associated sealing; • Construction of new rail tracks and associated signalling systems; • Construction of fuelling facilities; • Reinstatement and landscaping; • Installation of utility infrastructure; • Bulk earthworks; and • Construction of ancillary buildings and services
Stage 2	
Works	• Construction of train maintenance building and internal fit out; • Construction of additional tracks and connections; • Modifications to the fuelling facility; • Automated train wash plant and bio-wash; • Extension of stabling sidings; • Expansion of staff amenities and training facilities; • Provision of train cleaners store and amenities building; • Expansion of staff car parking; • Provision of train crew administration facilities.

Being grazed farmland, the site is already substantially cleared of vegetation. The exception is two areas of linear shelterbelt vegetation. Vegetation removal will be minimised to the extent practical and occur progressively throughout all activities.

2.3.2 Construction Operation

The construction duration is expected to be approximately 12 to 18 months for each stage of the Project, and subject to the Project requirements at the time. During each phase, the construction operating hours will be undertaken in accordance with the relevant protocols.

During the site preparation and construction phases, access to the site is anticipated to be provided via Bogans Lane for Stages 1 and 2. Alternative access may be possible from Pettavel Road for Stage 2. Vehicle movements would be coordinated as required and advised by standard traffic management measures.

The preferred site access route during construction of the site is via the Geelong Ring Road. Alternatively, access to the site can be provided via Princes Highway.

2.3.3 Staff Numbers

During the construction phase it is expected that up to 100 personnel could be on-site at any one time.

2.4 Operational Phase

This section describes the expected operational activities.

Operational activities are subject to completion of the detailed design phase for each stage of the Project and confirmation of the operator's timetabling requirements.

2.4.1 Operation of Train Stabling and Maintenance Facilities

The Facilities are anticipated to operate 24 hours a day, seven days a week.

It is expected that trains will enter and exit the facility from turnouts constructed off the mainline. The layout of the track work would enable flexibility for the train operator and maintainers to minimise any potential conflicting train movements, and reduce the overall amount of shunting time onsite for the trains.

It is anticipated that trains will enter and exit the site during the day and night as required to serve the railway timetable. Trains may arrive/depart at 10 minute intervals during peak periods. The total number of train arrivals and departures per day is not yet known and will be subject to the operator's timetabling requirements.

It is assumed that up to 3 trains may be idling at any one point in time during Stage 1 operations. The total number of trains idling as part of Stage 2 is subject to future detailed design and operational requirements. These assumptions will be reviewed subject to the operator's timetabling requirements.

The overall operational concept for the Facility is to provide an efficient series progression for stabling, servicing and maintenance (if required) of trains from initial train arrival until its next scheduled departure into revenue service. Typical train movements would be entry through the northern most fuelling roads, continuing through to the western most shunting neck. From here the train would head east into the stabling roads where it would reside prior to departure. If maintenance was required, trains would leave the stabling siding and enter the maintenance facility.

2.4.2 Staff numbers

It is anticipated that the Facility may accommodate 10 staff during Stage 1 of the Project and 40 staff during Stage 2, with the expectation that all staff will not be on site at any one time, and staff will work in shifts. An expected breakdown of shift allocation is as follows:

Table 2 Staff Numbers

Shift Time	Staff Percentage	Number of Staff for Stage 1	Number of Staff for Stage 2
Morning	40%	4	16
Afternoon	40%	4	16
Overnight	20%	2	8

2.4.3 Vehicle and Staff access

The primary access point to the Facility would be located to the east from Bogans Lane. The preferred access route to the site from the Geelong Ring Road would be via Anglesea Road and Reservoir Road. Vehicles will be expected to exit the site the same way.

The primary access gate is to be utilised by staff and delivery vehicles to both enter and exit the facility. Visitors and administration office personnel would be directed to the relevant area and directed to the car park after checking-in, identification and registration at the primary access gate.

For Stage 2, emergency vehicle access could be provided at the western end of the site from Pettavel Road, where required. Appropriate internal access would also be provided for emergency vehicles to the maintenance workshop, stabling tracks and main parts of the Facility.

The internal road layout would be designed to limit the need to cross tracks within the site.

Adequate car parking spaces will be provided for both maintenance and operations staff and visitors. It is expected that car parking areas will be located to minimise walking distances to site facilities.

Pedestrian movement networks would be designed to provide adequate access, minimise walking distances to site facilities and provide for personal safety.

3. Impact of the Proposed Acquisition and Works for Stage 1

3.1 The Ability to Continue Farming

The area proposed to be acquired separates the key farm infrastructure (shearing shed, stockyards, hayshed, machinery sheds and ancillary areas) from the rest of the property. It contains the only farm crossing across the existing rail line. With loss of ownership of the land that services this crossing there is a significant loss of security in being able to continue to operate this farming business, as the connectivity between the farm infrastructure to the north of railway corridor and the grazing areas to the south of the railway corridor is fundamental to this farming business.

The Stage 1 development proposes to retain the operation of the existing farm rail crossing. During construction and when complete there will potentially be restrictions to the vision of the rail line, particularly when approaching from the south. There is a need for the farming business to secure the continued use of the crossing for the duration of the Stage 1 development, as the landholder will no longer have ownership of the land which services this crossing, and without the crossing the farming business cannot function.

3.2 Loss of Farm Area and Farm Production

The impact of Stage 1 the Project on the farming business will depend on the stewardship of the land after it has been acquired. Stage 1 seeks to permanently acquire approximately 61 hectares of farming land from the [redacted] amily. One option is that only the 11 hectare area to be used for the Stage 1 stabling yards and site development is removed from the grazing area of the farm. This will not have a major impact on farm productivity and only a minor (but measurable) impact on net farm income. If, however, the whole 61 hectares acquired as part of Stage 1 remains within the stewardship of RPV (no access by the [redacted] and thus no grazing income), then there is a very substantial impact on farm productivity and net farm income.

The value of the land to be acquired cannot simply be informed by a formal valuation of the land. The land to be acquired is in close proximity to key farm infrastructure and has been developed to effectively and efficiently manage the land for the grazing a fine wool merino flock. As such, the land to be acquired has special attributes for the [redacted] amily that are likely to be irreplaceable.

These values can only be realized by the [redacted] family because of the farm infrastructure and farming system of the surrounding land. It may be possible to purchase grazing land of similar quality nearby, but it is highly unlikely that such land will be contiguous with the present grazing area, and as such will not be suitable for replacing the grazing values for fine wool production lost through this acquisition. There will be a substantial negative and permanent impact on farm income as a consequence of the acquisition.

3.3 Continued Use of the Crossing

The existing use of the level crossing is proposed to remain during and after the Stage 1 works. However the current system of using the crossing requires the operator(s) to have good vision (more than 1 kilometre) in both directions along the track and from both sides of the crossing. While the train timetables are used as a guide, the farm operators rely on the current and relatively clear visual confirmation that the track is clear prior to crossing, either with or without livestock. The stabling of trains on the south side of the track means that there will no longer be a clear vision of the track to the east when approaching from the south side of the crossing. During construction there may also be construction vehicles and equipment obscuring this view. Post construction there may be trains stabled within the site which may obscure the view. Continued use of the crossing will require a different procedure as to the how the level crossing is used.

Design requirements for stock crossings are discussed in more detail in section 4.1.3 below.

It may be possible to implement changes in procedure to ensure continued safe use of the existing crossing for the movement of stock. A holding yard could be constructed on either side of the existing crossing and mobs could then be confined prior to transiting the crossing. The operator could then sight directly along the track prior to allowing a mob to cross. This would reduce the hazard of trying to verify that the track is clear while approaching from the south side.

It may also be possible to incorporate some design features into the farm track that services the existing crossing. A sharp zigzag in the farm laneway prior to the crossing on both the north and south sides could be positioned so as to require the driver of the farm vehicle to specifically look along the line of the track

before crossing. This zigzag could be constructed around the proposed holding yard, such that stock movements don't require the transiting of the sharp bends of the zigzag but vehicle movements do.
If the level crossing is to remain but with appropriate changes in design and operation along the lines of the above, it is important that the landholder is involved in developing this design. There is little point in imposing a design on the operators who may then look to circumvent or modify to suit their own use. This may make the level crossing unsafe. Any use of the crossing as a level crossing in the future must be in a way that is acceptable to the landowner and to V/Line.

3.4 Electric Fencing

The electric fencing on the south side of the rail line is powered by the energizer at the farm sheds on the north side of the rail line. While the exact location has not been determined, it is the writers understanding that the electrical circuits on the south side are connected through an existing culvert under the rail line on the east side of the existing crossing, and then along existing paddock fencing immediately south of the rail line. These existing connection points to the rest of the farm on the north side of Mt Duneed Road will be lost as soon as Stage 1 works commence. In order to preserve the integrity of the existing electric fencing circuits, either a new electrical circuit needs to be installed or a new power connection is required for the south side of the railway line. The new electrical circuit may be able to be installed along fence lines to the west of the current level crossing and make use of an existing culvert between this crossing and Pettavel Road. The alternative of a new power connection will require a new transformer. There is only one existing power connection within land bounded by Bogans Land, Mt Duneed Road, Pettavel Road and the railway line, and this supplies a dwelling that is not within farm ownership. A new transformer is thus likely to be required, together with connections to the existing circuits.

3.5 Farm Water Supply

Most of the paddocks on the south side of the rail line are supplied with stock water from potable water connections (Barwon Water) via two lines that are currently laid underneath the rail line. The water is supplied to float controlled troughs in each paddock and water security is maintained because the line is pressurised from Barwon Water. It is anticipated that this line may need to be removed as part of the proposed Stage 1 works and it is imperative that new connections be made prior to works commencing. There is no storage of any consequence in these troughs, and disconnection of the supply line even for a few hours can potentially make stock stressed.

Two existing farm dams lie within the proposed acquisition area. These dams will need to replaced with storages of similar size and in a suitable location that will ensure their integrity as a water storage. Alternatively, the function of the dams needs to be replaced with suitable farm infrastructure. This may need further investigation in consultation with the [redacted] family.

The landholder has expressed concern that the proposed works for the Facility may potentially change the catchment hydrology of the balance of the farm, adversely affecting both quality and quantity of surface runoff waters that supply dams on the adjoining properties below the home block. Farm dams on

the south side of Mt Duneed Road are dependent on the runoff from north of the rail line, and these dams are key to overall water security for the farm. These impacts should be further investigated.

3.6 Bogans Lane Stock Crossing

The existing livestock crossing from the home block across Bogans Lane is located immediately to the south of the current rail corridor and consists of two sets of double gates on either side of the road. The crossing will be permanently removed once Stage 1 works commence. A new crossing point is required to the south of the current crossing. This will require:

- selecting a suitable location with good visibility along Bogans Lane from both directions,
- installing double gates on both sides of the road,
- some earthworks to form the land for good drainage and year round use around the gateway approaches, and
- some internal fencing and gateways to effectively funnel stock towards the crossing point in both the home block and the Boral land,

Within the home block, mobs are currently directed across three long and narrow paddocks from the central farm laneway to the road crossing on Bogans Lane using the existing fence of the rail line as a guide. Because these paddocks are long and narrow, the stock are contained and can be easily guided toward the crossing point. The new road crossing will most likely be some distance from the proposed Stage 1 development, thus avoiding the need to further relocate the crossing point for the Stage 2 development. Thus the new road crossing point will also require some additional fencing works within the home block to form a stock movement corridor that allows stock to be easily directed towards it. It may require a fenced laneway. Depending on the chosen location for the road crossing, there may also be a need for some fencing works within the Boral leasehold land.

The landowner should be consulted for the location of the new stock crossing on Bogans Lane and for the most appropriate design of paddock fencing to facilitate stock movement to and from this crossing.

3.7 Disturbance

The Wider Project Land includes the road reserves of Bogans Lane for 500 metres south of Reservoir Road and Pettavel Road for 480 metres south and 170 metres north of the existing rail crossing. It also includes a further strip of land 50 metres wide along the north side of rail corridor between Bogans Lane and Pettavel road. It is anticipated that only a small portion of this 50 metre width strip of land will be required, subject to the determination of the ultimate location of the replacement rail crossing as part of Stage 2 of the Project.

The two roadways are actively used by the [redacted] family for the movement of farm machinery and farm vehicles, and the strip of land on the north side of the rail line forms part of the holding paddocks close to the shearing shed and stockyards. It is uncertain as to what works may be undertaken in this Wider Project Area, and any civil works or temporary road closures will have the potential to restrict the efficient operation of the farm. Such impacts can be reduced by consultation with the landholders to avoid undertaking some of the more disruptive works at certain times of the year. It is unknown as to whether these works will have an impact on farm income.

There will be a greater distance to travel for vehicles and stock in order to use a replacement road crossing along Bogans Lane. There may be additional farm maintenance costs depending on how the farm infrastructure is modified.

4. Impact of the Proposed Acquisition and Works for Stage 2

4.1 Impact of losing the existing level crossing

The proposed land to be resumed and removed from agricultural use in Stage 2 includes the existing level crossing and a section of the central farm laneway that links the key farm infrastructure in the north part of the farm to the main grazing areas in the south. The loss of this land will create a substantial barrier between the land where most of the farm infrastructure is located, and the rest of the farm. Unless replaced, the loss of the crossing will create significant issues for how the farm is operated.

The fine wool merino farming business at 255 Reservoir Road and associated land could not continue to operate its current business model without connectivity for safe movement of stock between the shearing shed and stockyards on the north side of the rail corridor and the main grazing areas on the south side of the rail corridor. Movement along existing roadways is not an option because of the need to frequently move mobs of sheep, with multiple movements per day at busier times of the year.

The following sections of this assessment consider solutions to mitigate the impacts associated with losing this existing level crossing.

4.1.1 Relocation of Farm Infrastructure

The north section of the home block contains most of the farm infrastructure including the shearing shed, a set of stockyards with an undercover workspace, machinery sheds, storage sheds, hay sheds and open storage of farm equipment. The proposed acquisition would sever this area where most of the farm infrastructure is located from the rest of the farm. The relocation of this farm infrastructure is not a practical option. The area for the stockyards and shearing shed has been chosen for its natural drainage and all weather use on a rocky outcrop. From visual examination of the farm , use of aerial photography, and personal knowledge of the soils, geology and landforms of this landscape, no comparable sites for drainage and all weather use exist elsewhere on this farm. There are no other sites that provide the same all-weather functionality. One of the farm owners, [redacted] has also expressed this opinion. If such a site could be identified, or constructed above flood levels and provided with artificial drainage, the relocation and replacement of farm infrastructure could be considered. However the cost of relocating the farm infrastructure and building replacement sheds would be very significant.

4.1.2 Relocation of the Central Farm Laneway

The paddock layout has been designed around the central farm laneway that traverses the home block in a north to south orientation, and uses the existing rail crossing. An alternative location for farm access across the rail easement will require major and multiple works to redesign the farm. This central farm laneway has been selected historically because it follows a low ridge and is naturally well drained. The alternative location, wherever it might be, will require substantial works to create the same all-weather internal farm access.

An alternative for a rail crossing along the west side of the farm and adjacent to Pettavel Road was inspected in the presence of [redacted]. This location was deemed unsuitable by [redacted] in

its present form because of poor drainage and susceptibility to flooding. Visibility for trains here is currently restricted due to existing vegetation and the natural fall of the land reducing the ability to sight along the track for oncoming trains. Mobs of sheep cannot be quickly stopped or turned like a vehicle, and require a finite period of time to execute a safe passage through a level rail crossing. Larger mobs require longer periods. It is the writers view that a farm laneway could be constructed along this side of the farm but that a farm level crossing at this point would require the incorporation of special design features to make it a safe structure.

It is the writers understanding that a 20 metre width strip of land along the east side of Pettavel Road will be set aside to provide a site for an extension to the farm laneway. It is also understood that this land will remain in the ownership of the land owner. The function of the existing central farm laneway could be maintained with an extension constructed along the north side of the rail corridor towards Pettavel Road, a rail crossing near Pettavel Road, and then a further extension to the south of the Project Land to connect back into the existing laneway. The construction style requires full removal of topsoil, forming the subsoil up to a slightly domed surface, laying 75 mm depth of crushed rock to form an all weather track base, laying of culverts and table drains, and then applications of crushed rock and track sand to form a suitable track surface. There are two watercourse crossings that require culverts. Some of the land along this alignment appears to be prone to overland flow of surface water in extreme weather, and the laneway extension design needs to incorporate this.

Larger machinery is moved around the farm for specific tasks such as fodder conservation, supplementary feeding, cultivation, fertilizer spreading and re-sowing. While currently this machinery is moved through the central farm laneway and across the rail crossing, the road network provides a suitable alternative for the movement of machinery. With the existing farm rail crossing being closed, any new rail crossing may not be suitable for the movement of large machinery, and may not be suitable for the carriage of fodder. There is a marginal extra cost involved in using the road network for carting fodder and moving equipment.

Another alternative crossing alignment on the east side of the property has been inspected and has been deemed to be less suitable than the west side alignment for a number of reasons:

- It is further away from the sheds and yards than the west side alignment and would require a longer journey to cross here and then return back to the central farm laneway.
- The width of the occupied area here is 350 metres so the farm laneway that would service a crossing would need to be longer.
- Construction is again difficult because the farm laneway that services the crossing would need to pass through some land that is prone to flooding. At least 2 culverts are required.

4.1.3 Farm Rail Crossing Design Solutions

To retain the connectivity between the north and south parts of the farm it will be necessary to install a stock underpass, a stock overpass or an *at grade* level crossing. The crossing should accommodate stock movements, together with a 4 wheel motorbike or a farm ute.

Stock Underpass

Difficulties can be encountered in training stock to use a stock underpass. Sheep are inherently tentative and alert for dangers and predators in their natural environment. They are often reluctant to enter a long tunnel where they cannot see the other end. Even if they become trained to travelling through an underpass, a loud noise or sudden movement at the end of the underpass can make the lead animals turn back and once they have become alarmed, they are difficult to move in an orderly fashion. Moving sheep through any underpass longer than 60 metres is likely to be extremely difficult. An underpass greater than 60 metres in length is not recommended. The livestock handling and design constraints associated with stock underpasses are outlined in the NSW Department of Primary Industries Primefact Bulletin No 823 *Underpasses for moving livestock under expressways*. This document describes the need for holding pens, forcing yard and stock race to facilitate livestock movement into an underpass. Provided that the crossing point through which an underpass is constructed is restricted to less than 60 metres in length, then an underpass could be an option. The design guidelines in Primefact Bulletin No 823 should be followed, including a minimum width of 3.5m, minimum height of 3 m, installation of gates and safety barriers within the underpass, rough finished concrete floor, runoff diversion, and exit and entry yards. The design of the entry and exit yards should be along the general principles outlined within the Primefact Bulletin No 823 but final design should be undertaken in consultation with the landholder. Stock usually need time and patience from the stock handler to adapt to an underground structure.

Stock Overpass

Livestock adapt relatively easily to using an overpass as they can see where they are going and can establish that there are no "predators" or hazards around corners or in dark recesses. A stock overpass would enable farm operations to continue pretty much unhindered by Facility activities. It would be a safe crossing for farm operations and farm operators. A stock overpass will need earthen ramps at either end with a grade not exceeding 1 in 6 for the safe operation of vehicles. The ramps should be tapered and fenced with a width of around 6 to 8 metres at the start of the ramp and tapered to be the same width of the bridge structure (4 metres) at the top of the ramp. The top of the ramp should have a near horizontal section of at least 4 to 6 metres long prior to the bridge structure. The length of the overpass is not critical, as once sheep are mustered onto the raised platform of the overpass they will normally follow the alignment of the overpass to the other end.

At Grade Level Crossing

The existing farm level crossing is sited on a slight rise with land falling gently away along the rail alignment in both directions. At this crossing it is possible to determine whether the track is clear for more than one kilometre in either direction. The approaches to the crossing also provide unimpeded vision as to whether the track is clear. This has historically allowed for safe implementation of stock and vehicle movement around the farm. It will not be possible to replace these clear lines of sight with any alternative location. However an *at grade* level crossing could be designed to provide a safe stock crossing option with the inclusion of entry and exit yards on either side of the crossing. The entry yards would need to be able to hold different sized mobs of sheep and incorporate outward opening double gates that will guide the sheep in the direction of the exit yard immediately opposite. The exit yard needs to have inward opening gates. There will need to be a corresponding set of entry and exit yards for stock moving in the opposite direction.

Both the landowner and V/Line should be consulted regarding the design and the final location of the stock crossing. The stock crossing should be constructed prior to any other Stage 2 works commencing on the acquired land, so that the farm can keep functioning once works commence

4.2 Loss of Farm Area and Farm Production

Assuming that the Stage 1 development included a lease back provision for lands not initially required for development, the additional area removed permanently from agriculture as part of Stage 2 is a further 50 hectares. There may also be some loss of grazing area due to the relocation of the central farm laneway and the construction of a new rail crossing. This loss of grazing land will have a potential impact on farm productivity and on net farm income. The total loss of grazing land from this farming business is approximately 61 hectares, or 9% of the grazing area. As outlined in Section 3.2 above, there is unlikely to be the opportunity to replace the grazing value associated with this land, as any replacement land would need to be contiguous with the current grazing area used for the fine wool merino flock. Other grazing land could be purchased or leased by the [redacted] family, but it will not be within the home block area and is unlikely to be immediately adjacent to the home block thus prohibiting direct stock movement..

4.3 Impact on Farm Water Supply

The Stage 2 development will resume a greater area of grazing land than Stage 1, and further sever supply lines that deliver water to farm troughs on the south side of the rail easement. There will be some additional farm dams that will be lost as part of the Stage 2 development.

The dams that are lost will need to replaced with storages of similar size and in a suitable location that will ensure their integrity as a water storage. Alternatively, the function of the dams needs to be replaced with suitable farm infrastructure. This may need further investigation in consultation with the [redacted] family.

The landholder has expressed concern that the proposed works for the railyard may potentially change the catchment hydrology of the balance of the farm, adversely affecting both quality and quantity of surface runoff waters that supply dams on the adjoining properties below the home block. Farm dams on the south side of Mt Duneed Road are dependent on the runoff from north of the rail corridor, and these dams are a key to overall water security for the farm. These impacts should be further investigated.

4.4 Electricity connection

The electrical connection that link the energizers on the north side of the home block with various electric fence circuits south of the rail corridor will be severed as part of the Stage 2 development. Reinstatement of the energy source for these fencing circuits could possibly be undertaken through the 20 metre wide strip of land that has been set aside for the stock crossing but would require part of the new connection to be underground through the existing rail alignment. An alternative would be to install a new power connection for the farm on the south side of the rail alignment, which would possibly require a dedicated transformer. Solar options are used but are not popular because of the need for battery storage and regular maintenance to keep the panels clean and check that the system is operating correctly

4.5 Disturbance

As a consequence of the changes to the farm laneway and new stock crossing there will be greater distance to travel for vehicles and livestock. This leads to some reduction in farm efficiency and increased labour costs, as well as the additional vehicle running costs in the greater distance to be travelled. There may be additional farm maintenance costs depending on how the farm infrastructure is modified.

5. Longer Term Issues

5.1 Farm Viability

It is both practical and feasible for this farming operation to continue with key farm infrastructure on one side of the rail storage and works area, and the main grazing areas of the farm on the other side. There will be spatial separation of the two parts of the farm. A stock crossing is a fundamental requirement to this viability. Without the crossing, there would need to be a re-assessment as to whether this farming business could survive in its current form. The short and long term outlook for fine wool merino operations is very good, with the current prices for super fine wool being among the highest ever received and a resurgence in demand from both European and Asian buyers.

The impact of the loss of grazing income can be mitigated by the acquiring authority adopting a policy of leasing that part of the acquired land not currently required for the Facility back to the [redacted] family. This could mean leasing back approximately 50 hectares for the Stage 1 development. No lease back options are available for the Stage 2 development.

5.2 Urban Encroachment

The property at 255 Reservoir Road, Waurn Ponds is currently within the Farming Zone of the City of Greater Geelong planning scheme. There has been a trend for rezoning in the general direction towards the Surf Coast (Torquay and Anglesea) and to the west of Belmont and Grovedale towards Winchelsea. Urban encroachment is never uniform, and usually goes in small leaps, with closer settlement for 1 and 2 hectare blocks preceding full urban development. It is relevant to consider whether this is the longer term fate of the [redacted] fine wool merino farming business.

To the east of 255 Reservoir Road, the zoning is SUZ7 which is a special use zone for the protection and continued development of extractive industry. The nearby Boral cement works operates within this zoning. The zone however extends beyond land currently within Boral ownership. Development of this land is limited within the objectives of the planning scheme to activities that generally support the mining activity, and it is difficult to envisage how this might change in the foreseeable future. This SUZ7 zoning provides a buffer between the farming land which th [redacted] family occupy, and the current urban development in this direction from Geelong.

Greater Geelong City Council has adopted the October 2018 Settlement Strategy. This draft strategy does not recommend the Boral landholdings or any land west of Waurn Ponds station for residential uses/development/urban growth.

Further west are the townships of Modewarre and Moriac. The former has been developing as a satellite semi-rural community for Geelong and further growth is likely in the future. It is however a long way from 255 Reservoir Road and growth that initiates a zoning change in this area is not a foreseeable outcome.

There is also a small rural community to the south east of 255 Reservoir Road at Freshwater Creek, but the zoning here remains unchanged as Farming Zone.
In summary, urban encroachment may occur, but there would be no evidence to expect any zoning change within the foreseeable future.

6. Submissions

Three submissions that relate to the agricultural use of the subject land and adjacent land have been provided to me for comment. The submissions have been made as a result of a public consultation process.
The agricultural issues raised in the submissions are as follows;

- Livestock will become startled by sudden noises associated with train horns, braking and shunting, making them difficult to relocate and handle.
- A loud noise at an inappropriate time when working cattle can be life threatening… a startled bull or large cow can cause serious injury to a person in close proximity due to trampling or gauging.
- The Facility will occupy valuable rural grazing land and remove that land from agricultural use.
- The facility will generate increased noise and light which will detrimentally impact on nearby stock and cattle
- The washing and cleaning of trains could result in contamination of surface waters and groundwater. There are a number of beneficial users of the surface water and groundwater downstream of the proposed site.
- There is a heightened risk of rubbish from the greater use of the public roads in the area, leading to stock risk through the ingestion of plastic bags and other discarded material.

Reference has been made to a Department of Health and Human Services (2017) publication regarding farm safety and handling of animals. To maintain safe handling of cattle, it is advised to avoid startling them as they can charge.

It is my experience that livestock become adapted quickly to increased and sudden noises. A good example of this is the close location of thoroughbred stabling facilities to the runways and approaches for Melbourne International airport at Tullamarine. I don't consider that the train washing and maintenance facility will have any substantial impact on nearby stock. Loud noises that stock have not experienced before can make them startled and possibly make them take flight in a direction away from the noise, but it would need to be in close proximity to the animal at the time, and it would need to be a noise to which the animal was not accustomed. I cannot see that this is an issue for the surrounding landowners.

The Facility will occupy good quality grazing land.

I do not consider that the increased levels of noise and light will detrimentally affect livestock in the area. My understanding is that the Facility is to be landscaped, and this will significantly reduce direct noise and light emanating from the site. I would not consider that the increased noise and light would be much different from proximity to a cluster of dwellings or a quarry and am not aware of any detrimental impacts of such a level of increased noise and light on animal productivity or animal behaviour.

The washing of trains and general maintenance activity could generate chemical contaminants as waste, and the risk to surface waters and groundwaters is a reasonable concern. It will be important that stormwater emanating from the site is contained and treated appropriately before discharge. It will also be important that all chemical waste that could cause environmental damage be captured on site and appropriately removed or otherwise treated. Stock can and do ingest foreign material such as plastic bags, polystyrene, string and other rubbish. When stock are grazed on land adjacent to or downwind of rubbish tips, recycling centres and other places which have high loads of this sort of material, there is often a regular clean up program to restrict the amount of foreign material that lies around on grazing land. Stock ill thrift or mortality associated with the ingestion of the foreign matter does occur but is rare. The heightened risk of this sort of problem at Waurn Ponds as a consequence of increased human activity on the roads in the area cannot be completely dismissed, but it is very low. It would be possible to put in a mitigation process whereby the access roads to the site are cleaned of foreign material on a regular basis – perhaps once every six months.

7. Summary

RPV are seeking to compulsorily acquire an area of approximately 61 hectares of grazing land from the farming property at 255 Reservoir Road, Waurn Ponds. The acquired land is in a strip which is approximately 1720 metres in length and 350 metres wide. The acquisition would change the contiguous nature of the existing farming parcel which is currently separated into a northern and southern section by the existing rail alignment. The northern and southern parcels will become spatially separated by the acquisition.

The fine wool merino farming business at 255 Reservoir Road and associated land can continue to operate as a practical and viable entity provided that connectivity is retained for the safe movement of stock between the shearing shed and stockyards on the north side of the rail corridor and the main grazing areas on the south side of the rail corridor. Movement along existing roadways is not an option because of the need to frequently move mobs of sheep, with multiple movements per day at busier times of the year. No suitable site can be identified for the relocation of key farm infrastructure.

Stage 1 of the project will impact upon the farming business, but the existing location of the rail crossing is proposed to remain in the current location. Stage 2 of the project will have a much larger impact on the farming business, including the need to relocate the rail crossing and redesign much of the farm layout around a location for a new rail crossing.

A 20 wide strip of land on the western side of the farm and along the side of Pettavel road will remain within the farm ownership. This strip of land potentially retains the connectivity between the north and south land parcels of the home block for the Stage 2 development. A farm rail crossing suitable for use by light vehicles (farm utility, motorbike) as well as livestock is proposed to be constructed along this alignment for the Stage 2 development. It is unlikely to be suitable for larger farm vehicles and the movement of larger farm machinery along roadways is a practical option. The location and design of the new stock crossing should be resolved in consultation with the landowner and V/Line during the design and development process and have appropriate regard for farming operations as the design is developed.

While the stock crossing and farm laneway functions are the major issues that affect the continuation of this farming business, a number of other issues need to be addressed to minimize the overall impact of

the acquisition on the farming business. These are the reconnection of mains water for the provision of stock water, the reinstatement of reliable water supply in paddocks with dams that will be removed from the farm due to the proposed acquisition, the provision of an electrical connection for electric fencing on the south side of the farm, and the reestablishment of a road crossing on the east side of the property to facilitate stock movement to the Boral leasehold land.

The Stage 1 development will involve the compulsory acquisition of approximately 61 hectares of productive farming land from this farm business. The short term impact that this will have on farm production and net farm income will be depend upon the future stewardship of the acquired land. If only the land immediately required for the Stage 1 development is removed from production and the balance is leased back to the farmer, the impact on the farm business is minor but measurable. However if all the acquired land is removed from production, the impact on the farm business is very significant and the lost grazing values are unlikely to replaceable with access to alternative land. The Stage 2 development will result in the loss of approximately 61 hectares of grazing land and it is unlikely that the grazing value afforded by this land to the [redacted] family can be replaced.