

## **8. Environmental impact assessment – key issues**

### **8.1 Land use and property**

This Section describes the potential impacts of the Project on the existing land uses and property in the vicinity of the Project. Impacts on future land use and infrastructure planning relating to the development of the North West Growth Centre (NWGC) are also discussed. The existing and future land uses within the Project area are described in Section 3.1.

#### **8.1.1 Impacts on development of the North West Growth Centre**

As discussed in Section 6.3.1, construction of the Project is expected to take approximately 48 months, and would be undertaken in two stages. Construction of Stage 1 would commence in 2009 and would take approximately 24 months to complete. Stage 2 would also take 24 months to complete but is currently deferred as a 'future stage'. The exact timing of Stage 2 would be determined at a later date; however, Stage 2 works are unlikely to commence prior to the commissioning of Stage 1.

The Project would be a major infrastructure development in the NWGC. Stage 1 of the Project would coincide with the early stages of development of the Alex Avenue, Riverstone and Riverstone West precincts (refer Figure 6-12), all of which are identified by the Growth Centres Commission (GCC) as precincts for early land release, while the Project, including Stage 2, would support the development of the NWGC as a whole. However, the Project by itself is not expected to drive land use change in the NWGC.

The Project would support and create opportunities for the substantial land use changes proposed for the NWGC, particularly within the Riverstone, Vineyard and New Schofields town centres. The viability of retail and high density residential development in these centres would be improved as a result of the increased train service frequency made possible by the Project.

More broadly, the Project is expected to support development across the NWGC, due to its strategic location at the centre of the growth centre. As discussed in Section 3.1.3, development of the draft precinct plans for Alex Avenue, Riverstone and Riverstone West have been centred on the proposed Quakers Hill to Vineyard Duplication Project (GCC 2008a, 2008c, 2009a).

The Alex Avenue and Riverstone precincts have been planned to concentrate high density development in the vicinity of the Richmond Branch Line, with distinct town centres located adjacent to the relocated train stations at Schofields and Vineyard (refer Figures 2-4, 3-2 and 3-3). The Riverstone West precinct has been planned to locate a business centre adjacent to Riverstone Station to maximise the opportunity for the use of public transport by the Riverstone West workforce (refer Figure 3-4). As the draft precinct plans for Alex Avenue, Riverstone and Riverstone West (GCC 2008a, 2008c, 2009a) have been developed based on the proposed Quakers Hill to Vineyard Duplication Project (refer Section 3.1.3), the construction of the Project would not preclude the development of the Alex Avenue, Riverstone or Riverstone West precincts.

The new Schofields and Vineyard stations have been integrated into the Alex Avenue and Riverstone precincts through the provision of a network of roads, pedestrian paths and cycleways that would provide direct linkages between town centres and the new stations. The provision of the new pedestrian footbridge at Riverstone Station would also support the establishment of a strong linkage between the Riverstone and Riverstone West precincts by facilitating pedestrian movements across the rail corridor. The provision of strong linkages across the rail corridor has been noted as a key component of the Riverstone precinct plan (GCC 2008c). While other precincts within the NWGC have not yet been released, it is expected that these plans would also consider the proposed Quakers Hill to Vineyard Duplication Project. As such the Project is not expected to preclude the development of these areas.

The Quakers Hill to Vineyard Duplication Project forms a key element of the transportation network planned for the Alex Avenue, Riverstone and Riverstone West precincts (GCC 2008a, 2008c, 2009a), which would help improve regional transport links for residents of these areas.

The delivery of the Project during the early stages of development of the NWGC is likely to encourage patronage of public transport by residents and visitors to the area. It is expected that public transport patronage would be lower if the Project was delivered during the later stages of development of the NWGC as, by this stage, private vehicle use would have already become the dominant mode of transport in the area without an available reliable alternative.

Master planning of precincts adjacent to the Project will need to consider, and be compatible with, noise, light spill and other amenity impacts associated with operation of the Project, to ensure that impacts on future land uses are minimal. The development of the Project early in the Master planning process would ensure that appropriate planning controls are implemented around the rail corridor, stations, car parks and ancillary facilities.

### **8.1.2 Property acquisition required for the project**

Properties likely to be acquired for the Project comprise:

- properties to be temporarily used (leased) for construction compounds, work sites, storage areas and access routes
- properties to be acquired (or partially acquired) for permanent infrastructure, such as new stations, car parks and track.

#### **Temporary property acquisitions**

Some properties, such as those used as construction compound sites (refer Section 6.3.4), would only be affected during the construction of the Project, and would be restored to their former use on completion of the works. Properties that would be temporarily acquired (leased) for the construction of the Project are shown in Figure 8-1.

#### **Permanent property acquisitions**

Properties needed for construction of the permanent infrastructure would be subject to total or partial acquisition (refer Table 8-1). These properties could not be returned to their former use and would require permanent acquisition. The Project would require the permanent acquisition of approximately 11 hectares of land. The affected properties (based on the current concept design) are described in Table 8-1 and shown in Figure 8-1. Changes to the concept design during detailed design may result in some changes to property acquisition requirements.

The Project would require the acquisition of approximately 3.2 hectares of the HMAS Nirimba/Former Schofields Aerodrome, which is owned by the Commonwealth Government (Department of Defence). Under subsection 26(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), approval is required if an action is taken by any person on Commonwealth land that is likely to have a significant impact on the environment. The Project has been referred to the Commonwealth Minister for the Environment, Water, Heritage and the Arts to determine whether the Project would constitute a controlled action under the EPBC Act. This matter has been addressed in a referral under sections 26 and 27A of the EPBC Act. It is anticipated that the Minister will advise TIDC that the Project is not a Controlled Action, and will not require approval under the EPBC Act. This is discussed in further detail in Section 2.4.2.

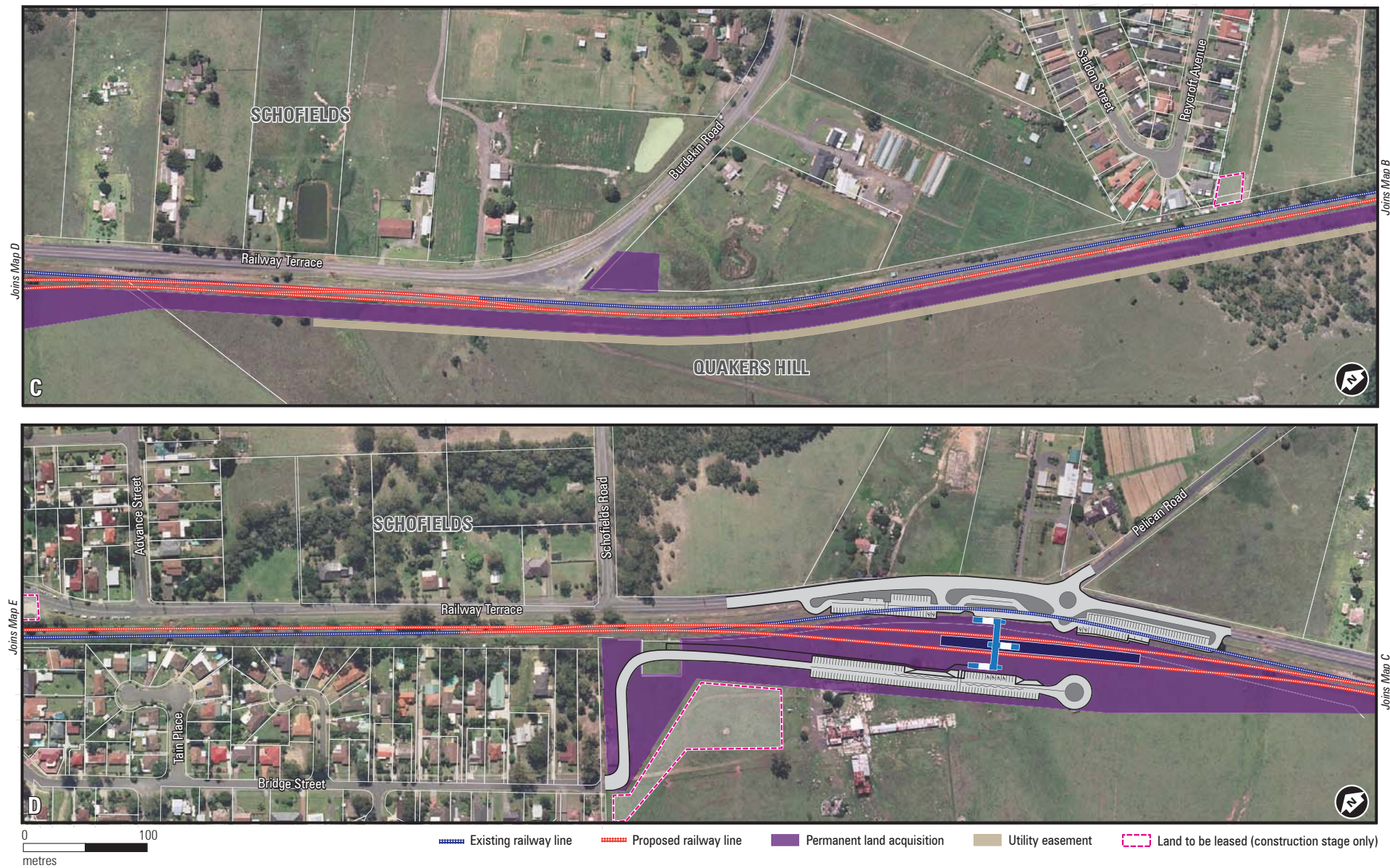




**Figure 8-1a** Land acquisition requirements

Note: Project detail shown is indicative only,  
subject to detailed design.





**Figure 8-1b** Land acquisition requirements

Note: Project detail shown is indicative only, subject to detailed design.

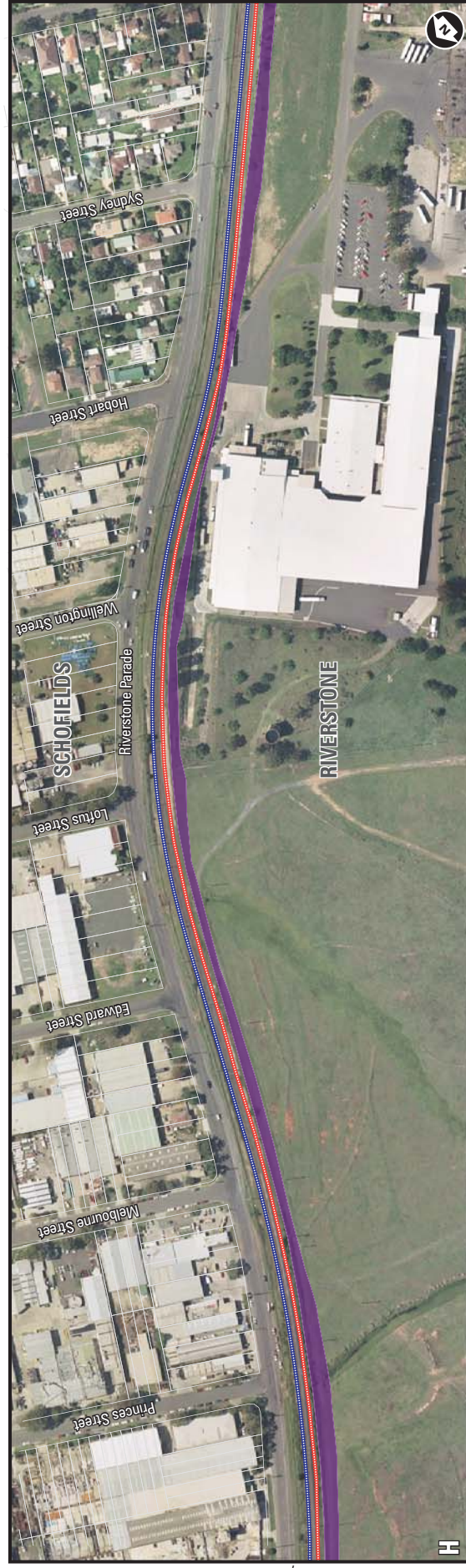




**Figure 8-1c** Land acquisition requirements

Note: Project detail shown is indicative only, subject to detailed design.

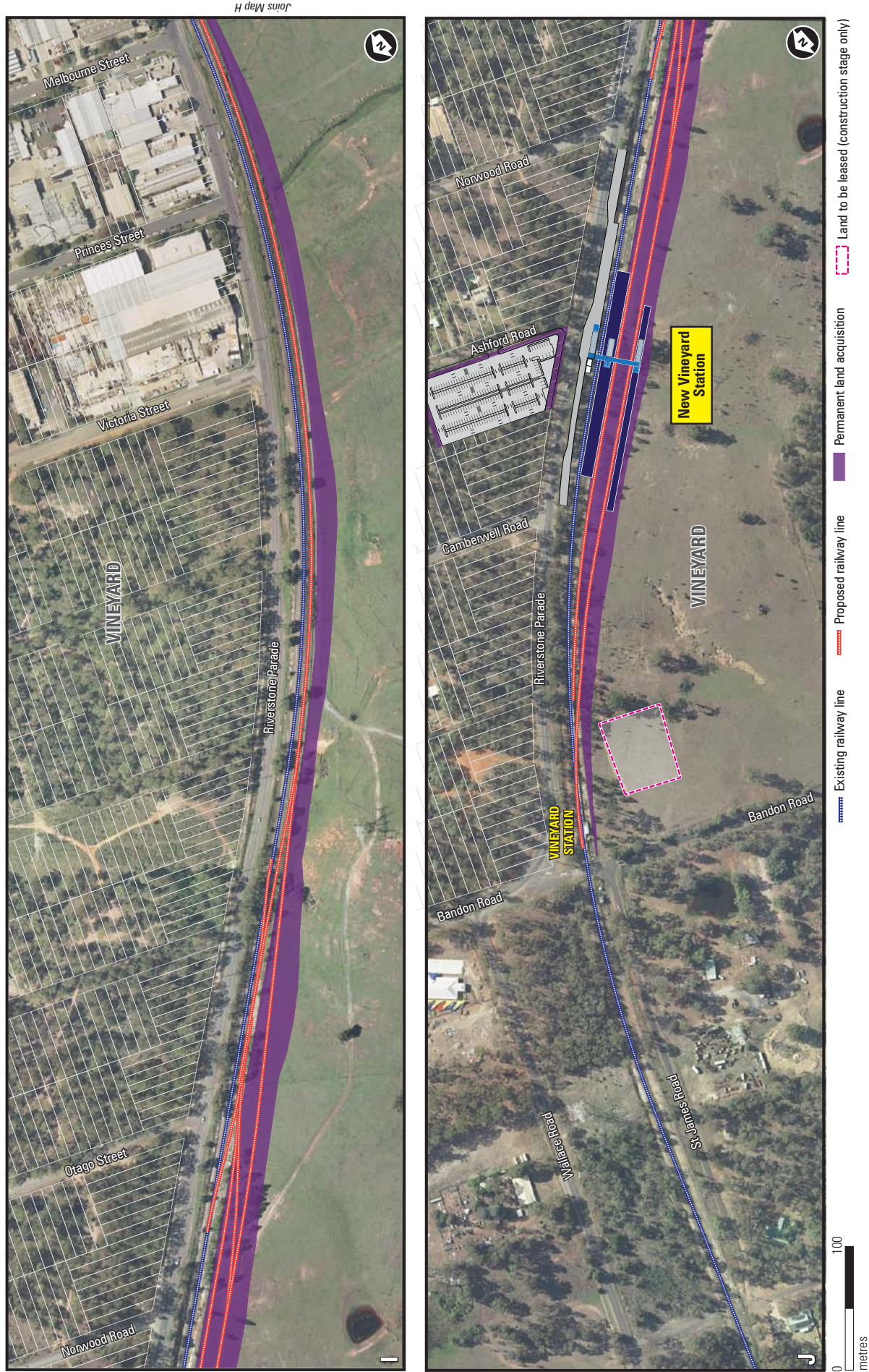




- Existing railway line
- Proposed railway line
- Permanent land acquisition
- Land to be leased (construction stage only)

**Figure 8-1d Land acquisition requirements**  
 Note: Project detail shown is indicative only, subject to detailed design.





**Figure 8-1e** Land acquisition requirements  
 Note: Project detail shown is indicative only, subject to detailed design.



**Table 8-1 Permanent property acquisitions required for the Project**

Project area	Property land zoning <sup>1</sup>	Full acquisition <sup>3</sup>	Partial acquisition <sup>3</sup>
New Schofields Station	1(a) (General Rural Zone)		✓
	5(a) (Special Uses — General Zone) (Rail)		✓
New Schofields Station car park	5(a) (Special Uses — General Zone) (Rail)		✓
	1(a) (General Rural)		✓
	5(c) (Special uses — Local Road and Local Road Widening Zone)		✓
New Schofields Substation	1(a) (General Rural Zone)		✓
New Vineyard Station	1(a) (General Rural Zone)		✓
Vineyard Station car park (phase 1) <sup>2</sup>	1(a) (General Rural Zone)	✓	
Vineyard Station car park (phase 2) <sup>2</sup>	1(a) (General Rural Zone)	✓	
<b>Widened rail corridor</b>			
Between Quakers Hill and new Schofields stations — east of existing rail corridor	5(a) (Special Uses — General Zone (Council Purposes))		✓
	5(c) (Special uses — Local Road and Local Road Widening Zone)		✓
	5(a) (Special Uses — General Zone (Drainage))		✓
	6(a) (Special Uses — Public Recreation Zone)		✓
Between Quakers Hill and new Schofields stations — west of existing rail corridor	5(a) (Special Uses — General Zone (Commonwealth))		✓
	1(a) (General Rural)		✓
Between new Schofields and Riverstone stations — east of existing rail corridor	5(c) (Special uses — Local Road and Local Road Widening Zone)		✓
Between Riverstone and new Vineyard Stations — west of existing rail corridor	4(a) (General Industrial Zone)		✓
	1(a) (General Rural Zone)		✓
<b>Utility corridor</b>			
Between Quakers Hill Station and new Schofields Station — east of the existing rail corridor	5(a) (Special Uses — General Zone) (Council Purposes)		✓
	5(c) (Special uses — Local Road and Local Road Widening Zone)		✓
	5(a) (Special Uses — General Zone) (Drainage)		✓
	6(a) (Special Uses — Public Recreation Zone)		✓
Between Quakers Hill Station and new Schofields Station — west of the existing rail corridor	5(a) (Special Uses — General Zone) (Commonwealth)		✓
	5(a) (Special Uses — General Zone) (Education)		✓

Notes: 1: Land zones as described in the *Blacktown Local Environmental Plan 1988*.

2: Approximately 80% of this bushland property would be acquired. This property is currently owned by a single land owner and comprises multiple lots.

3: The total area of land that would be acquired for the project is approximately 11 hectares



### **8.1.3 Direct land use impacts of the project**

#### **Construction (temporary) impacts**

Construction impacts would involve temporary acquisition of some properties for the siting of construction worksites and compounds. The location of the proposed compounds is shown in Figure 6-13, and the impacts of the individual compounds are described in detail in Chapter 10.

In general, land use impacts at most of the construction compound sites are expected to be manageable as the current land uses of these properties generally comprise vacant parcels of land that are either owned by RailCorp, zoned 5(a) (Special Uses) or are located within disused commercial premises.

However, land use impacts are expected to be largest at the sites for the following proposed construction compounds (refer Chapter 10):

- Richmond Line Alliance (RLA) Project Office
- Existing Schofields
- Westminster
- Vineyard.

The RLA Project Office and Westminster compound sites are currently privately owned rural properties. The establishment and operation of these construction compounds would have temporary adverse amenity impacts on these properties, including increased noise (refer Section 8.4), reduced air quality (refer Section 9.5), increased traffic (refer Section 8.2) and reduced visual amenity (refer Section 9.1).

The site of the proposed Existing Schofields construction compound is currently used as the commuter car park for the existing Schofields Station; the establishment of this site would require the closure of this parking facility. The Existing Schofields construction compound would be required during the demolition of the existing Schofields Station and would be undertaken to avoid (as much as possible) the loss of existing commuter car parks whilst the existing Schofields Station is still operational. The removal of this parking would not have an impact on park-and-ride commuters using Schofields Station as the existing Schofields Station would not be operational at the time of establishment of this construction compound. Rail services would operate from the new Schofields Station prior to the closure of the existing Schofields Station. Traffic and transport impacts are discussed in Section 8.2. Any existing commuter car parks lost prior to the commissioning of the new Schofields Station would be offset at a ratio of 1:1 to ensure that the net number of parking spaces at the existing Schofields Station is maintained.

#### **Operational (permanent) impacts**

Land required for the operation of the Project that is not already owned by RailCorp would be permanently acquired (refer Table 8-1). While it is expected that the land to be acquired is in a sufficiently narrow strip to not significantly affect the current operations on that land, the direct property impacts must also be considered in the context of the proposed development of the wider NWGC (i.e. many of these properties are likely to be subject to future redevelopment).



The acquisition of land for the construction of the Project may conflict with individual land owners' plans for redevelopment of their properties for other forms of development. The socio-economic consequences for owners of the affected properties are discussed in further detail in Section 8.3.

#### **8.1.4 Impact of the project on adjacent land uses**

Adjacent land uses are likely to be affected most where existing properties back directly onto the rail corridor, or where properties have an unscreened view of the rail corridor. There are approximately 70 existing residential properties located immediately adjacent to the rail corridor, as follows:

- Manorhouse Boulevard, Quakers Hill (33 properties)
- Seldon Street, Quakers Hill (four properties)
- Bridge Street, Lane Grove and Tain Place, Schofields (33 properties).

In addition, properties located adjacent to the new station and car park facilities at Schofields and Vineyard would be affected by substantial change to surrounding land uses. This would be most significant for:

- one property along the southern side of Ashford Road, Vineyard that faces the proposed new Vineyard Station car park site
- four properties along Railway Terrace and Pelican Road, Schofields that face the proposed new Schofields Station
- a number of residential properties fronting onto Bridge Street, Schofields, which would experience an increase in traffic movements associated with the new Schofields Station car park.

#### **Construction impacts**

The construction of the Project would adversely affect the amenity of some adjoining land uses due to:

- noise from construction vehicles
- dust generated by construction vehicles and construction works
- traffic disruption associated with construction traffic
- visual impacts associated with land clearing, stockpiles and construction vehicles/equipment.

Amenity-related impacts on adjacent land use would be largest in areas where residential properties or other sensitive land uses are either located adjacent to a construction site, or where residential/sensitive receivers have an unscreened view of the construction areas.



There would be 11 construction compounds required for the construction of the Project (refer Figure 6-13 and Chapter 10), some of which would have impacts on adjacent land uses. These would comprise the following construction areas:

- Seldon Street South — construction compound located directly adjacent to two residential properties on Seldon Street, and within view of up to 10 residential properties.
- RLA Project Office — construction compound located directly adjacent to two residential properties located on Bridge Street.
- Existing Schofields Station — construction compound located opposite four residential properties and commercial premises within the Schofields town centre; however, these properties are buffered from the construction site by Railway Parade.
- Westminster — construction compound located directly adjacent to two residential properties on Bridge Street.
- Riverstone — construction compound located directly adjacent to five residential properties and the Riverstone Veterinary Clinic.

While construction impacts to these properties would be temporary, measures would be required to ensure that these impacts do not have a significant adverse impact on the amenity of these areas. Amenity-related land use impacts are discussed in sections 8.2 (traffic), 8.4 (noise), 9.1 (visual amenity) and 9.5 (air quality).

### **Operational impacts**

As well as direct impacts associated with acquisition, the operation of the Project would adversely affect amenity for some adjoining land uses due to:

- noise from train operations, station activities (station announcements) and maintenance activities (refer Section 8.4)
- visual intrusion (refer Section 9.1)
- commuter traffic (refer Section 8.2)
- overshadowing (e.g. where the Project is developed on an embankment or where noise walls, station structures or pedestrian footbridges are proposed) (refer Section 8.4). However, this is expected to be minor as the additional impacts relative to the existing rail corridor are expected to be marginal. Furthermore, the building setbacks from the Project boundaries are sufficiently large to avoid direct overshadowing of dwellings.

The operation of the Project is expected to influence land use planning and urban design on land adjacent to the rail corridor through:

- Encouraging land use on either side of the rail corridor that would buffer sensitive receivers from potential noise, vibration and visual impacts (examples of buffering land uses include linear open space corridors like cycleways, open spaces and roads). This would be undertaken in accordance with the Department of Planning's (2008) *Development near rail corridors and busy roads – interim guideline*, and clause 87(3) of the *State Environmental Planning Policy (Infrastructure)*, which states that consent for residential development must not be given unless the developer undertakes appropriate measures to ensure that specified noise levels are not exceeded (refer Section 8.4.6).
- Encouraging planning controls requiring residential set-backs from the corridor.

- Encouraging land uses on either side of the rail corridor that are not sensitive to the noise and visual impacts of the Project.
- Encouraging urban design that minimises noise and vibration impacts on any future residential development alongside the rail corridor (e.g. acoustic treatment of dwellings and configuring dwelling layouts to limit impacts to living areas).
- Supporting transit-oriented development based on high-intensity land use in the vicinity of the Schofields, Riverstone and Vineyard stations, including retail, commercial and high-density residential development.
- Focusing transport interchanges at the Schofields and Vineyard stations through the provision of the proposed bus interchanges.

As the Project is being developed adjacent to an existing, operating rail line, the extent to which the operation of the Project would restrict future land use in proximity to the rail corridor is limited, as these restrictions would have largely applied to the existing environment.

#### *Impacts of Schofields Station relocation*

The relocation of Schofields Station is likely to impact on the commercial land uses surrounding the existing station. The existing shops on Railway Terrace and opposite Schofields Station could potentially suffer a decline in commuter-related business once the station is relocated. The significance of this impact, and other social and economic impacts of the Project, are discussed further in Section 8.3.

#### *Severance and land sterilisation impacts*

Land severance occurs where a physical barrier is created between communities and/or a property and the existing road access to that property. Land sterilisation occurs where a property is severed into fragments of a size and/or shape that make the use of that land for its permissible use unfeasible.

The design of the Project has sought to limit land severance and sterilisation through the inclusion of appropriate vehicular and pedestrian crossing points, generally at the same location as existing crossing points.

Land severance would not be an issue during the construction and operation of the Project, as the Project involves the duplication of an existing rail corridor. The construction of the Project would require the removal of two pedestrian level crossings and one road overbridge. The pedestrian crossings would not be removed until replacement footbridges are constructed, hence access across the rail corridor would be maintained. The Westminster Street overbridge would be closed for approximately three days during construction of the new overbridge. The temporary closure of this facility would restrict community movements across the rail corridor for the duration of its closure. The complete details of the strategy for Westminster Bridge would be developed during the detailed design phase.



The closure of the Garfield Road level crossing and the 'Meatworks' level crossing at Riverstone are not a part of this Project, but are discussed further in Section 8.2. The Garfield Road crossing would be constructed by the RTA and alternative pedestrian access would be provided by the Project over Riverstone Station. The closure of the 'Meatworks' level crossing by RailCorp does not form part of this Project.

Land sterilisation could occur in locations where structures are proposed outside of the existing rail corridor, in particular areas within the proposed widened rail corridor, the new Schofields and Vineyard stations and associated car parks and bus interchange facilities. The development of the Project would require the acquisition of privately-owned land (refer Table 8-1). Acquisition of this land is not expected to result in land sterilisation as the acquired land would eventually be redeveloped for residential and other uses as part of plans for the NWGC.

### **8.1.5 Management measures**

To minimise land use and property impacts associated with the Project, Transport Infrastructure Development Corporation would liaise with agencies responsible for future precinct planning in the NWGC to ensure the detailed design of the Project makes allowance for:

- any required measures to improve connectivity across the corridor to manage severance impacts, including opportunities for pedestrian bridges and other access
- potential co-location of utilities or other beneficial land uses of the rail corridor.

Acquisition of land would be by agreement or compulsory process in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*.

Measures to manage impacts on adjacent land uses are discussed further in sections 8.2, 8.3, 8.4, 9.1 and 9.5.

## **8.2 Traffic and transport**

The existing traffic and transport conditions in the Project area have been described in Section 3-2. This section summarises the potential traffic and transport impacts during construction and operation of the Project and identifies mitigation measures for such impacts. The complete assessment is provided in Technical Paper 1 – Traffic and transport in Volume 2 of this report.

A construction and operation impact analysis was undertaken to examine:

- the proposed construction methodologies and preliminary station concept designs to determine the potential impacts of construction on existing traffic and transport conditions
- the adequacy of the proposed interchange facilities to meet demand for opening and future operations (2031 scenario).

It is important to note that traffic management issues will be addressed as part of the construction environment management plan (CEMP) prior to the commencement of construction to avoid, manage, mitigate, offset, and/or monitor the impacts.