

1. INTRODUCTION

The Australian Rail Track Corporation (ARTC) has engaged Parsons Brinckerhoff (PB) to prepare an Environmental Assessment of the proposed Southern Sydney Freight Line (SSFL). The proposal requires approval from the NSW Minister for Planning and the Commonwealth Minister for the Environment and Heritage. The Environment Assessment has been prepared to satisfy the environmental assessment requirements of the Director-General of the NSW Department of Planning and the Commonwealth Minister for the Environment and Heritage. The Environmental Assessment describes the project in detail, its method of construction, and the associated environmental impacts and management.

ARTC is a company wholly owned by the Commonwealth Government. Its primary role is to manage the national rail network connecting Australia's major mainland capital cities.

ARTC was created after the Commonwealth and State Governments agreed in 1997 to the formation of a 'one stop' shop for all operators seeking access to the national interstate rail network. It currently has responsibility for the management of 5,861 route kilometres of standard gauge interstate track, in South Australia, Victoria, Western Australia and New South Wales (NSW). ARTC also manages the Hunter Valley Coal Rail network in NSW and other regional rail links in NSW.

1.1 What is proposed and why?

ARTC is planning to improve interstate rail freight services between Melbourne–Sydney–Brisbane, and also within NSW, by building a new bi-directional, non-electrified and dedicated freight line from Macarthur to Sefton in southern Sydney.

This section of the interstate rail freight network is a bottleneck because freight trains have to give way and share the RailCorp passenger lines. Within the Sydney metropolitan area RailCorp's passenger services have priority over freight trains, and during the morning and afternoon commuter periods freight trains are denied access to the RailCorp network. As a result, freight trains cannot arrive or depart Sydney at the optimum time. This is an early morning arrival and a late afternoon departure for services to and from Melbourne. This bottleneck affects the availability of rail freight services and causes the transit times between Melbourne–Sydney–Brisbane to extend. Therefore, it has a direct effect on the competitiveness of rail freight compared to road freight. In addition, the reliability of passenger services are also affected by the dual use of the RailCorp network, whereby if a freight train breaks down or runs late, it can cause passenger service disruptions and delays.

ARTC would construct, operate and maintain the SSFL in the Main South Line Corridor under an agreement with RailCorp. Rail freight providers, such as Pacific National, QR National and Silverton Rail would operate the freight trains, as they currently do. The railway corridor would remain in the ownership of RailCorp.

1.1.1 North-South Corridor Strategy

Since World War II rail freight in Australia has continually declined in market share against the more competitive and reliable road freight. Rail freight currently has a minority share of the north-south land transport freight market (between Melbourne–Sydney–Brisbane). However, in the east-west market (between the eastern seaboard and Perth) rail's competitiveness has improved since ARTC was formed, contributing to an improvement in rail's market share from 69% in 1997/98, to 81% currently.

ARTC has prepared the North-South Corridor Strategy for the Melbourne–Sydney–Brisbane interstate rail network. The \$872 million investment program is aimed at reducing the transit times between these three capital cities, improving the availability of services to meet growing freight demand and improving

the competitiveness of rail compared to road freight. The program targets priority rail infrastructure between Melbourne–Sydney–Brisbane. A key project of the north-south corridor investment program is construction of the Southern Sydney Freight Line to provide independent and priority freight train access through southern Sydney.

On 5 September 2004, the ARTC commenced a 60 year lease of the NSW interstate and Hunter Valley rail lines. This means that ARTC is now responsible for the operation, maintenance, investment and train operating control across the interstate standard gauge rail network of Australia, connecting Perth–Adelaide–Melbourne–Sydney–Brisbane.

1.1.2 Overview of the proposal

The proposed 30 kilometre SSFL commences south of Macarthur, where the electrified RailCorp passenger network finishes. The SSFL would be bi-directional, non-electrified and a dedicated freight line. The SSFL would be located on the western side of RailCorp’s Main South Line corridor from south of Macarthur through to Ingleburn Railway Station where it would connect into an existing 6 kilometre freight passing loop (that was constructed in 1995) that runs north to Glenfield Railway Station. North of Glenfield Railway Station the SSFL would cross from the western to the eastern side of the corridor on an overpass (or flyover). The SSFL would continue on the eastern side of the rail corridor through Cabramatta and then on the southern side through to Sefton Park Junction. At Sefton Park Junction the SSFL crosses in an underpass (or deep cutting) to enable connection with the existing Metropolitan Goods Line. The SSFL would be located adjacent to the RailCorp passenger network and within the existing rail corridor for the majority of the distance.

The Glenfield flyover and Sefton Park Junction deep cutting would avoid movement conflicts between passenger and freight trains and provide operational independence from the RailCorp network.

An overview of the proposed SSFL is provided in [Table 1.1](#) and the location of the SSFL is shown in [Figure 1.1](#). More detail is provided in [Part B – Description of the Proposal](#).

Table 1.1 Overview of the SSFL

Component	Overview
Alignment	<p>New 30 kilometre bi-directional, non-electrified and dedicated freight line from south of Macarthur to east of Sefton Park Junction. The alignment of the proposal would be as follows:</p> <ul style="list-style-type: none"> • from south of Macarthur to Ingleburn Railway Station, construct the SSFL on the western side of the rail corridor • connect the SSFL to the southern end of the existing 6 kilometre freight passing loop (constructed in 1995) at Ingleburn Railway Station • between Ingleburn Railway Station and Glenfield Junction the existing freight passing loop would now become part of the SSFL • between Glenfield Junction and Cabramatta Railway Stations construct the SSFL on the eastern side of the rail corridor, connecting the SSFL to the northern end of the existing freight passing loop • construct a flyover for the SSFL over the RailCorp network north of Glenfield Junction to cross the SSFL from the western side of the rail corridor to the eastern side • construct a passing loop 2 kilometres in length north of Glenfield Junction and co-located with the flyover, so that freight trains can pass on the bi-directional freight line • between Cabramatta Railway Station and Sefton Park Junction construct the SSFL on the eastern then southern sides of the rail corridor to avoid an underpass or overpass at Cabramatta Junction • construct a deep cutting at Sefton Park Junction to connect the SSFL underneath the Main South Line corridor to the Metropolitan Goods Line.
RailCorp connections	Construct three connections between RailCorp’s Main South Line and the SSFL at Campbelltown, Casula and Leightonfield for freight and diesel passenger services to cross between the two networks.

Component	Overview
Station works	<p>Modify six existing railway stations (Leumeah, Minto, Casula, Warwick Farm, Cabramatta and Sefton) and their surrounding precincts, with works to include:</p> <ul style="list-style-type: none"> • replace affected station facilities and buildings, e.g. pedestrian footbridges, ticket offices • maintain the easy access standard to Leumeah, Minto and Cabramatta Railway Stations, including one new lift at Leumeah, two new lifts at Minto and one new lift with extra depth at Cabramatta • provide new access over the SSFL to the easy access standard at Warwick Farm Railway Station, including the provision of two new lifts • provide the capability for the future upgrading of Casula and Sefton Railway Stations to the new equitable access standard, including the capability for future lifts • widen the rail corridor within adjoining public land through these Stations, excluding Warwick Farm Railway Station • replace affected commuter car parking, kiss-and-ride parking, taxi stand and bus interchange facilities, with the aim of achieving no net loss of car parking at each station • undertake minor roadworks to affected local roads to maintain station, public and private access • provide new landscaping, bus shelters/canopies, pedestrian/cycle pathways, signage and street furniture where affected by the proposal.
Corridor widening	<p>Widen the existing rail corridor at selected locations away from the affected stations to accommodate the SSFL, with the main locations including:</p> <ul style="list-style-type: none"> • south of Campbelltown Railway Station along Farrow Road and in proximity to the Narellan Road bridge and Bow Bowling Creek • north of Campbelltown Railway Station along Watsford Road • between Glenfield Railway Station and Casula Railway Station in association with the proposed passing loop and flyover, including a portion of Leacock Regional Park and Glenfield Waste Facility • between Casula and Liverpool Railways Stations along the riverfront parkland to the Georges River (former golf course and Lighthorse Park).
Earthworks	<p>Construct earthworks including retaining walls, cuttings and embankments within the existing RailCorp corridor for the majority of the distance. The southern end of the corridor (south of Ingleburn Railway Station) will generally require only minor earthworks due to the relatively flat terrain. Significant earthworks are required:</p> <ul style="list-style-type: none"> • between Macarthur and Campbelltown Railway Stations under the Narellan Road bridge to Bow Bowling Creek • associated with the flyover to the RailCorp network north of Glenfield Junction • from the northern end of the flyover to Liverpool Railway Station, where the rail corridor is generally narrow and on an embankment • south of Cabramatta Railway Station where the rail corridor is elevated • from Leightonfield to the east of Sefton Railway Station, where the rail corridor is elevated or passes through cuttings • associated with the deep cutting at Sefton Park Junction.

Component	Overview
Bridges	<p>Modify existing and construct new bridges (road, rail and pedestrian) to accommodate the SSFL, including:</p> <ul style="list-style-type: none"> • upgrade the existing road bridges over the corridor at Bareena Street, Miller Road and Chester Hill Road • provide pier protection to the Hume Highway, Newbridge Road and Cabramatta Road East bridges, and underpinning to the Cooper Road bridge abutment • construct a new road bridge over the corridor at Auburn Road • construct new rail bridges over Woodbrook Road, Shepherd Street, Broomfield Street (Sussex Street), Moore Street/Sandal Crescent, Hector Street and Woods Road • upgrade the pedestrian footbridge at Canley Vale and at Campbelltown and Leightonfield Railway Stations • relocate the existing pedestrian footbridge over Prospect Creek • construct new rail bridges over creeks (including Glenfield, Cabramatta and Prospect Creeks) and drainage culverts/structures over numerous drainage tributaries.
Level crossings	<p>There are three level crossings on the SSFL route i.e. Casula Railway Station, Liverpool Hospital and Sefton Park Junction. RailCorp has indicated that the addition of another operational track through these level crossings will bring about either the closure of these crossings or the introduction of additional controls for the operation of the crossings (see Section 4.3.5).</p>
RailCorp requirements	<p>Design the alignment of the SSFL to satisfy the foreseeable and reasonable future requirements of RailCorp to their corridor, including the proposed:</p> <ul style="list-style-type: none"> • upgrading of the rail yards at Campbelltown and Liverpool Railway Stations • remodelling Glenfield Junction, including connections to East Hills Line and South West Rail Link • underground line and platform at Cabramatta Railway Station for the Old Main South line from Granville.
Track and rail infrastructure	<p>Provide new track and rail infrastructure for the SSFL and at:</p> <ul style="list-style-type: none"> • the connection of the SSFL south of Macarthur to the Main South Line • the southern and northern connections to the existing freight passing loop between Ingleburn Railway Station and Glenfield Junction • the connection of the SSFL east of Sefton Park Junction to the Metropolitan Goods Line • the three connections between RailCorp's Main South Line and the SSFL at Campbelltown, Casula and Leightonfield.
Services and utilities	<p>Provide new underground fibre optic communications and signalling equipment within the corridor for the operation of the SSFL.</p> <p>Provide protection to the existing gas, water supply, telecommunications and other utilities and services that cross the rail corridor, and avoid relocation wherever possible.</p> <p>Relocate or provide protection to the RailCorp services in consultation with RailCorp (including the overhead wiring and masts to the electrified passenger network, the aboveground high voltage 33 kilovolt powerlines and poles, underground fibre optic communications and signalling equipment) within the corridor that is affected by the SSFL.</p>
Other works	<p>Provide impact mitigation measures, such as noise walls, landscaping, and access for rail corridor maintenance, where required.</p>

1.2 The process for considering the proposal

1.2.1 Planning and decision-making process

New South Wales environmental legislation

The *Environmental Planning and Assessment Regulation 2000* was amended in September 2004 to include special provisions relating to the operations of ARTC within NSW. These provisions provide a statutory framework for which all ARTC activities are to be assessed and prescribe the ARTC as a public authority in terms of Part 5 of the *Environmental Planning and Assessment Act 1979*.

In August 2005 the *Environmental Planning and Assessment Act 1979* was amended to include a new Part 3A – Major Project and Other Infrastructure for assessment of major projects. A Ministerial declaration was made by Government Gazette of 29 July 2005 that in accordance with Section 75B of the *Environmental Planning and Assessment Act 1979* any activity for which the proponent is also the determining authority and would have required an environmental impact statement under Part 5 (but for the commencement of the new Part 3A amendments) will be assessed under Part 3A. However, Clause 23 of Schedule 1 of the *State Environmental Planning Policy (Major Projects) 2005* identifies ‘Development that has a capital investment value of over \$30 million for the purpose of railway freight facilities’ as a project to which the assessment and approval process under Part 3A of the *Environmental Planning and Assessment Act 1979* applies. The Southern Sydney Freight Line meets this definition and therefore will be assessed as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* requiring project approval, and this Environmental Assessment has been prepared to obtain this approval.

Commonwealth environmental legislation

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* applies to a State proposal if it is determined to be a controlled action as defined in the Act. ARTC is a Commonwealth agency under the *Environment Protection and Biodiversity Conservation Act 1999* and the SSFL is likely to have a significant impact on the environment, and as such the project is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* for which approval is required.

The Commonwealth Minister for the Environment and Heritage has determined that the proposal is a controlled action and has given approval to utilise the Environmental Assessment process under Part 3A of the *Environmental Planning and Assessment Act 1979* as an accredited assessment process under Commonwealth legislation. This Environmental Assessment has been prepared to obtain this approval.

Planning approval process

A Planning Focus Meeting was held on 10 February 2005 with the relevant State agencies and local Councils to provide the key issues to be addressed in undertaking the environmental impact assessment. At that time the proposal was subject to determination in accordance with the provisions of Part 5 of the *Environmental Planning and Assessment Act 1979*.

The Director-General’s Requirements were previously issued under Part 5 of the *Environmental Planning and Assessment Act 1979* on 29 March 2005. These have now been superseded and new environmental assessment requirements (see **Appendix A**) for a major project under Part 3A have been issued.

Part 3A of the *Environmental Planning and Assessment Act 1979* outlines the key steps for assessment and approval of major infrastructure and other projects in NSW. The Minister for Planning is the approval authority for all projects assessed under Part 3A.

Part 3A requires ARTC to submit the Environmental Assessment to the Department of Planning to determine if it adequately addresses the adopted environmental assessment requirements prior to public exhibition. Where the Environmental Assessment is adequate, it will be exhibited for at least 30 days.

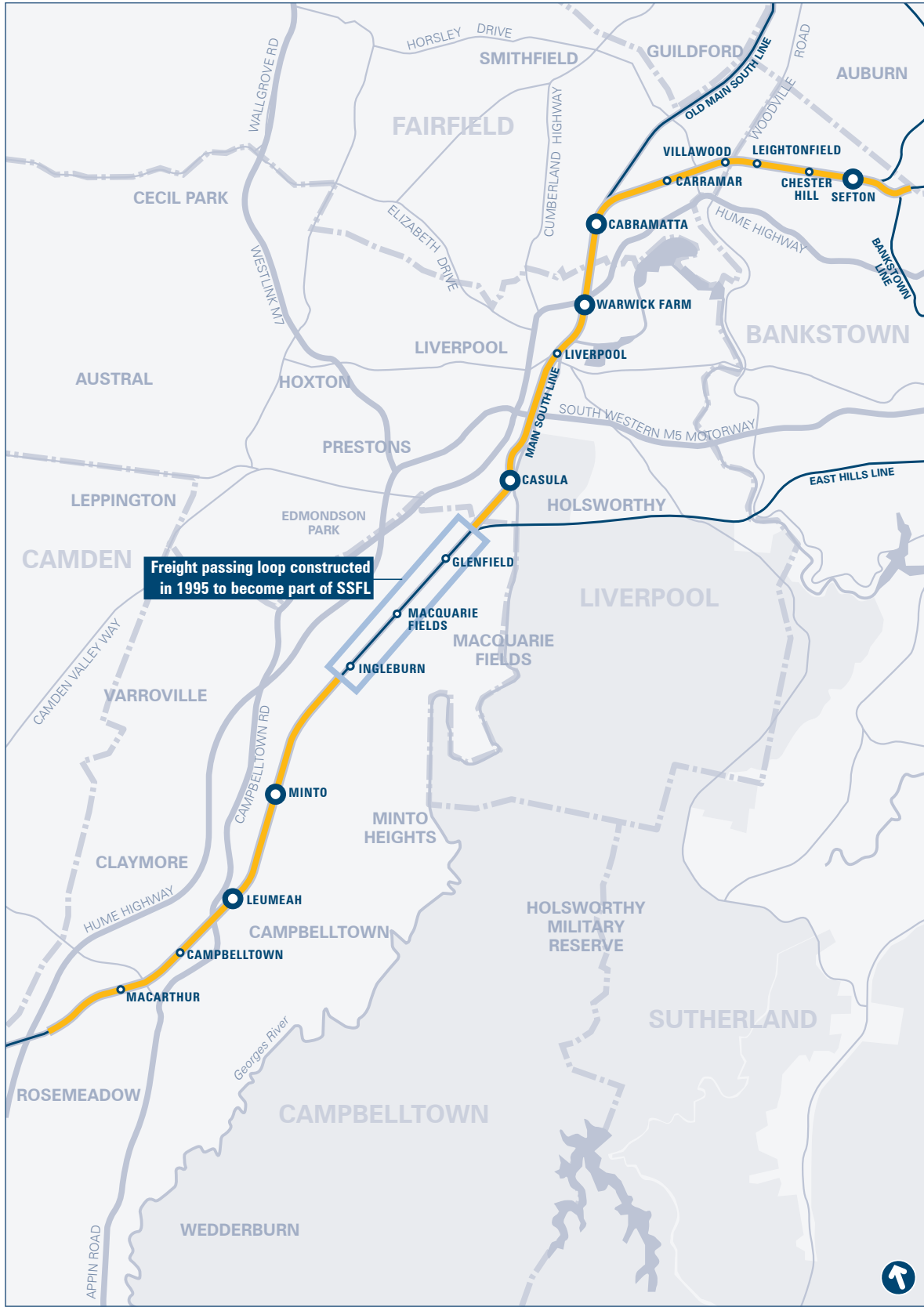





Figure 1.1 Location of Southern Sydney Freight Line

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1:10000 kilometres

-  Station precinct plans
-  Southern Sydney Freight Line route
-  Local government areas

ARTC submitted a referral of the project to the Commonwealth Department of Environment and Heritage on 18 November 2005 under the *Environment Protection and Biodiversity Conservation Act 1999*. A decision was made on 28 November 2005 that the project is a controlled action and approval is required under Part 9 of the *Environment Protection and Biodiversity Conservation Act 1999*. On 5 January 2006, the Commonwealth Minister for the Environment and Heritage determined the environmental assessment process under Part 3A of the *Environmental Planning and Assessment Act 1979* to be the accredited assessment process under Commonwealth legislation for assessment of the proposed SSFL.

ARTC must obtain approval for the SSFL from the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979*. ARTC also requires the separate approval of the Commonwealth Minister for the Environment and Heritage under the *Environment Protection and Biodiversity Conservation Act 1999*.

Environmental Assessment

The Environmental Assessment for the SSFL must address:

- the environmental assessment requirements of the Director-General of the Department of Planning under Section 75F of the *Environmental Planning and Assessment Act 1979* (see **Appendix A**)
- any guidelines published in the Gazette
- the requirements of the Commonwealth Minister for the Environment and Heritage.

This Environmental Assessment has been prepared based on the environmental assessment requirements and a checklist is provided in **Appendix B**.

This Environmental Assessment also includes a draft Statement of Commitments identifying the various environmental management and mitigation measures incorporated into the proposal to manage environmental impacts (see **Appendix C**).

Principles of ecologically sustainable development

ARTC seeks to ensure that all major rail proposals are consistent with the principles of ecologically sustainable development and that each Environmental Assessment provides sufficient detail to be assessed against the adopted principles. The exact nature and definition of these principles have been a matter of debate for some time. The reference that is most relevant in terms of the process of preparing an Environmental Assessment is found in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. According to this guideline, ecologically sustainable development is based on the following four interrelated principles:

- *the precautionary principle*; if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- *intergenerational equity*; the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations
- *conservation of biological diversity and ecological integrity*; maintaining biodiversity is a fundamental consideration
- *improved valuation, pricing and incentive mechanisms*; environmental factors should be included in the valuation of assets and services.

Other potential statutory approvals, permits and licences

Authorisations from various NSW agencies referred to in Section 75U of the Act are not required for an approved project under Part 3A of the Act. However, the following NSW agencies that would have an interest in the assessment of the project, to ensure that matters usually dealt with under separate permits and approvals are included in the assessment of the project under Part 3A, include:

- NSW Fisheries (*Fisheries Management Act 1994* and *Fisheries Management Amendment Act 1997*) relating to the proposed bridge designs and works at the multiple creek crossings (including Glenfield, Cabramatta and Prospect Creeks)

- Department of Natural Resources (*Water Management Act 2000* and *Rivers and Foreshores Improvement Act 1948*) relating to the proposed bridge designs and works within riparian zones at the multiple creek and drainage crossings and the proposed realignment of a drainage gully at Glenfield Junction and Bow Bowing Creek at Macarthur
- Heritage Council of NSW (*Heritage Act 1977*) relating to proposed demolition and alterations to the identified heritage items (e.g. to the Section 170 items)
- Department of Environment and Conservation, formerly NSW National Parks and Wildlife Service, (*National Parks and Wildlife Act 1974*) relating to Aboriginal cultural heritage and identified sites.

There are at least two other approvals that would be required for the project to proceed, but under Section 75V that approval cannot be refused and it must be substantially consistent with the project approval issued under Part 3A. The two further approvals that would be required are:

- Consent under the *Roads Act 1993* may be applicable depending on the construction method for pier protection to the bridges at Newbridge Road, Hume Highway and Cabramatta Road East from the NSW Roads and Traffic Authority.
- Variation would be required to the current ARTC Environment Protection Licence 3142 under the *Protection of the Environment Operations Act 1997* from the Department of Environment and Conservation in order to operate the proposed SSFL.

The *National Parks and Wildlife Act 1974* provides for land to be gazetted as part of the State's National Park Estate. Due to the need to acquire approximately 1.3 hectares of land from Leacock Regional Park for the proposal the acquired land would require de-gazettal. The process of de-gazettal involves an Act of Parliament that would be tabled in the NSW Parliament by the Minister of Transport (the Minister for RailCorp) on behalf of the ARTC.

Public exhibition and comment

The Environmental Assessment will be placed on public exhibition for a minimum period of 30 days in accordance with the requirements of the Department of Planning. The Environmental Assessment will be offered for sale in hard copy and as a compact disc, and will also be available on ARTC's website. Public authorities, interested groups and organisations, and the general community will be invited to make written submissions in response to the Environmental Assessment. If you wish to make a written submission, it would be helpful if you include:

- the nature of your interest in the proposal
- your opinions on the proposal
- any suggestions you wish to make about alternatives or improvements to the proposal
- any additional measures you consider necessary to adequately protect the environment
- any errors or omissions in the information presented in the Environmental Assessment
- any additional factual information you have (and its source)
- any other aspects that you consider are relevant to the proposal and its determination.

Written submissions on the Environmental Assessment should be sent to:

Glenn Snow
Major Infrastructure Assessments
Department of Planning
GPO Box 39
Sydney NSW 2001

All submissions received by the Department of Planning will be regarded as public documents and the information they contain may be published in subsequent assessment documents. The Department of Planning may send copies of the submissions received on the proposal to the proponent and/or other interested parties. If you do not want a copy of your submission to be sent to the proponent or other interested parties, please state this clearly in your submission.

Preparing a submissions report

Following the exhibition of the Environmental Assessment, ARTC will review all submissions received by the Department of Planning and prepare a submissions report. The report will include consideration of:

- the Environmental Assessment
- all submissions and responses to the issues raised
- any new information concerning the proposal
- any modifications to the proposal
- a summary of mitigation measures and other commitments should the proposal proceed.

Making a decision

Having examined the Environmental Assessment and the submissions report, ARTC will decide whether to proceed with the proposal, either in the form described in the Environmental Assessment, or in a modified form in light of submissions made, or not proceed at all.

If it is decided that the proposal will proceed, ARTC will forward the submissions report, together with advice on any adopted modifications to the proposal and draft Statement of Commitments, to the Department of Planning and seek the approval of the Minister for Planning. If significant changes are proposed the Department may require ARTC to prepare a preferred project report that may be made available to the public.

The Department of Planning will examine all reports submitted by ARTC and prepare its own independent Director-General's report to the Minister. Acting on that report the Minister for Planning will decide whether to approve the proposal. The Minister for Planning may attach conditions to the approval or elect not to grant the approval.

A copy of the Environmental Assessment, submission report, preferred project report (if applicable) and the Director-General's report would be provided to the Commonwealth Minister for the Environment and Heritage who would then decide whether to grant approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The planning, design and decision process allows for input from public authorities and the community. Assessment of submissions made in response to the exhibition of the Environmental Assessment is an integral part of the approval process and can result in modifications and improvements to the design of the proposal in accordance with Part 3A of the *Environmental Planning and Assessment Act 1979*. Should the proposal be approved, ARTC would continue to involve relevant agencies and the local community in the detailed design of the proposal and during the construction period.

1.2.2 The Environmental Assessment

Role of the Environmental Assessment

The environmental assessment process seeks to ensure that all relevant environmental matters are considered and that community and interest groups are involved in the development of the proposal and impact assessment. The process provides an opportunity for stakeholders to convey their views to ARTC and to the Department of Planning and Commonwealth Department of Environment and Heritage as the approval authorities.

This Environmental Assessment quantifies and assesses potential adverse impacts, and documents the likely benefits of the proposal. It also outlines the type of environmental management measures available to reduce adverse impacts, and discusses opportunities created by the proposal that would increase benefits. The information in the Environmental Assessment also provides a basis for future monitoring of the environmental performance of the proposal.

Structure of this Environmental Assessment

The Director-General of the Department of Planning has defined key issues that must be considered in this Environmental Assessment. These are specified in **Appendix A** and listed on a checklist in **Appendix B**. The *Environmental Planning and Assessment Act 1979* and its Regulation place a broader obligation on the Environmental Assessment to consider all potential environmental issues in relation to the proposal.

Using the guidance provided by the Director-General, the outcomes of the community consultation process and the results of detailed studies, **Volume 1** of this Environmental Assessment has identified and analysed key issues. This analysis is supported by 5 Technical Papers in **Volume 2** which provide detailed information on background data, assessment methodologies and the results of specialist studies.

Volume 1 of this Environmental Assessment includes the following parts and chapters:

- **Part A, Chapters 1 and 2** provides the introduction to the proposal and the Environmental Assessment, the statutory planning approval process that applies, an overview of the community and stakeholder consultation activities, and the strategic context and need for the proposal.
- **Part B, Chapters 3 to 8** provides the approach to the concept design, a description of the corridor construction, the likely construction method, a description of each station precinct construction, the operation of the proposal and the construction and operation environmental management framework.
- **Part C, Chapters 9 to 15** provides the corridor impact assessment relating to corridor wide issues of traffic, transport and access; noise and vibration; biophysical environment (geology and soils; contaminated/hazardous materials and waste; ground and surface water; and biodiversity); social environment (Aboriginal heritage; built heritage; visual character; air quality; and social factors); land use and property; and other environmental consideration (including hazard and risk and energy and demand on resources).
- **Part D, Chapters 16 to 21** provides a separate impact assessment for the six affected station precincts addressing relevant precinct issues which are an exception to the corridor wide assessment (including traffic, transport and access; Aboriginal heritage; built heritage; visual character; and land use and property).
- **Part E, Chapter 22** provides the cumulative and strategic impact assessment, economic evaluation and the justification for the proposal.

Volume 2 of this Environmental Assessment includes the following technical papers:

- **Technical Paper 1** provides supporting technical information relating to geology and soils; biodiversity; contaminated/hazardous materials and waste; and hazard and risk.
- **Technical Paper 2** provides the noise and vibration assessment.
- **Technical Paper 3** provides the built heritage assessment.
- **Technical Paper 4** provides the Aboriginal heritage assessment.
- **Technical Paper 5** provides the visual assessment.

Key issues for the Environmental Assessment are outlined in **Table 1.2**.

Table 1.2 Key issues for the Environmental Assessment

Issue	Addressed in Environmental Assessment
Community and stakeholders Involvement of the community and stakeholders throughout the concept design and technical investigations.	Volume 1, Part C, Chapter 9 Precinct issues, Volume 1, Part D
Traffic, transport and access Impact on road and pedestrian crossings, station access, public transport interchange facilities, car parking and kiss-and-ride areas during construction and operation.	Volume 1, Part C, Chapter 10 Precinct issues, Volume 1, Part D
Noise and vibration Impact of rail noise and vibration during construction and operation.	Volume 1, Part C, Chapter 11 Volume 2, Technical Paper 2
Geology and soils Impact on geology and soils, particularly during construction.	Volume 1, Part C, Chapter 12 Volume 2, Technical Paper 1
Contaminated/hazardous materials and waste Impact on contaminated / hazardous materials and waste during construction and operation.	Volume 1, Part C, Chapter 12 Volume 2, Technical Paper 1
Ground and surface water Impact on ground and surface water during construction and operation.	Volume 1, Part C, Chapter 12
Biodiversity Impact on species and vegetation communities of local, regional, state and national significance during construction and operation.	Volume 1, Part C, Chapter 12 Volume 2, Technical Paper 1
Aboriginal heritage Impact on Aboriginal cultural heritage and Aboriginal stakeholder consultation during construction and operation.	Volume 1, Part C, Chapter 13 Precinct issues, Volume 1, Part D Volume 2, Technical Paper 4
Built heritage Impact on built cultural heritage during construction and operation.	Volume 1, Part C, Chapter 13 Precinct issues, Volume 1, Part D Volume 2, Technical Paper 3
Visual character Impact of the proposed earthworks for the SSFL formation, the additional track, work to the affected station precincts and noise barriers.	Volume 1, Part C, Chapter 13 Precinct issues, Volume 1, Part D Volume 2, Technical Paper 5
Air quality Construction and impact of freight train operations to air quality.	Volume 1, Part C, Chapter 13
Social Impacts to the social environment of the SSFL during construction and operation.	Volume 1, Part C, Chapter 13 Precinct issues, Volume 1, Part D
Land use and property Impacts to land use and private/public land acquisitions during construction and operation.	Volume 1, Part C, Chapter 14 Precinct issues, Volume 1, Part D
Hazard and risk Impact of potential hazard and risk associated with dangerous goods use, storage and transport during construction and operation.	Volume 1, Part C, Chapter 15 Volume 2, Technical Paper 1
Energy and demand on resources Impact of potential energy and resource use during construction and operation.	Volume 1, Part C, Chapter 15
Economic Cost benefit evaluation analysis of the proposal.	Volume 1, Part E, Chapter 22

1.2.3 Post-determination activities

Should the proposal be approved, ARTC would make the following documents available for public inspection at selected locations:

- the approval of the NSW Minister for Planning
- the approval of the Commonwealth Minister for the Environment and Heritage
- its submissions report
- its preferred project report (if required)
- the determination of the Board of Directors of ARTC
- the assessment report of the Director-General of the Department of Planning.

ARTC would also:

- notify the local community of the decision to proceed with the proposal by correspondence, newspaper notices and/or newsletters; such notification would include an indication of anticipated timing of construction works and contact details for further information
- notify property owners affected by acquisition soon after the announcement of the decision to clarify the likely impacts on individual properties and the anticipated timing and staging of construction; owners would be kept informed and consulted during the design and construction process
- prepare a detailed Environmental Management Plan for the construction phase of the proposal before construction commences.

ARTC would ensure that contractors for the proposal have an environmental management system prepared in accordance with the NSW Government *Environmental System Guidelines* (1998) and accredited by a NSW government construction agency. Contractors would also need to demonstrate successful implementation of their environmental management system at a project level. All approvals are usually subject to conditions. ARTC would meet those conditions either directly or through contractual arrangements with its contractors.

1.3 Approach to the assessment of the proposal

The environmental assessment considers the biophysical, social and economic environment and the changes that would result from the proposal. The proposal has been based on both a corridor assessment and an assessment of precincts where changes to stations would be required. The environmental assessment can be found in **Part C – Corridor Assessment** and **Part D – Precinct Assessment**.

The environmental assessment has involved a number of technical investigations. Other inputs to the environmental assessment have been:

- community and stakeholder involvement
- the principles of ecologically sustainable development
- cumulative and strategic impact assessment.

1.3.1 Community and stakeholder involvement

Consultation with the community and stakeholders provides important input into identifying and assessing the social, biophysical and economic impacts of a proposal. Community and stakeholder involvement also assists in guiding the development of a proposal, by responding to concerns and developing measures to mitigate impacts where possible.

The approach to community consultation was guided by the ARTC and the need to draw from a large and diverse community and other stakeholders. An analysis of the information needs of stakeholders and the community also guided the development of consultation activities.

The aims of the consultation program were to:

- create stakeholder and community awareness of the SSFL and environmental impact assessment
- create stakeholder and community understanding of the constraints and opportunities relating to the project
- identify and consider stakeholder and community issues, values and concerns related to the project
- meet legislative requirements under the *Environmental Planning and Assessment Act 1979* and regulations in regard to identification of social impacts.

The outcomes of the consultation activities were to:

- identify project stakeholders and understand their interest in the project
- establish a framework for providing the local community and other project stakeholders with an understanding of the project and the technical investigations being undertaken for the environmental impact assessment
- provide opportunities for community input through appropriate public material
- identify and document community and stakeholder comments and issues of concern.

Stakeholder analysis

Stakeholders for this project fall within the categories of:

- Commonwealth, State and local government authorities
- Commonwealth, State and locally elected representatives
- providers of utilities and services such as gas, electricity, water, sewage and telecommunications
- non-government organisations such as Local Aboriginal Land Councils and emergency services
- non-government transport groups and companies, businesses and schools
- local and regional community groups such as business groups, senior citizens groups and multicultural associations
- property owners adjacent to the rail corridor
- directly affected residents
- train commuters
- the wider community.

See **Appendix D** for a complete list of identified stakeholders.

Consultation activities

Opportunities were created to ensure that individuals and groups could be directly involved in the process. In addition, key local and State government agencies were consulted throughout the project. See **Appendix D** for a list of stakeholder and community meetings. Consultation activities related to each stakeholder group are summarised in **Table 1.3**.

Table 1.3 Consultation activities

Stakeholder group	Consultation activity
Commonwealth, State and local government authorities	<ul style="list-style-type: none"> • Introductory correspondence regarding the project • Planning focus meeting at study commencement • Separate discussions with authorities on specific issues as required • Environmental Assessment display notification and information
Commonwealth, State and local elected representatives	<ul style="list-style-type: none"> • Briefing session at the study commencement • Council discussion/information sessions • PB and ARTC attendance at Council meetings • PB and ARTC discussions as required • Receiving and responding to written submissions • Environmental Assessment display notification
Utilities and services	<ul style="list-style-type: none"> • ARTC discussions as appropriate
Non-government transport groups and companies, businesses and schools	<ul style="list-style-type: none"> • Registration on the project database • Mail box drop of community update newsletter 1 and 2 • Stakeholder issues identification meetings (3 meetings) • Stakeholder concept design/Precinct Plan information sessions (3 meetings) • Local business discussion days with translator (2 days) • Receiving and responding to written submissions • Environmental Assessment display notification • Project website • 1800 project information line
Local community groups and progress associations, interested regional groups and local individuals	<ul style="list-style-type: none"> • Registration on the project database • Mail box drop of community update newsletter 1 and 2 • Mail box drop of community meetings invitation flyer • Community issues identification meetings (4 meetings, 1 meeting per local government area) • Community information evenings (4 meetings, 1 meeting per local government area) • Receiving and responding to written submissions • Environmental Assessment display notification • Project website • 1800 project information line
Directly affected residents adjacent to the rail corridor	<ul style="list-style-type: none"> • Property search using information provided by Council to identify directly affected residents • Individual landowner discussions • Mail box drop of community update newsletters (2) and flyer • Receiving and responding to written submissions • Community information evenings (4 meetings, 1 meeting per local government area) • Environmental Assessment display notification and direct notification to adjacent residents • Project website • 1800 project information line
Wider community	<ul style="list-style-type: none"> • Mail box drop of community update newsletter 1 and 2 • Mail box drop of community meetings invitation flyer • Community issues identification meetings (4 meetings, 1 meeting per local government area) • Community information evenings (4 meetings, 1 meeting per local government area) • Receiving and responding to written submissions • Environmental Assessment display activities • Project website • 1800 project information line

Information about issues and concerns were collated by the study team based on:

- discussions at community and stakeholder information sessions
- conversations on the 1800 project information line
- information included in written submissions and emails
- meetings with government agencies and key stakeholders
- media such as newspaper articles
- observations made by the study team.

Further information is provided in **Appendix D** relating to the issues and concerns collated from the consultation activities. A summary of the consultation activities is set out in **Table 1.4**.

Table 1.4 Summary of consultation activities

Activities	Number
Community update newsletters 1 and 2 (including Vietnamese and Arabic translations)	76,000
Invitation flyer	20,000
1800 line calls (excluding RSVPs to community and stakeholder meetings)	45
Submissions (written and email)	23
Government agency meetings	8
Council meetings	16
Individual landowner discussions	9
Community meetings (including community information evenings)	8
Key stakeholder meetings	6
Local business discussion days	2

1.3.2 Principles of ecologically sustainable development

Ecological sustainability has been considered in developing the proposal and during the environmental impact assessment. Such considerations have included both short-term and long-term economic, environmental, social and equity issues as set out in **Table 1.5**.

Table 1.5 Integrating principles of ecologically sustainable development

ESD principle	How the principle has been incorporated into the assessment process
Precautionary approach	<p>Scope and methodologies used for environmental assessment derived from detailed consultation with authorities, the community and other stakeholders as described in Volume 1, Parts C and D and Volume 2, Technical Papers 1 to 5.</p> <p>Potential threats of serious or irreversible damage identified and assessed through the Environmental Assessment.</p> <p>Assessment of alternatives to the proposal as described in Volume 1, Part A, Chapter 2.</p> <p>Identification and management of potential hazards and risks as described in Volume 2, Technical Paper 1.</p> <p>Measures to mitigate damage identified for all environmental impacts as described in Volume 1, Parts C and D.</p>
Inter-generational equity	<p>Community consultation strategy implemented as described in Volume 1, Part A, Chapter 1 to identify community concerns and values.</p> <p>An assessment of the potential social impacts of the proposal undertaken as described in Volume 1, Part C, Chapter 13 and Volume 1, Part D, Chapters 16 to 21 with specific reference to community concerns and values.</p>
Conservation of Biological Diversity and Ecological Integrity	<p>Identification and management of potential impacts on species and vegetation communities of local, regional, national and State significance as described in Volume 2, Technical Paper 1.</p>
Improved Valuation, Pricing and Incentive Mechanisms	<p>Community values have been identified as described in Volume 1, Part C, Chapter 13 and Part D, Chapters 16 to 21.</p> <p>Undertaking both local and regional cumulative impact assessments as described in Volume 1, Part E, Chapter 22.</p>

1.3.3 Cumulative and strategic impact assessment

Cumulative impacts include long-term and short-term impacts brought about by a development and interactions with other development projects, existing activities, the environment and land uses. Cumulative impacts can be of local or strategic importance, and can be directly or indirectly the result of a proposal.

The assessment of cumulative impacts of the SSFL (see **Chapter 22**) considers the interactions between the SSFL and other developments or activities which are related to the movement of freight, either existing or proposed. It also considers the effects of changes that would accrue from other local or regional changes that would result from non-related proposals. Developments in transport infrastructure and in southern Sydney generally are outlined in **Sections 2.4 and 2.6**.