

Southern Sydney Freight Line

Construction Environmental Management Plan

25 February 2009



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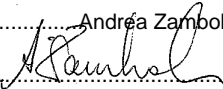
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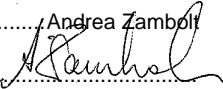
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Construction Environmental Management Plan

Document control

This Construction Environmental Management Plan (CEMP) for the Southern Sydney Freight Line is a controlled document. Controlled copies of this CEMP are held by the following personnel:

Controlled copy No.	Position	Current incumbent
1	Project Director	Greg Mullens
2	Project Manager	
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4	Environmental Management Representative	Maurice Pignatelli
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6		

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Amendments made to this CEMP shall be distributed by the Project Director to the holder of each controlled copy of the CEMP. The holder of each controlled copy is responsible for ensuring that the amended pages are updated in their controlled copy.

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1. Introduction

1.1 Purpose and scope of the Construction Environmental Management Plan

This Construction Environmental Management Plan (CEMP) has been prepared by the Australian Rail Track Corporation Ltd (ARTC) for the Southern Sydney Freight Line (SSFL) Project (the Project).

This CEMP provides the environmental management framework for implementation during the construction phase of the SSFL Project. The CEMP has been developed, and will be implemented and monitored in accordance with Section 10 - monitoring and auditing. A separate Operation Environmental Management Plan (OEMP) will be developed to provide the environmental management framework for implementation during the operational phase of the SSFL Project.

This CEMP has been prepared in accordance with:

- specific environmental control measures (As outlined in the Minister for Planning's conditions of approval (CoA) and the ARTC's Statement of Commitments (SoC) identified in the Environmental Assessment (Parsons Brinckerhoff, 2006a) and subsequent Submissions Report (Parsons Brinckerhoff, 2006b).)
- the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004)
- relevant Acts and Regulations
- principles of ecologically sustainable development
- environmental issues identified through discussions with the project team
- a risk assessment of environmental issues likely to be encountered during construction and operation phases of the SSFL Project. (This was conducted in the above documents. The CEMP should be read in conjunction with these documents for a fuller understanding of the SSFL Project's environmental issues.)

This CEMP covers the role of ARTC, and all other contractors and subcontractors involved with the Project.

This CEMP aims to fulfil the following objectives:

- to enable the SSFL Project works to be completed in a manner that is safe, efficient and environmentally responsible
- to ensure all Project activities are undertaken in a manner that minimises impacts to the physical, biological, cultural and social environments
- to identify potential environmental impacts prior to and during construction so as to ensure that such impacts are avoided or minimised during the construction phase
- to ensure that all ARTC and other site staff are aware of their environmental responsibilities and are pro-active in their approach to environmental management
- to comply with applicable legislative requirements, including the CoA number 13.

1.2 CEMP format

The format of the CEMP has been developed to be consistent with the elements of the ISO14001:2004 as well as to comply with the general requirements and objectives stipulated within the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004).

The CEMP comprises the following sections:

Section 1 (this section)	Describes the layout of the CEMP and its purpose.
Section 2	Provides information on the Project, including the aims of the Project, its key activities, scheduling and timing. The legislative requirements relevant to the Project are identified, including the environmental assessment process completed to date, future approvals and permits required, and construction scheduling and hours.
Section 3	Identifies the systems to ensure effective environmental management on the SSFL Project. Provides the link between the ARTC Environmental Management System (EMS), the CEMP and supporting documents. Identifies the key personnel within the Project, and their environmental responsibilities.
Section 4	Summarises the environmental aspects and likely impacts during the various construction activities.
Section 5	Defines how requirements are to be identified, the information to be provided either via induction or training, and who is responsible for these actions.
Section 6	Outlines the procedures for ARTC-initiated communications, to both internal and external parties, and the management of complaints.
Section 7	Details how non-conformances, preventive and corrective actions are identified, who is responsible for addressing, and when these are to be escalated.
Section 8	Describes the potential incident types, as identified in the Environmental Assessment, and provides general procedures to respond to these incidents.
Section 9	Provides a framework for monitoring and auditing the CEMP, and details responsibilities.
Section 10	Describes the general items to be addressed when controlling documents and to manage any updates of the CEMP or other associated documents.
Appendix A	Matrix of Minster's CoA and the SoC.
Appendix B	ARTC Environmental Policy.
Appendix C	Constraints map.
Appendix D	Ancillary Facilities.

2. Project overview

2.1 Project description

ARTC and the NSW Government entered into an agreement in June 2004 that granted a lease of the main interstate and Hunter Valley rail networks to ARTC. Under the agreement, ARTC committed to undertake a program of investments to improve the rail networks, which would enable freight operators an opportunity to improve freight services on the Melbourne-Sydney-Brisbane line and on the Coal network in the Hunter Valley. The SSFL Project is one of the key projects within that program of infrastructure improvement works.

The SSFL Project involves building a 38 kilometre bi-directional, non-electrified, dedicated freight line from Macarthur to Sefton in south-western Sydney. The new SSFL track will be located on the western side of RailCorp's Main South Line corridor extending from south of Macarthur through to Ingleburn Railway Station where it connects into an existing six kilometre freight passing loop (constructed in 1995) and continues north to Glenfield Railway Station. The new construction starts again north of Glenfield Railway Station. The SSFL will cross from the western to the eastern side of the corridor on an overpass (or flyover) just north of RailCorp's Glenfield Junction where the East Hills Line joins the Main South Line. The SSFL continues on the eastern side of the rail corridor through Cabramatta and then on the southern side through to Sefton Park Junction. At the Sefton Park Junction the SSFL crosses in an underpass (or deep cutting) to enable connection with the existing Metropolitan Goods Line. The SSFL will be located wholly within the RailCorp corridor adjacent to their passenger tracks (refer Figure 2-1).

To accommodate the proposed SSFL, retaining walls and earthworks are required to construct a new formation, also, new rail bridges and road bridge extensions are required, as are upgrades at six railway stations and their surrounding precincts —Leumeah, Minto, Casula, Warwick Farm, Cabramatta and Sefton — as well as modifications to a number of pedestrian bridges and other supplementary works, such as erection of noise barriers.

Southern Sydney Freight Line EA - Macarthur to Sefton Park Junction

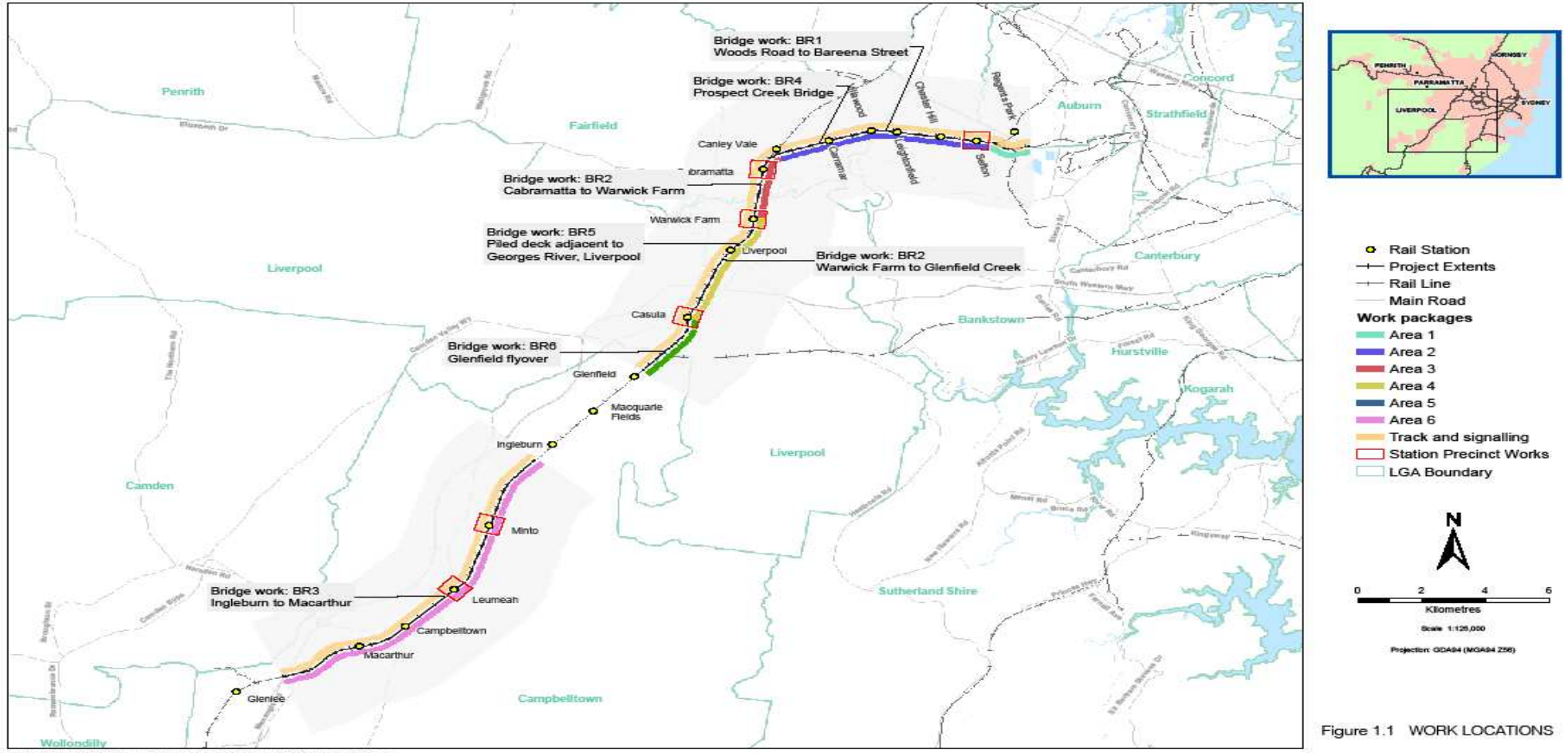


Figure 1.1 WORK LOCATIONS

Figure 2-1 Location of SSFL

2.2 Environmental Assessment

Initially, ARTC determined the Project required an environmental assessment to be prepared under Division 4, Part 5 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). A planning focus meeting was held with Government agencies on 10 February 2005.

In August 2005, the EP&A Act was amended with the introduction of Part 3A and State Environmental Planning Policy – Major Projects, (Major Projects SEPP). Clause 23 of Schedule 1 of the Major Projects SEPP identifies ‘Development that has a capital investment value of over \$30 million for the purpose of railway freight facilities’ as major infrastructure, and therefore, to be assessed under Part 3A of the EP&A Act.

The Director-General’s requirements for an Environmental Impact Statement were initially issued under Part 5 of the Act on 29 March 2005. These were superseded by the major project Environmental Assessment requirements issued by the Director-General on 19 April 2006.

An Environmental Assessment was prepared and lodged with the Department of Planning (DoP) on the 4 November 2005 for review, prior to an eight week public exhibition period in May and June 2006.

ARTC provided a response to public submissions in the form of a Submissions Report (Parsons Brinckerhoff, 2006b). The Minister for Planning approved the Project on 21 December 2006, with conditions. These CoA defined, in conjunction with ARTC’s own SoC, the environmental management and mitigation measures that ARTC must undertake in relation to the Project. Appendix A summarises these auditable commitments.

2.2.1 Relevant legislation, approvals and permits

Current environmental legislation (including regulations) applicable to the Project are listed in Table 2-1. The table under the *Approvals/permits or licences required* column presents the project role responsible for obtaining specific licences, approvals and permits and the recommended project time to obtain and renew them.

A number of standards, government policies and other best practices guidelines are relevant to the SSFL Project. Where these are specifically required in the CoA and SoCs, these documents and their application are outlined in the mitigation requirements identified in Section 5 and presented in detail in the relevant sub-plan.

Other requirements that apply to the SSFL construction including voluntary agreements, stakeholder agreements and EMS requirements, are outlined within each relevant sub-plan.

Table 2-1 Relevant environmental legislation

Relevant legislation (administering authority)	Summary of legislation requirements	Approvals/permits or licences required
<p><i>Contaminated Land Management Act, 1997</i> (NSW Department of Environment and Climate Change (DECC)/ Campbelltown, Fairfield and Liverpool City Councils)</p>	<p>Establishes a process for investigating, and where appropriate remediating land, where contamination presents a significant risk of harm to the environment.</p>	<p>Phase 1 contamination assessment along the proposed SSFL route to be undertaken prior to construction works to determine the potential for contaminated soil in accordance with the EPA's (1997) <i>Guidelines for Consultants Report on Contaminated Sites</i>.</p> <p>ARTC Project Director to determine further actions and or approval process if required.</p>
<p><i>EP&A Act</i> (DoP, Campbelltown, Fairfield and Liverpool City Councils)</p>	<p>Planning approval required for any significant changes or additional requirements for the Project.</p>	<p>The Environmental Manager to notify ARTC Project Director if any significant changes to the project are desired. ARTC Project Director to identify any further environmental assessment required.</p>
<p><i>Environmentally Hazardous Chemicals Act, 1985</i> (DECC)</p>	<p>Regulates the disposal of wastes issued with a 'chemical control order' and designates chemical wastes.</p> <p>Designated chemical wastes that have been identified as potential contaminants of concern, for example via SoCs, are asbestos, PCB, and pesticide wastes (including used pesticide containers).</p> <p>A chemical control order applies to storing, conveying and processing any PCB waste or material.</p> <p>For disposal of asbestos and classified wastes, see the <i>Protection of the Environment Operations Act 1997</i> (POEO Act).</p>	<p>No requirement for permit, approval or licence identified.</p> <p>Transport and disposal of asbestos materials, PCBs and pesticides should be undertaken under appropriate licenses. Environmental Manager to check transport and disposal contractors licence as applicable.</p>
<p><i>Heritage Act, 1977</i> (Heritage Office/ Campbelltown, Fairfield and Liverpool City Councils)</p>	<p>Protects all items of environmental heritage (natural and cultural) in NSW older than 50 years regardless of cultural heritage significance. The Act does not apply to Aboriginal 'relics'. Applies if any heritage items are identified during construction works.</p>	<p>No requirement for permit, approval or licence identified, approval or licence under Part 3A EP&A approval.</p> <p>Minto Railway Station footbridge, Casula Railway Station, Warwick Farm Railway Station, Cabramatta Railway Station footbridge listed on RailCorp heritage register.</p> <p>ARTC Heritage Officer will manage any new approval/permits or licence requirements over the project lifetime with respect to the Heritage Act 1997 and heritage related works.</p>

Relevant legislation (administering authority)	Summary of legislation requirements	Approvals/permits or licences required
<p><i>Local Government Act, 1993</i> <i>(Campbelltown, Fairfield and Liverpool City Councils)</i></p>	<p>Controls environmental impacts including noise, pollution and nuisance not controlled under the POEO Act.</p>	<p>No requirement for additional permit, approval or licence under Part 3A EP&A approval.</p> <p>Contractors to assess and consult before construction and prior to any discharges to stormwater systems or heavy traffic movement.</p>
<p><i>National Parks and Wildlife Act, 1974</i> <i>(DECC)</i></p>	<p>Provides protection for most fauna species and protected flora. Provides protection for Indigenous heritage in NSW.</p> <p>It is an offence: to harm any animal that is part of a threatened species, population or ecological community; to pick any plant that is part of a threatened species, population or ecological community.</p> <p>It is also an offence, if a person knows that an area of land is the habitat of a threatened species, population or ecological community, to do something or fail to do something that causes damage to that habitat.</p>	<p>No requirement for additional permit, approval or licence under Part 3A EP&A approval.</p> <p>Aboriginal objects at the location of SSFL 1, south of Macarthur Railway Station at University of Western Sydney, likely to be affected during construction works; to be managed in accordance with approved plan; qualified, licensed staff to be consulted as required.</p> <p>The <i>National Parks and Wildlife Act 1974</i> 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 Project the acquired land would require de-gazettal.</p>
<p><i>Noxious Weeds Act, 1993</i> <i>(Department of Primary Industry (DPI))</i></p>	<p>Provides for the identification, classification and control of noxious weeds in NSW.</p> <p>Applies to the management and disposal of noxious weeds if found and removed during the works.</p>	<p>No requirement for additional permit, approval or licence under Part 3A EP&A approval.</p> <p>Noxious weeds identified on the site must be prevented from spreading.</p>
<p><i>Protection of the Environment Operations (POEO) Act</i> <i>(DECC/ Campbelltown, Fairfield and Liverpool City Councils)</i></p>	<p>Environmental protection licences (EPLs) are required for scheduled activities such as train corridors.</p> <p>Provides for the control of polluting activities in NSW to prevent pollution of the environment.</p> <p>Provides a duty to notify DECC of any environmental harm from site activities.</p>	<p>The Environment Protection Licence for this Project will include requirements for dust management.</p> <p>A variation would be required to ARTC's EPL 3142, by DECC under the POEO Act, prior to the start of operation.</p> <p>DECC has issued EPL 12971 for construction of the SSFL.</p>
<p><i>Rivers and Foreshores Improvement Act, 1948</i> <i>(Department of Water and Energy (DWE))</i></p>	<p>Approval of works affecting land within 40 metres of a waterway or protected lands or water.</p>	<p>No requirement for permit under Part 3A, as this is overruled by the Minister's CoA under Part 3A of the EP&A Act (s75U).</p>

Relevant legislation (administering authority)	Summary of legislation requirements	Approvals/permits or licences required
<i>Roads Act 1993 (Roads and Traffic Authority (RTA)/ Campbelltown, Fairfield and Liverpool City Councils)</i>	<p>Consent/approval required for the following:</p> <ul style="list-style-type: none"> ▪ erection of a structure in, on or over a public road ▪ carrying out of work in, on or over a public road ▪ digging up or disturbance of the road surface ▪ alteration of the standard operation of traffic on a road (e.g. through speed zone restrictions, closures, or temporary parking changes, detours). 	<p>ARTC obtained consent/approval for the identified activities from the relevant roads authority (RTA for main roads; Campbelltown, Fairfield and Liverpool Councils for regional and local roads). Specific requirements are:</p> <ul style="list-style-type: none"> ▪ Landowner's permission (road authority) to erect a permanent structure, or development consent. ▪ Road Occupancy Licence to close a road and use the road reserve for construction. ▪ Road Opening Permit to dig up or disturb the road surface. ▪ Approved Traffic Control Plans for modifications to traffic flow, including speed zone restrictions, closures and detours. <p>Consent and approval managed by the Project Director and the Community Manager.</p>
<i>Soil Conservation Act, 1938 (DWE)</i>	<p>Controls activities causing or likely to cause soil erosion or land degradation.</p> <p>Project activities must prevent soil erosion or land degradation.</p>	<p>No requirement for permit, approval or licence identified.</p>
<i>Threatened Species Conservation Act, 1995 (DECC)</i>	<p>This Act protects certain species, populations and ecological communities when they are at a particular level of endangerment.</p> <p>Green and Golden Bell Frog (<i>Litoria aurea</i>), Cumberland Plain Large Land Snail and Cumberland Plain Woodland at Leacock Regional Park identified on site.</p>	<p>No requirement for additional permit, approval or licence under Part 3A EP&A approval.</p> <p>Green and Golden Bell Frog (<i>Litoria aurea</i>), Cumberland Plain Large Land Snail and Cumberland Plain Woodland identified on site; to be managed in accordance with approved plan; qualified, licensed staff to be consulted as required.</p> <p>The Environmental Manager is responsible for commissioning management studies on these threatened species. This was conducted at the preconstruction phase and may be required in the future.</p>

Relevant legislation (administering authority)	Summary of legislation requirements	Approvals/permits or licences required
<p><i>(Commonwealth)</i> <i>Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act)</i> <i>(Department of Environment, Water, Heritage and the Arts (DEWHA))</i></p>	<p>The Act is triggered by developments that will have a significant impact on Matters of National Environmental Significance, including endangered ecological communities, threatened species and migratory species.</p> <p>The EPBC Act requires approvals to be sought by a commonwealth agency for any activity that may have a significant impact on the environment.</p>	<p>ARTC is a commonwealth agency under this Act.</p> <p>Commonwealth approval is required for the SSFL. DEWHA accredited the NSW Part3A assessment process for the SSFL.</p> <p>Minister's approval is required for the SSFL.</p> <p>The Project Director in consultation with relevant staff and contractors is responsible for addressing this approval at the preconstruction, construction and operation phase of the project. Approval must be renewed at each stage.</p>
<p><i>Water Management Act 2000</i> <i>(DWE)</i></p>	<p>Under the Act, a licence would be required if water was to be extracted from a creek/bore or if any waterways were to be realigned during construction.</p>	<p>Pursuant to section 75U(1) of the EP&A Act, proposals determined under Part 3A of that Act do not require separate approvals under sections 89, 90 or 91 of this Act.</p>
<p><i>Native Vegetation Act 2003</i></p>	<p>The Act protects state-protected land and native vegetation as identified in the Act.</p>	<p>Pursuant to section 75U(1) of the EP&A Act, proposals determined under Part 3A of that Act do not require separate approvals under section 12 of this Act for clearing of native vegetation. However, any such impacts will be assessed as part of the Environmental Assessment.</p>
<p><i>Soil Conservation Act 1938</i> <i>(NSW Government)</i> <i>(Department of Natural Resources (DNR))</i></p>	<p>Provides for the protection and conservation of the soil resources of the State, the mitigation of soil erosion and land degradation and the conservation of water resources.</p>	<p>No requirement for permit, approval or licence identified for construction.</p>
<p><i>Waste Avoidance and Resource Recovery Act 2001 (WARR Act)</i> (DECC)</p>	<p>This Act repeals and replaces the Waste Minimisation and Management Act 1995 and amalgamates Resource NSW, which replaces the existing Waste Planning and Management Boards and the State Waste Advisory Council. Resource NSW has subsequently been amalgamated with DECC. The Act introduces a scheme to promote extended producer responsibility in place of industry waste reduction plans.</p>	<p>The project will generate waste and as such, is required to consider the hierarchy of resource management referred to in this Act. This criterion is addressed by the Waste subplan and is the responsibility of all onsite staff to manage. The Environmental Manager has overall responsibility for this approval condition.</p>
<p><i>Pesticide Act 1999</i> (DECC)</p>	<p>This Act aims to reduce the risks associated with the use of pesticides to human health, the environment, property, industry and trade while safeguarding proper pesticide use.</p>	<p>This Act is only relevant for this plan if pesticides are required to be used in association with managing waste products.</p>

Relevant legislation (administering authority)	Summary of legislation requirements	Approvals/permits or licences required
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> (DEWHA)	Provides general protection for Indigenous cultural property, and operates concurrently with State legislation. It has limited relevance to management of such items.	No requirement for additional permit, licence or approval identified.
<i>National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999</i>	Promotes due process for site contamination assessment.	No requirement for additional permit, licence or approval identified.
<i>Protection of the Environment Operations (Noise Control) Regulation, 2000</i>	Provides provisions on matters relating to noise emissions, maintenance of control equipment, use of certain articles and inspection and testing procedures.	As part of the preconstruction and operation conditions a series of noise and vibration assessments must be carried out to ensure compliance with noise limits. Results of assessments are provided in the Noise and Vibration subplan. The Environmental Manager has overall responsibility for this approval condition.
<i>NSW Fisheries Management Act 1994</i> (DPI)	This Act aims to conserve threatened species, populations and ecological communities of fish and marine vegetation.	Permits under Sections 201, 205 and 219 of the Act are excluded for projects subject to Part 3A of the EP&A Act.

2.2.2 Consultation undertaken for the CEMP

The project CEMP has been prepared following a rigorous government agency and stakeholder consultation program, entitled the Community Liason Groups (CLG) that has happened over two years. ARTC has consulted with and reached consultation outcomes with each government agency and each major stakeholder group that has a interest in the SSFL project or resides near to the railway corridor. The Table 2-2 summaries the consultation by issue that has been undertaken between government agencies or stakeholders.

Table 2-2 Summary of consultation program by agency/stakeholder

Agency/ Stakeholder	DoP	RTA	DECC	DWE	DPI	RailCorp	Bankstown	Fairfield	Liverpool	Campbelltown	BCLG	FCLG	CCLG
Master CEMP							Yes	Yes	Yes	Yes	Yes	Yes	Yes
Biodiversity	Yes		Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes
Built Heritage	Yes					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Aboriginal Heritage	Yes						Yes	Yes	Yes	Yes			
Hazard & Risk	Yes					Yes	Yes	Yes	Yes	Yes			
Soil & Water	Yes		Yes				Yes	Yes	Yes	Yes			
Dust	Yes		Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes
Erosion and Sediment	Yes		Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes
Waste Management	Yes		Yes				Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spoil and Fill	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground Water	Yes		Yes				Yes	Yes	Yes	Yes			
Acid Sulfate Soils	Yes		Yes				Yes	Yes	Yes	Yes			
Noise and Vibration	Yes						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Traffic	Yes	Yes				Yes	Yes	Yes	Yes	Yes	Yes	yes	yes
Flood Management	Yes		Yes	Yes	Yes		Yes	Yes	Yes	Yes			

Notes: Consultations shown in Red were conducted by ARTC staff early in 2007.

Agency/Stakeholder Acronyms

DOP Department of Planning

RTA Roads and Traffic Authority

DECC Department of Environment and Climate Change

DWE Department of Water and Energy

DPI Department of Primary Industries

DoI Department of Transport

- BCLG Bankstown Community Liaison Group
- CCLG Cabramatta Creek Community Liaison Group
- FCLG Fairfield Community Liaison Group

Table 2-3 presents how the consultation process outcomes directly influenced sections of the CEMP.

Table 2-3 Summary of incorporation of consultation outcomes into the CEMP

CEMP Section	Outcomes of consultation process
CEMP/SubPlan	No noted outcomes
Master CEMP	No noted outcomes
Biodiversity	All Councils and DoP and DECC were concerned regarding threatened species including the Green and Golden Bell Frogs, Cumberland Plain Large Land Snails, threatened Grey-headed Flying-fox and Acacia Pubescens. Councils expressed concern regarding possible removal of remanent vegetation for construction purposes and removal of wildlife corridors. Cabramatta Council required additional studies to be conducted on the fruit bat colony on the Cabramatta Creek. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Built Heritage	Local Councils, Heritage Council and DoP required additional heritage excavation studies to be conducted at specific places, photographic records and interpretation strategies to be completed to ensure heritage aspects of area remain. Summaries of various built heritage investigations, historical relics and interpretation strategy are presented in Section 1.4 and 1.5. Consultation resulted in reports on specific heritage aspects of the project, additional studies and is addressed in the mitigation measures and monitoring sections in the subplan.
Aboriginal Heritage	DoP required the corridor be surveyed for aboriginal heritage and consultation with relevant aboriginal community groups, procedures to be implemented if previously unidentified Aboriginal objects are discovered during construction and an education program for construction personnel on their obligations for Aboriginal cultural materials. The Local Government Councils also provided information of local Aboriginal significance and influenced the CEMP. The outcomes from the consultation process are detailed in the performance criteria, mitigation measures and monitoring sections in the Aboriginal subplan.
Hazard & Risk	DoP required Hazard and Risk assessment through condition number 69 of the Minister of Planning's Conditions of Approval (Conditions) for the project. RailCorp and the Local Government Councils were also consulted to ensure that SSFL project construction works or their works would not pose OHS or project risk to any party. The sub-plan provides practical measures and actions that will be put in place in order to minimise detrimental impact on the surrounding environment resulting from potential hazards and risks during pre-construction, construction and post-construction phases of the project. The outcomes from the consultation process are detailed in the performance criteria, mitigation measures and monitoring sections in the subplan.
Soil & Water	All Councils and DoP and DECC were concerned regarding detrimental impacts on the surrounding soil and water. This subplan in the CEMP incorporated consultation outcomes to provide practical measures and actions that will be put in place in order to minimise any detrimental impact on the surrounding soil and water based environment that may arise during construction phases of the SSFL. It also presents consultation outcomes related to groundwater, spoil and fill, acid sulfate soils and floodwater as it is an overarching subplan. Consultation outcomes specifically influenced the the performance criteria, mitigation measures and monitoring sections in the subplan.
Dust	All Councils, Community Liaison Groups, DoP and DECC were concerned regarding detrimental impacts regarding dust generation. Consultation with these stakeholders resulted in the CEMP's Dust management sub-plan being designed to minimise the potential for the generation dust and other emissions, and to prevent construction activities from causing environmental effects, being a hazard or a nuisance. In particular this Sub-Plan identifies potential sources of dust, strategies or measures to maintain acceptable air quality and a monitoring program for dust deposition and particulate concentration. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.

CEMP Section	Outcomes of consultation process
Erosion and Sediment	All Councils, Community Liaison Groups, DoP and DECC were concerned regarding detrimental impacts regarding erosion and sediment changes. Consultation with these stakeholders resulted in the CEMP's Erosion and Sediment sub-plan being designed to reduce the potential impacts from erosion and sedimentation of surrounding creeks and waterways. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Waste Management	All Councils, Community Liaison Groups, DoP and DECC were concerned regarding detrimental impacts regarding waste generation and management. ARTC commitment to incorporating consultation outcomes into the CEMP was formalised through the Statement of Commitment number 100. It addresses the management of wastes during the Construction stage in accordance with the NSW Government's Waste Reduction and Purchasing Policy. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Spoil and Fill	All Councils, Community Liaison Groups, DoP and DECC were concerned regarding detrimental impacts regarding spoil generation and spoil and fill management. RailCorp was also consulted as spoil and fill operations affect their own operations on the adjoining corridor and because fill may be sourced from RailCorp stockpiles. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Ground Water	All Councils and DoP and DECC were concerned regarding the project's possible influence on surface and ground water in the region. The CEMP and specifically the Ground Water subplan address this concern through the incorporation of a detailed and rigorous groundwater monitoring program throughout construction. Water quality assessment criteria were selected for the initial round of monitoring in accordance with and consistent with the requirements of the Project Approval from State Government. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Acid Sulfate Soils (ASS)	All Councils, DoP and DECC were concerned regarding detrimental impacts regarding acid sulfate soil management. ARTC conducted studies regarding the ASS potential of the soil surrounding the railway corridor. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Noise and Vibration	All Councils, Community Liaison Groups and DoP were concerned regarding detrimental impacts regarding noise and vibration management. Based on this consultation and the relevant project conditions of approval and statement of commitments extensive noise and vibration assessments and monitoring will be conducted throughout the pre-construction and construction phase of the project for nearby residents and sensitive receivers. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Traffic	All Councils, Community Liaison Groups, RTA and DoP were concerned regarding detrimental impacts regarding traffic management. Agencies and Local Governments Councils influenced traffic control plans, traffic diversion methods and roadworks associated with SSFL construction and operation. Some concessions were made to Local Governments to ameliorate traffic conditions changes, service and amenity. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the subplan.
Flood Management	All Councils, Community Liaison Groups, DoP, DPI, DECC, DoT, DWE were concerned regarding detrimental impacts regarding flood management. Agencies and Local Governments Councils influenced SSFL's flood management plan to ensure risk management and compliance with Local Government's flood management strategy and response plans. Community Liaison Groups raised specific flood issues related to their immediate environment. Consultation outcomes specifically influenced the performance criteria, mitigation measures and monitoring sections in the sub plan.

2.3 Construction scheduling

The SSFL Project has been split into six key packages for construction, comprising the following activities:

- enabling works
- Sefton Dive
- earthworks and retaining walls
- bridges and major culverts
- construction at stations
- track construction
- signalling and communications.

In addition, site facilities and work compounds classed as Ancillary Facilities will be located throughout the project area that will be managed by the work package contractor. Ancillary Facilities environmental constraints are defined in SoC 104 and have the following broad criteria; located within the activity, access to road, sited on relatively flat land, separated from residences, not immediately adjacent to wetlands, above 20 ARI flood level, not require vegetation clearing, do not affect adjacent properties.

It is the responsibility of the Work Package contractor to provide details of the locations, activities and environmental control plans as part of their condition of contract. Location of ancillary facilities (as defined in the Project Approval) will be in accordance with SoC 104. Self assessment of ancillary facilities will be undertaken by Work Package Contract Managers as detailed in Appendix D. The EMR is responsible for approval of ancillary facilities under the CEMP.

The entire construction program is expected to take approximately 24 months, with significant overlap between the construction packages. The CEMP and sub-plans are required for use in all construction packages.

Table 2-2 describes work activities, work areas and expected work duration for each work package. Figure 2-1 shows the location of each construction area.

Table 2-4 Construction schedule

Package	Description	Type of work	Location	Duration
Enabling works	Various work on existing services and other items to either protect or relocate to provide a clear site for construction of works without impact on RailCorp system	<ul style="list-style-type: none"> ▪ Relocation of 33 kilovolt (KV) power supply. ▪ Adjustment of overhead wire stanchions and gantries. ▪ Relocation of third party services. ▪ Relocation of railway services. ▪ Relocation of drainage structures. 	Various	
Sefton Dive	Area 1 Sefton Dive to Woods Road	<ul style="list-style-type: none"> ▪ Deep cuttings with stabilised batter faces. ▪ Removal of excess cut to Area 5. ▪ Construction of road overbridge for Auburn Road. ▪ Construction of underpass for Bankstown Line and adjacent drainage structure. 	Area 1 – Project chainage 0.00 to 1.30 km	
Earthworks				
E&RW 1	Area 2 Woods Road, Sefton to Bareena Street, Cabramatta	<ul style="list-style-type: none"> ▪ Widening of existing formation of embankments and cuttings. ▪ Construction of retaining walls. 	Area 2 – Project chainage 1.30 to 8.25 km Track kilometres approximately 20.7 to 27.66	
E&RW 2	Area 3 Cabramatta to Warwick Farm Area 4 Warwick Farm to Glenfield Creek	<ul style="list-style-type: none"> ▪ Widening of existing formation of embankments and cuttings. ▪ Construction of retaining walls. 	Area 3 – Project chainage 8.25 to 11.10 km Track kilometres approximately 31.25 to 34.1 Note: track kilometres jump due to break in chainage at Cabramatta junction Area 4 - Project chainage 11.10 to 16.06 km Track kilometres approximately 34.1 to 39.0	
E&RW3	Area 5 Casula to Glenfield Junction	<ul style="list-style-type: none"> ▪ Earthworks for flyover approach ramps including backfilling of existing tip. ▪ Construction of retaining walls. 	Area 5 – Project chainage 16.06 to 18.62 km Track kilometres approximately 39.02 to 41.58	

Package	Description	Type of work	Location	Duration
E&RW 4	Area 6 Ingleburn to Macarthur	<ul style="list-style-type: none"> ▪ Widening of existing formation of embankments and cuttings, generally low embankments and minimal cuttings. ▪ Construction of retaining walls. 	<p>Area 6 - Project chainage 0.00 to 12.43 km</p> <p>Track kilometres approximately 45.2 to 58.7</p> <p>Note: Project chainage restarts at end of existing freight track at Ingleburn</p>	
Bridgeworks				
BR1	Woods Road, Sefton to Bareena Avenue Cabramatta	<ul style="list-style-type: none"> ▪ Bridgeworks including: <ul style="list-style-type: none"> ▶ Underbridges over Hector Street and Woods Road. ▶ Additional span to overbridges at Bareena Street, Miller Street and Chester Hill Road. ▶ Strengthening of Woodford Road Bridge. ▪ Modification to pedestrian bridge at Fourth Avenue. 	<p>Area 2 – Project chainage 1.30 to 8.25 km</p> <p>Track kilometres approximately 20.7 to 27.66</p>	
BR2	Cabramatta Station to Glenfield Creek	<ul style="list-style-type: none"> ▪ Bridgeworks including – <ul style="list-style-type: none"> ▶ Short span precast concrete bridges at Cabramatta Creek and Broomfield Road underbridge. ▶ Strengthening of bridges at Cabramatta Road East and Hume Highway, Warwick Farm overbridges. ▶ Short span precast concrete bridges or large culverts. ▶ Shepherd Street. ▶ Mill Park Road 1 and 2. ▶ Woodbrook Road. ▶ Glenfield Creek. 	<p>Area 3 – Project chainage 8.25 to 11.10 km</p> <p>Track kilometres approximately 31.25 to 34.1</p> <p>Note: track kilometres jump due to break in chainage at Cabramatta junction</p> <p>Area 4 – Project chainage 11.10 to 16.06 km</p> <p>Track kilometres approximately 34.1 to 39.0</p> <p>Note: no bridges in Area 5</p>	
BR3	Ingleburn to Macarthur	<ul style="list-style-type: none"> ▪ Short span precast concrete bridges or large culverts <ul style="list-style-type: none"> ▶ Bow Bowing Creek. ▶ Minto Viaduct. ▶ Bunbury Curran Creek. 	<p>Area 6 - Project chainage 0.00 to 12.43 km</p> <p>Track kilometres approximately 45.2 to 58.7</p> <p>Note: Project chainage restarts at end of existing freight track at Ingleburn</p>	

Package	Description	Type of work	Location	Duration
BR4	Prospect Creek bridge	<ul style="list-style-type: none"> ▪ Long span bridge over water. ▪ Adjacent pedestrian bridge also required. 	Project Chainage – 6.8 km Track kilometres – 26.20	
BR5	Piled deck adjacent to Georges River, Liverpool	<ul style="list-style-type: none"> ▪ Specialised bridge to be constructed parallel to RailCorp track. 	Project Chainage – 12.15 to 12.36 km Track kilometres – 35.1 to 35.3	
BR6	Glenfield Flyover	<ul style="list-style-type: none"> ▪ Twin track bridge over RailCorp tracks. 	Project Chainage – 17.21km Track kilometres – 40.18	
Station Works				
ST1	Sefton Station	<ul style="list-style-type: none"> ▪ Extension of pedestrian overbridge. ▪ Barrier at back of station. ▪ Fencing. ▪ Minor kerb, footpath and roadworks. ▪ Extension of pedestrian underpass at Carramar. 	Sefton Station – Project Chainage – 1.70 to 1.80 km Track kilometres – 21.5 Carramar Station – Project Chainage – 6.58 km Track kilometres – 25.7	
ST2	Cabramatta Station	<ul style="list-style-type: none"> ▪ Demolish existing station buildings. ▪ Extension of pedestrian overbridge including new stairs and lifts to overbridge. ▪ Construct new ticket office on bridge. ▪ New toilet facilities. ▪ Fencing and barrier at back of station. ▪ Minor kerb, footpath and roadworks. 	Project Chainage – 8.60 to 9.50 km Track kilometres – 31.55 to 32.45	
ST3	Warwick Farm Station	<ul style="list-style-type: none"> ▪ New pedestrian overbridge including stairs and lifts. ▪ Barrier at back of station. ▪ Fencing. ▪ Minor kerb, footpath and roadworks. ▪ Pedestrian access to Newbridge Road including demolition of existing. 	Warwick Farm Station - Project Chainage – 11.02 to 11.23 km Track kilometres – 34.0 to 34.2 Newbridge Road – Project Chainage – 12.8 km Track kilometres – 35.78	

Package	Description	Type of work	Location	Duration
ST4	Casula Station	<ul style="list-style-type: none"> ▪ Extension of pedestrian overbridge. ▪ Barrier at back of station. ▪ Fencing. ▪ Minor kerb, footpath and roadworks. 	Project Chainage – 15.8 to 15.85 km Track kilometres – 38.8	
ST5	Minto Station	<ul style="list-style-type: none"> ▪ New pedestrian overbridge including stairs and lifts. ▪ Barrier at back of station. ▪ Fencing. ▪ Minor kerb, footpath and roadworks. 	Project Chainage – 3.4 to 3.58 km Track kilometres – 49.6 to 49.85	
ST6	Leumeah Station	<ul style="list-style-type: none"> ▪ New pedestrian overbridge including stairs and lifts. ▪ Barrier at back of station. ▪ Fencing. ▪ Minor kerb, footpath and roadworks. 	Project Chainage – 6.20 to 6.35 km Track kilometres – 52.49 to 52.62	
Other Works				
TC1	Track Construction	<ul style="list-style-type: none"> ▪ Full construction including: <ul style="list-style-type: none"> ▶ Capping layer. ▶ Ballast. ▶ Trackwork including turnouts. 	Full length of project	
SC1	Signalling and Communication	<ul style="list-style-type: none"> ▪ Full construction including: <ul style="list-style-type: none"> ▶ Signalling. ▶ Cabling. ▶ Communication to Junee Control. ▶ Interfacing into RailCorp systems. 	Full length of project	
GW1	Noise walls	<ul style="list-style-type: none"> ▪ Final design and erection of all noise walls. 	Various	
GW2	Relocation of Liverpool Sectioning Hut	<ul style="list-style-type: none"> ▪ Building and electrical work to relocate facility and reconnect to RailCorp system. 	Project Chainage – 13.53 km Track kilometres – 36.52	

2.4 Construction hours

Approved hours of construction

In accordance with the CoA, construction hours will be restricted to between the hours of 7:00am to 6:00pm (Monday to Friday), 8:00am to 1:00pm (Saturday) and at no time on Sundays or public holidays except:

- (a) for the delivery of materials required outside these hours by the Police or other authorities for safety reasons; or
 - (b) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
 - (c) where the work is identified in the CNVMSP and approved as part of the CEMP;
- or
- (d) any works requiring track possessions subject to the following:
 - i the associated noise levels would be similar to the noise levels associated with programmed maintenance works;
 - ii works which do not include high noise generating works including sheet piling, pile driving, rock hammering/breaking etc. unless otherwise agreed by the director-general following consultation with the DECC; and
 - iii notification of the community at least 14 days in advance of such works including likely times and duration; or
 - (e) any works within the rail corridor (with the exception of track possessions), subject to the approval of the DECC as part of the process in developing the CNVMSP; or
 - (f) any other work as agreed by the Director-General in consultation with the DECC and considered essential to the project and where it can be demonstrated that it would achieve a better environmental outcome, through the CNVMSP process.

Local residents will be informed of the timing and duration of work approved under item (c) at least 48 hours before that work commences.

As detailed in CoA 44, rock breaking, rock hammering, sheet piling and any other similar activity shall only be scheduled between the following hours, unless otherwise approved in the Construction Noise and Vibration Management Sub-Plan:

- a) 9 am-12 pm and 2 pm-5 pm, Monday to Friday
- b) 9 am-12 pm, Saturday

Construction outside of approved hours

From time to time the contractor may need to undertake works outside approved hours (out of hours work). This is required to satisfy the operational requirements of government agencies or authorities (e.g. RTA, RailCorp, local councils), and to minimise community disruption or due to unforeseen circumstances.

To minimise noise impacts, out of hours works will be planned and programmed where possible to ensure that the noisiest activities, in particular impulsive or tonal noise, occur during daytime periods or prior to 10 pm.

ARTC is required to seek approval from DoP for construction activities outside of the standard hours and provide supportive information as detailed in the EPL and relevant sub-plans. The Environmental Manager is responsible for managing the approvals and licensing applications for SSFL construction activities. For all out-of-hours work local residents will be notified in accordance with the Community Involvement Plan.

3. Project delivery framework

ARTC's overall management strategy for the Project is documented in the ARTC SSFL Project Management Plan. This plan documents the specific management processes and management plans required to be implemented to ensure delivery of the SSFL Project. The Project Management Plan is supported by a suite of supporting management plans and documents for each discipline, including the CEMP. These plans use and reference existing ARTC Management Systems procedures and forms.

3.1 EMS

ARTC operates under an EMS that is aligned with the requirements of ISO14001:2004. The EMS provides a framework for managing the company's environmental responsibilities so that they are integrated into overall operations. It also supports the company's compliance with legislated and voluntary environmental requirements as well as continuously improving their overall environmental performance.

Through the development of a corporate Environmental Policy, ARTC is committed to achieving a high level of environmental performance in undertaking its activities. A copy of this policy is provided in Appendix B.

3.2 Project environmental management documentation

3.2.1 CEMP

This CEMP is the lead document that provides the management framework for controlling and reporting on the construction phase environmental impacts. In accordance with the CoA and SoC, the CEMP also comprises a number of sub-plans that contain more detailed information on control measures for specific environmental impacts.

The CEMP in conjunction with the sub-plans and other supporting project documents provides the environmental controls for the construction phase of the Project. The relationship between the CEMP and the supporting project documents is illustrated in Figure 3-1.

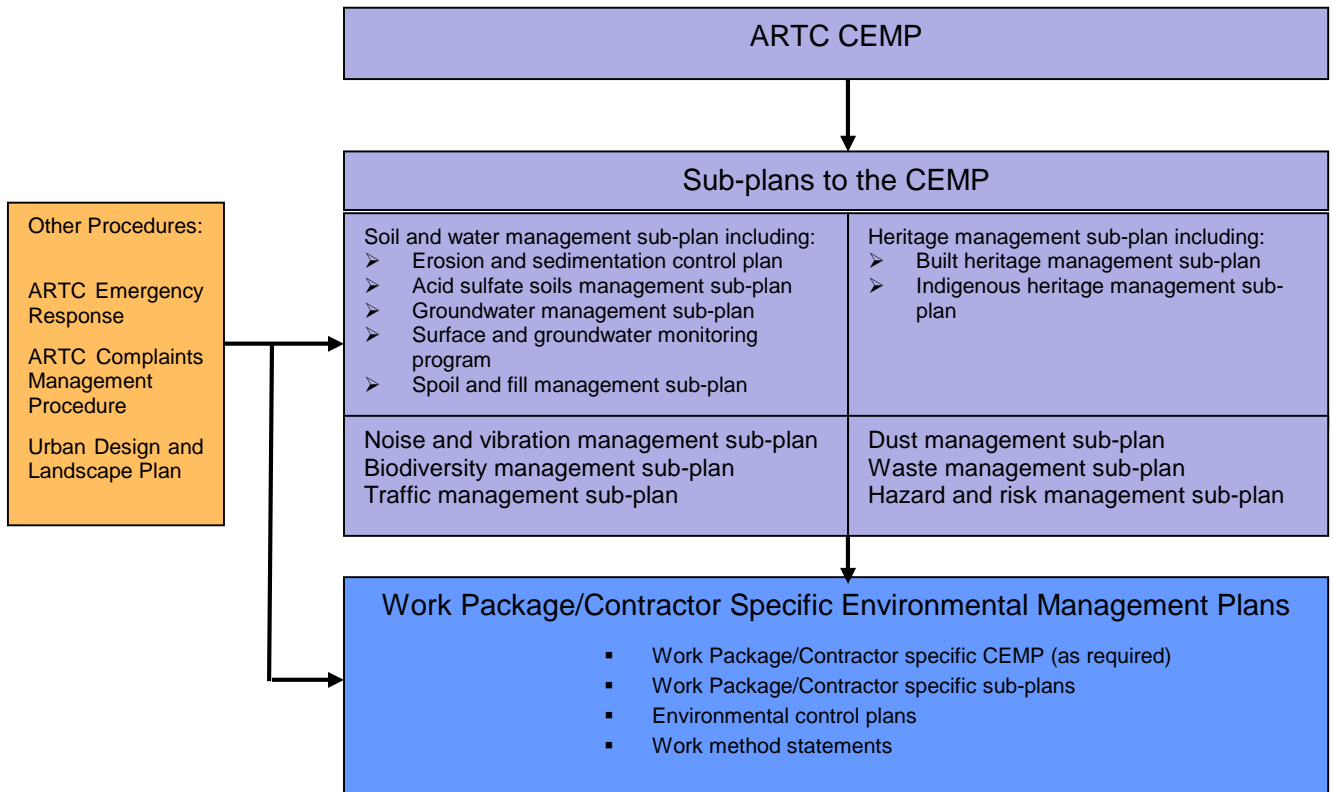


Figure 3-1 Project environmental management documentation

3.2.2 Environmental management sub-plans

Environmental management sub-plans are prepared to document ARTC’s approach to the management of key environmental issues associated with the Project in accordance with CoA and SoCs. Section 5 of the CEMP provides performance criteria for each of the sub-plans.

The sub-plans follow an issue based format (e.g. air, noise, biodiversity) in which the environmental impact of each activity/aspect, the management and controls measures, responsibilities and monitoring requirements are identified.

Each sub-plan consists of the headings outlined in Table 3-1.

Table 3-1 Sub-plan contents

Sub-plan contents	Description
Introduction	Background information on the environmental aspect requiring management and its potential impacts on the environment. The target or strategy to be achieved through management during the construction phase of the Project.
Legislative requirements and guidelines	Reference to more detailed legislative requirements and guidelines, if applicable, to the environmental aspect and its potential impact.
Performance criteria	Criteria against which the implementation of the actions and the level of achievement of the environmental objectives will be measured.
Potential impacts	Potential adverse environmental impacts identified for the construction phase of the Project, including those identified in the Environmental Assessment report (PB, 2005).
Mitigation measures	The actions to be undertaken to achieve the environmental objective, including any necessary approvals, applications and consultation.
Monitoring and reporting	Process of measuring actual performance.
Corrective action	Actions to take in the event of an incident or in the case of a non-compliance.
Document control	Identifies review requirements for the sub-plan.

3.2.3 Work package specific controls

Work package specific environmental management plan

Each contractor responsible for a work package or suite of work packages is required to develop a work package specific environmental management plan that outlines the work practices and procedures being implemented to ensure compliance with the overarching Project CEMP and sub-plans.

The work package specific environmental management plan will provide details on:

- number and responsibilities of staff
- numbers and type of plant and equipment to be used
- environmental control plans that will be prepared
- respond to the requirements outlined in the CEMP sub-plans and other supporting documents.

Environmental control plans will provide site specific detail to minimise potential impacts and achieve the performance criteria detailed in Section 5.

The work package specific environmental management plan will be reviewed by the Environment Manager for suitability and adequacy to meet CEMP requirements. They are to include all controls identified in the sub-plans relevant to all activities being considered. These documents will also be submitted to the EMR for review and endorsement.

Environmental control plans

Environmental control plans will detail practical management measures to be implemented at specific worksites. Plans must identify environmental risks associated with the proposed work methods and identify management and mitigation measures to control and prevent environmental incidents. The management measures and controls will be drawn from the CEMP, sub-plans and work package specific environmental management plan.

The environmental control plans will form part of the work method statements and will be issued to the Project Director, Construction Manager and Contract Works Package Managers for their internal distribution, prior to the commencement of construction.

The work package specific environmental management plan and environmental control plans will be used to ensure all relevant environmental controls are implemented for each activity. As such, they will be a key reference document in site inductions and toolbox talks.

Specific sites that require specific Environmental Control Plans

Along the project corridor there are specific sites that will require additional controls to be addressed in order to manage environmental/social impacts at each location. These sites include (but are not limited to):

- all waterway crossings (including drainage channels)
- adjoining open space and park including Leacock Regional Park and Lighthouse Park
- Georges River Piling works
- Works in the vicinity of parks, reserves, golf courses and other open space
- Works in the vicinity of threatened species, heritage items and/or indigenous areas
- Cabramatta station precinct
- Liverpool station and hospital precinct
- Sensitive noise and vibration receivers
- Cabramatta Creek.

The constraints map presented in Appendix C identifies these locations and should be used to determine the site's location with respect to each Work Package area.

The Contract Works Package Manager will identify where these sites occur within a works package and ensure that specific Environmental Control Plans are produced for each specific site and submit them to the EM for evaluation and approval.

3.3 Roles and responsibilities

The duties and responsibilities of key personnel for environmental management of the Project are described below. A project organisational structure is shown in Figure 3-2.

The ARTC Project Director has overarching responsibility for the implementation. On a day to day basis, the Construction Manager and the Environment Manager are responsible for maintaining and implementing the CEMP. Responsibility for implementing certain components of the CEMP may also be delegated to other ARTC personnel and/or the contractor(s) nominated to undertake the works.

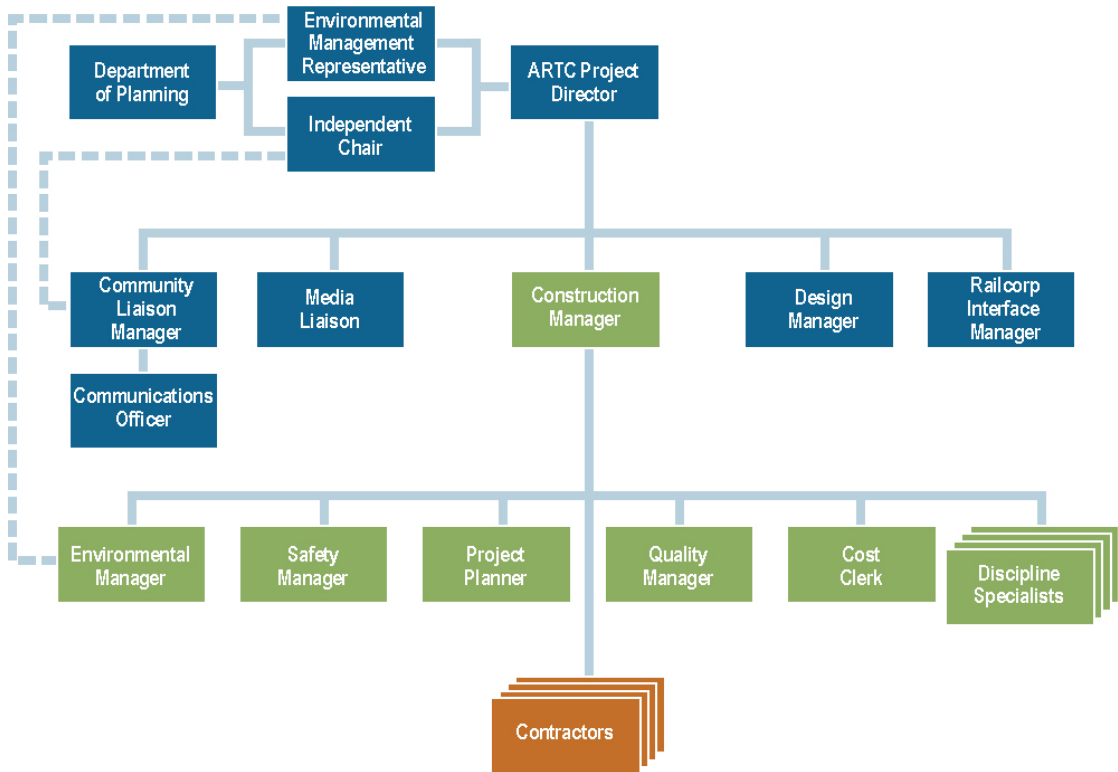


Figure 3-2 Project organisation structure

Department of Planning through the Director-General

The Department of Planning will assess any further activities or changes to the approved activity, where appropriate.

The Department of Planning will approve the appointment of the EMR. The Department of Planning may request the EMR to be available for a time, in addition to that agreed on appointment. At any time, the Department of Planning may revoke the EMR’s appointment, by providing written notice to ARTC. The Department of Planning must agree in writing to any interim arrangements for the EMR following revocation.

The Department of Planning may conduct an audit of any actions undertaken by the EMR. The EMR and ARTC must facilitate and assist the Department of Planning with any such audit.

Community Liaison Manager / Independent Chair Community Liaison Group

The Independent Chair of the Community Liaison Group (CLG) will chair the CLG and endorse the minutes of the CLG. The Chair is responsible for monitoring the implementation of the Community Involvement Plan and advising ARTC about its effectiveness. The Chair will be available for direct contact by the community at times and locations identified in the Community Involvement Plan and mediate disputes between ARTC and the community that cannot be resolved directly between ARTC and the community. The Chair will forward

reasonable requests from the CLG, to ARTC, for consultant(s) to explain technical information and environmental performance of the project.

Reporting relationships between the Independent Chari Community Liaison Group, CLG, Councils and other stakeholders are detailed in the Community Involvement Plan.

EMR

The EMR's primary role is overseeing compliance with the environmental management requirements set out in the CoA. The EMR is authorised to:

- consider and advise the Director-General and ARTC on matters specified in the CoA and SoC and compliance with such
- determine whether work falls within the definition of Construction where clarification is requested by ARTC
- review the CEMP, Construction Compliance Reports and any other matter as required by the Director-General
- periodically monitor ARTC's activities to evaluate compliance with the CEMP (Periodic monitoring must involve site inspections of active work sites at least fortnightly.)
- report in writing to ARTC any non-compliances with the CEMP observed or identified by the EMR (Non-compliances must be managed as identified in the CEMP.)
- issue a recommendation that ARTC stop work immediately if, in the view of the EMR, an unacceptable impact on the environment is occurring or is likely to occur (The stop work recommendation may be limited to specific activities causing an impact if the EMR can easily identify those activities. The EMR may also recommend that ARTC initiate reasonable actions to avoid or minimise adverse impacts.)
- review corrective and preventive actions to monitor the implementation of recommendations made from audits and site inspections
- certify that minor revisions to the CEMP are consistent with the approved CEMP
- provide regular (as agreed with the Director-General) reports to the Director-General on matters relevant to carrying out the EMR role including notifying the Director-General of any stop work recommendations
- advise ARTC and the Director-General of any incidents relevant to these Conditions resulting from Construction that were not dealt with expediently or adequately by ARTC.

ARTC Project Director

The ARTC Project Director is responsible for all aspects of the Project, including the amelioration of construction impacts and compliance with all of the CoA issued by the Minister for Planning.

The Project Director is responsible for ensuring that all relevant environmental legislation and the CEMP are implemented, monitored and complied with. The Project Director is responsible for ensuring effective overall management of environmental performance during construction.

The Project Director will facilitate the rectification of any matter identified by the EMR or by the local community, a Government authority or via the CLG.

The Project Director is responsible for the overall management of complaints from the community or other stakeholders.

Project Director is responsible for reviewing and amending the CEMP and sub plans in response to environmental incidents.

The Project Director will advise the EMR of any amendments or variations to the approved CEMP and report to the EMR as required. The Project Director will advise the Director-General of any matter that may require further assessment by the Director-General.

Design Manager and Construction Manager

Ensure all controls relevant to the project design and construction phases are incorporated into the contractors' specifications.

Ensure all required plans, studies, and investigations are commissioned and actioned.

Provide resources for review and monitoring of CEMP, sub-plans, and controls. Ensure that on a day to day basis the CEMP is implemented, monitored and complied with.

Environment Manager

Provide technical support to the Project, and review plans and documents as requested.

Undertake auditing and reporting, in accordance with the direction of the Construction Manager.

The Environment Manager is responsible for reviewing and amending the CEMP and sub plans in response to environmental incidents.

Ensure inductions and site procedures enable environmental compliance.

The Environment Manager reports to the Construction Manager and assists in all aspects of the construction of the Project. The Environment Manager acts to facilitate compliance with the CoA and SoC and is the primary contact for the project team in relation to environmental matters.

Preparation of applications for out of hours approvals and management of communication with Department of Planning and DECC on licensing and approvals issues.

The Environment Manager is responsible for the implementation of this CEMP on a day-to-day basis.

Contractors - Contract Works Package Manager(s)

The Contract Works Package Manager is the contractor representative responsible for the delivery of the work package by the Contractor. The Contract Works Package Manager reports to the Construction Manager. The Contract Works Package Manager is responsible for ensuring that the Contractor develops appropriate procedures, work instructions and systems to ensure all aspects of the CEMP and associated documents are implemented throughout the construction phase.

4. Environmental aspects and impacts

This section outlines the environmental aspects and potential adverse environmental impacts relevant to the construction phase of the Project.

4.1 Identification of environmental aspects

As defined in ISO 14001, an environmental aspect is ‘an element of an organisation’s activities or products or services that can interact with the environment’ (SAI Global, 2004).

Environmental aspects within this Project are specific actions or items that could cause an impact. The proposed works have been reviewed, and aspects have been identified, in Section 4-2.

4.2 Classification of environmental impacts

Where potential environmental impacts have been identified, environmental protection measures must be introduced to mitigate the impact. For ease of reference, impacts have been classified in accordance with the categories identified in the CoA and SoC. For each impact, reference is made to the sub-plan and section of the CEMP where relevant mitigation measures/criteria will be detailed. The locations of the project’s railway corridor, potential environmental impacts and sensitive receivers are presented in a series of constraints maps in Appendix C.

Individual sub-plans have been developed as part of this CEMP. These sub-plans contain specific measures to manage and mitigate potential environmental impacts and meet the performance requirement provided in Section 5. All sub-plans have been developed in consultation with ARTC and relevant agencies. Table 4-1 summarises the project’s environmental aspects and impacts in accordance with ISO: 14001:2004 which have been identified for the project through a risk assessment process. The risk assessment is consistent with and includes risks identified within sub plans and in accordance with the CoAs and SoCs for the project. A further risk assessment will be carried out at the completion of the construction phase to identify potential environmental impacts during the operational phase.

Table 4-1 Summary of environmental aspects and impacts

Environmental aspect	Potential environmental impacts	Mitigation
Spoil and fill		
Relocation or modification of drainage structures, culverts, and retaining walls	<ul style="list-style-type: none"> ▪ Alteration of water flow paths and hydrology. ▪ Runoff from spoil leading to sedimentation of creeks and watercourses. 	Section 5.1
Excavations and widening of cuttings	<ul style="list-style-type: none"> ▪ Disturbance of contaminated soils resulting in transfer to surface or groundwater. 	Soil and water management sub-plan
Storage of spoil and fill	<ul style="list-style-type: none"> ▪ Disturbance of contaminated soil and export to other sites, resulting in spread of contamination. 	
Transport of spoil and fill	<ul style="list-style-type: none"> ▪ Intersection of the groundwater table when excavating, dewatering into excavations and losing water. 	
Topsoil and vegetation clearing	<ul style="list-style-type: none"> ▪ Contamination of the groundwater when excavating, by mixing fresh water and saline or brackish aquifers. 	
Reuse (landscaping, mounds, mulching) and onselling of VENM		

Environmental aspect	Potential environmental impacts	Mitigation
Soil and water quality		
Acid Sulfate Soils Exposure of sulfidic soils to air	<ul style="list-style-type: none"> ▪ Oxidation forms acid soils and leachate which is fatal to aquatic environments. 	
Excavation and pile drilling in acid sulfate risk areas	<ul style="list-style-type: none"> ▪ Contamination of surrounding water bodies from Potential Acid Sulphate Soils (PASS) should they be encountered. 	
Dust		
Vegetation clearing	<ul style="list-style-type: none"> ▪ Air pollution due to wind generated dust. 	
Removal, stockpiling and respreading of soil	<ul style="list-style-type: none"> ▪ Water pollution due to dust transported by wind. 	
Access track siting and construction	<ul style="list-style-type: none"> ▪ Health impacts (i.e. breathing or eye irritation) if elevated PM10 levels persist. 	
Access track utilisation	<ul style="list-style-type: none"> ▪ Reduced visibility due to dust in the air. 	
Site compound location and construction	<ul style="list-style-type: none"> ▪ Negative aesthetic impacts due to reduced visibility. 	
Water- Cart Operations	<ul style="list-style-type: none"> ▪ Poor working conditions due to health implications. 	
Concreting Activities	<ul style="list-style-type: none"> ▪ Additional cleaning efforts/costs due to dust transported by wind. ▪ Damage to personal property due to dust damaging property where it lands. ▪ Loss of soil resources due to removal as dust. 	
Erosion and Sedimentation Control		
The extension of existing culverts to continue under the new track, realignment of Bow Bowing Creek, reduction of incline/decline along the alignment, extending maintenance access ways	<ul style="list-style-type: none"> ▪ Disturbance of natural drainage lines, causing erosion of surface cover material. ▪ Exposure of soil surfaces, due to clearing and construction activities. ▪ Uncontrolled sediment runoff, leading to: <ul style="list-style-type: none"> ▶ Siltation of surrounding water bodies. ▶ Changes to the chemical balance of surrounding waterways. 	
Fill operations include: levelling of specific areas along the route, reduction of incline/decline, realignment of Bow Bowing Creek, extending of maintenance access ways.	<ul style="list-style-type: none"> ▶ Increase in turbidity. ▶ Increase in Total Suspended Solids (TSS). ▶ Sedimentation in local waterway. ▶ Exposing acid sulfate prone soils. ▶ Weed invasion. 	
Levelling of site	<ul style="list-style-type: none"> ▶ Changes to the natural pH levels of waterbodies. 	
Weed seeds		
Soil stockpiles	<ul style="list-style-type: none"> ▶ Contamination of surrounding water bodies by chemicals utilised in the construction process. 	
Extension of existing embankments	<ul style="list-style-type: none"> ▶ Contamination of surrounding water bodies from liquid fuel spills. 	
Vegetation Clearing		
Cutting of embankments	<ul style="list-style-type: none"> ▪ Sedimentation within the nearby waterways. 	
Handling, storage and disposal of hazardous materials		

Environmental aspect	Potential environmental impacts	Mitigation
Spoil and Fill Excavation and blasting (if required) Transportation Storage Reuse (landscaping, mounds, mulching) Topsoil	<ul style="list-style-type: none"> ▪ Noise, dust generation, erosion and sedimentation. ▪ Noise, dust, air pollution, disturbance of local amenity. ▪ Dust, weeds, erosion and sedimentation. ▪ Removal of topsoil rich in organic matter and useful for seeding ecosystems. ▪ Dispersal of weeds. 	
Waste General activities producing waste	<ul style="list-style-type: none"> ▪ Dispersal of weeds. ▪ Excessive use of resources (energy, water, raw material). ▪ Sedimentation. ▪ Soil erosion. ▪ Contaminated land management. ▪ Loss of vegetation and spread of weeds. ▪ Soil erosion. ▪ Inappropriate disposal of waste items. ▪ Potential for fuel and oil spills. 	Soil and water management sub-plan Section 4, see nested sub-plans for specific mitigation
Noise and vibration Relocation or modification of drainage structures, culverts, and retaining walls Relocation of services. Excavations and widening of cuttings Materials placement along track – capping layer and ballast Cabling and signalling works.	<ul style="list-style-type: none"> ▪ Disturbance of local residents by truck and vehicle movements. ▪ Disturbance of local residents by operation of plant and equipment during construction. ▪ Vibration structural impacts from vibratory equipment/machinery. ▪ Vibration structural impacts from slope failure or settlement of materials. ▪ Noise impacts to the residential dwellings along Somerset Street, on the west side of the Minto Railway Station. ▪ Noise impacts on the Cabramatta Railway Station Precinct. 	Section 5.2 Noise and Vibration management sub-plan
Biodiversity Relocation or modification of drainage structures, culverts, and retaining walls Excavations and widening of cuttings Import of fill Storage of spoil and fill Transport of spoil and fill Erection of fencing at Sefton, Cabramatta, Warwick Farm, Casula, Minto and Leumeah railway stations Vegetation clearing	<ul style="list-style-type: none"> ▪ Clearing, removal and disturbance of endangered ecological communities and threatened species or populations including: <ul style="list-style-type: none"> ▶ Cumberland Plain Woodland at Leacock Regional Park. ▶ Green and Golden Bell Frogs. ▶ Cumberland Plain Large Land Snails. ▶ Threatened Grey-headed Flying-fox. ▪ Introduction and spread of noxious weeds. ▪ Removal of, or damage to, mature trees. ▪ Loss and degradation of fauna habitat. 	Section 5.3 Bio-diversity management sub-plan

Environmental aspect	Potential environmental impacts	Mitigation
<p>River crossings- construction of bridges and culverts.</p> <p>Handling, storage and disposal of hazardous materials.</p>	<ul style="list-style-type: none"> ▪ Damage to vegetation or areas outside of designated construction sites and work compounds. ▪ Loss and degradation of fauna habitat. ▪ Erosion and subsequent sedimentation of nearby waterways. ▪ Sediment suspension in surface water can restrict sunlight potentially impacting aquatic organisms. ▪ Sediments can carry pollutants and weed seeds. 	
Built heritage		
<p>Excavations and widening of cuttings</p>	<ul style="list-style-type: none"> ▪ Disturbance of unrecorded built heritage. 	Section 5.4
<p>Import and export of spoil and fill</p>	<ul style="list-style-type: none"> ▪ Loss of heritage value from modification of Minto footbridge. 	Built heritage management sub-plan
<p>Transport of spoil and fill</p>	<ul style="list-style-type: none"> ▪ Loss of heritage value from changes to the eastern end of the Casula Railway Station footbridge. 	
<p>Relocation or modification of drainage structures, culverts, and retaining walls</p>	<ul style="list-style-type: none"> ▪ Loss of heritage value from demolition of the existing passenger shelter on the east side of Warwick Farm Railway Station. 	
<p>Modifications to or demolition of heritage structures (listed on RailCorp's s170 Heritage and Conservation Register):</p>	<ul style="list-style-type: none"> ▪ Loss of heritage value from modifications to the original Cabramatta Station footbridge. 	
<ul style="list-style-type: none"> ▪ existing Minto footbridge 	<ul style="list-style-type: none"> ▪ Damage/destruction to known items of historical significance. 	
<ul style="list-style-type: none"> ▪ pedestrian overbridge, Casula Station 	<ul style="list-style-type: none"> ▪ Damage/destruction to unknown items of historical significance. 	
<ul style="list-style-type: none"> ▪ passenger shelter on the east side of Warwick Farm Station 	<ul style="list-style-type: none"> ▪ Alteration of heritage items to accommodate modifications. 	
<ul style="list-style-type: none"> ▪ foot-bridge, Cabramatta Station. 	<ul style="list-style-type: none"> ▪ Damage/destruction to known items of historical significance. 	
Indigenous heritage		
<p>Excavations and widening of cuttings</p>	<ul style="list-style-type: none"> ▪ Disturbance of unrecorded Aboriginal cultural heritage. 	Section 5.4
<p>Export of fill, Area 1</p>	<ul style="list-style-type: none"> ▪ Disturbance/damage of identified Aboriginal objects at the location of SSFL 1, south of Macarthur Railway Station at University of Western Sydney. 	Aboriginal heritage management sub-plan
<p>Relocation or modification of drainage structures, culverts, and retaining walls</p>		

Environmental aspect	Potential environmental impacts	Mitigation
Dust		
Excavations and widening of cuttings	<ul style="list-style-type: none"> ▪ Air pollution due to wind generated dust. 	Section 5.5
Import and export of spoil and fill	<ul style="list-style-type: none"> ▪ Water pollution due to dust transported by wind. 	Dust management sub-plan
Storage of spoil and fill	<ul style="list-style-type: none"> ▪ Health impacts (i.e. breathing or eye irritation) if elevated PM10 levels persist. 	
Transport of spoil and fill	<ul style="list-style-type: none"> ▪ Reduced visibility due to dust in the air. 	
Backfilling of tip	<ul style="list-style-type: none"> ▪ Negative aesthetic impacts due to reduced visibility. 	
Materials placement along track – capping layer and ballast	<ul style="list-style-type: none"> ▪ Poor working conditions due to health implications. 	
Vegetation clearance	<ul style="list-style-type: none"> ▪ Additional cleaning effort/costs due to dust transported by wind. 	
Operation of plant and machinery	<ul style="list-style-type: none"> ▪ Damage to personal property due to dust transported by wind damaging property where it lands. 	
Vehicle movements	<ul style="list-style-type: none"> ▪ Loss of soil resources due to dust transported by wind away from original area. 	
Vegetation clearing		
Access track siting and construction		
Access track use		
Site compound location and construction		
Water-cart operations		
Concreting activities		
Hazard and risk		
Storage and use of fuels and chemicals	<ul style="list-style-type: none"> ▪ Spills or leaks of fuel or other chemicals associated with the construction works, leading to contamination of soil and water. 	Section 5.6
Excavations and widening of cuttings	<ul style="list-style-type: none"> ▪ Leaks or spills during the protection or relocation of existing services and utilities (e.g. sewerage, wastewater and gas). 	Hazard and risk management sub-plan
Cabling and signalling works	<ul style="list-style-type: none"> ▪ Release of gases, especially in excavations or near previous landfill sites. 	
Relocation of services	<ul style="list-style-type: none"> ▪ Intersection of groundwater table. 	
Clearing of vegetation	<ul style="list-style-type: none"> ▪ Inappropriate identification, handling and disposal of the following potential contaminants of concern: <ul style="list-style-type: none"> ▶ asbestos-containing materials ▶ synthetic mineral fibres ▶ polychlorinated biphenyl (PCB)-containing materials ▶ asphalt contaminated by coal tar ▶ timber, ballast and soil, contaminated with preservatives including copper chromium arsenate (CCA), and creosote ▶ ballast contaminated with a range of petroleum hydrocarbons, metals and potentially asbestos ▶ lead-based paint. 	
Operation of plant and machinery		
Demolition or refurbishment of existing structures.		
Removal or realignment of railway lines, ballast and infrastructure		
	<ul style="list-style-type: none"> ▪ Mobilisation of pollutants or sediments from contaminated soils. 	

Environmental aspect	Potential environmental impacts	Mitigation
	<ul style="list-style-type: none"> ▪ Cross-contamination of previously non-contaminated soils. ▪ Inappropriate disposal of spoil or building materials that contains contaminants of concern. ▪ Import of potentially contaminated materials – new ballast and fill. ▪ Increased fire risk from hot works. ▪ Increased fire risk from storing cleared vegetation. ▪ Disturbance of potential acid sulfate soils. 	
Traffic		
<p>Relocation or modification of drainage structures, culverts, and retaining walls</p> <p>Excavations and widening of cuttings</p> <p>Transport of spoil and fill</p> <p>Relocation of services</p> <p>Vehicle movements</p> <p>Speed restrictions during works (40 km/hr for 3 months):</p> <p>Shepherd Street, Liverpool, Woodbrook Road, Casula and Broomfield Street (Sussex Street), Cabramatta, Moore Street and Sandal Crescent, Carramar, Hector Street, Chester Hill.</p> <p>Half and full road closures during works:</p> <p>Woodbrook Road, Casula and Broomfield Street (Sussex Street), Cabramatta, Moore Street and Sandal Crescent, Carramar, Hector Street, Chester Hill, Auburn Road bridge, Birrong</p> <p>Road bridge construction near Bareena Street, Canley Vale (1 day and 2 weekends)</p> <p>Road bridge construction near Miller Road and Chester Hill Road, Chester Hill (1 day and 2 weekends).</p> <p>Disruptions and changes to pedestrian access at Minto Station precinct, Leumeah Station precinct, east side of Casula Station, Warwick Farm station.</p>	<ul style="list-style-type: none"> ▪ Increased traffic volumes on roads during construction. ▪ Loss of parking space due to construction vehicle movements, construction zones, and increase in traffic. ▪ Delays due to road closures and diversions. ▪ Delays due to construction site speed restrictions. ▪ Temporary pedestrian traffic diversions. ▪ Temporary loss of bus shelters for commuters. ▪ Temporary relocation of car parking including kiss-and-ride spaces. ▪ Temporary disruption and short-term closure to Casula Road and access for the Casula Regional Arts Centre. ▪ Short-term restriction of commuter parking during car park construction works at Warwick Farm Railway Station. ▪ Short-term traffic impacts at Cabramatta Railway Station Precinct during construction of the 'shared zone' and streetscape improvement works on Broomfield Street. ▪ Closure of the existing car park area under the Cabramatta Road East overbridge during construction. 	<p>Section 5.8</p> <p>Traffic management sub-plan</p>

5. Environmental mitigation framework

This section provides the framework for developing the environmental management sub-plans and key supporting documents to ensure that the Minister for Planning’s CoA and ARTC’s SoC are met.

All environmental management sub-plans will be developed to meet the environmental objectives and key legislation and be consistent with the key guidance documents.

A series of environmental mitigation requirements have been developed to address the project environmental impacts described in Section 4.2. Mitigation measures are organised into management sub-plans, which follow an issue-based format, where the environmental impacts, management activities and controls are organised under each identified environmental issue. The mitigation requirements contain the following key information:

- environmental objectives
- permits, approvals and legislation that must be complied with
- key guidance documents that must be consulted
- key supporting documents that must be prepared
- specifically required mitigation measures to achieve the objectives and targets.

5.1 Soil and water quality management

Table 5-1 Soil and water quality management

Environmental objectives	Acid sulfate soils
	<ul style="list-style-type: none"> ▪ Not to disturb soils in locations that have been mapped as having acid sulfate prone soils.
	<p>Dust</p> <ul style="list-style-type: none"> ▪ Minimise the potential for the generation dust and other emissions. ▪ Maintain acceptable air quality in the vicinity of the works in regards to dust generation and the movement of dust. ▪ Receive no complaints from nearby residents or local road users. ▪ Ensure air quality meets the air quality goals and DECC’s guidelines.
	<p>Erosion and sediment control</p> <ul style="list-style-type: none"> ▪ No release of sediment-laden water to occur from the construction site. ▪ No significant deterioration in water quality results from run-off entering or leaving the construction site. ▪ Minimise the risk of detrimental effects to the water quality of the surface water bodies that the SSFL passes across. ▪ Minimise the risk of detrimental effects to ground water quality beneath the proposed development area. ▪ Ensure all necessary erosion controls are implemented prior to construction commencing and appropriately maintained for the duration of construction. ▪ Ensure that erosion controls are maintained until disturbed areas have been stabilised. ▪ Limit disturbance to surrounding areas outside the construction site boundary.

Groundwater

- To undertake groundwater investigations and assessments in order to establish water levels, evaluate water quality and to assess the likely impacts of the Project on potential groundwater dependent ecosystems, and existing or project related structures and infrastructure within and adjoining the rail corridor.

Spoil and fill

- Establish procedures and criteria for spoil/fill material handling, transportation and movement, stockpiling, reuse and disposal.
- Protect the environment by preventing or minimising adverse impacts in relation to local amenity, traffic requirements, and safe and tidy fill handling techniques.
- Ensure that appropriate environmental systems and controls are implemented during material management activities.
- Achieve sustainable use of resources by maximising the reuse of earthen materials generated on-site.

Waste

- To avoid the generation of waste material wherever possible.
 - To ensure that all waste material generated on site is handled in a responsible manner.
 - In accordance with legislative requirements, specifically the Waste Avoidance and Resource Recovery Act 2001 and DECC's Environmental Guidelines: Waste Classification Guidelines.
 - To establish procedures and management actions consistent with the waste minimisation hierarchy principles of avoid, reduce, reuse, recycle, dispose.
 - To prevent pollution associated with the management and disposal of waste material.
 - To promote sustainable resources use by maximising the reuse of waste materials on-site.
 - To ensure that site personnel and sub-contractors are aware of and comply with ARTC's waste management obligations and procedures in accordance with the waste management hierarchy.
 - The following targets have been established to maximise the quantity of materials that are recycled during the construction phase of the project:
 - ▶ 100% of waste oil and lubricants to be collected for recycling
 - ▶ 100% of cleared vegetation to be reused in revegetation, or other beneficial reuses such as sediment control and habitat recreation
 - ▶ no material that is commercially recyclable is to be disposed to landfill
 - ▶ all unsuitable spoil is to be reused in landscaped mounds, noise mounds or recontouring, unless contaminated
 - ▶ collected run-off water to be used for dust suppression, in preference to drawing water from watercourses or potable supplies
 - ▶ 100% of weed free topsoil to be recovered for reuse in landscaping and revegetation; and topsoil from threatened species areas to be salvaged for reuse in translocation program.
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Key legislation	<ul style="list-style-type: none"> ▪ <i>Rivers and Foreshores Improvement Act 1948.</i> ▪ <i>Soil Conservation Act, 1938.</i> ▪ POEO Act. ▪ EP&A Act. ▪ <i>Water Management Act, 2000.</i> ▪ <i>National Parks and Wildlife Act, 1974</i> ▪ <i>Native Vegetation Act 2003</i> ▪ EPBC Act.
Key guidance documents	<ul style="list-style-type: none"> ▪ Landcom's (2004) guideline <i>Managing Urban Stormwater – Soils and Construction</i> (The Blue Book). ▪ Greater Metropolitan Environmental Management Plan No. 2 – Georges River Catchment (REP 2). ▪ <i>Floodplain Development Manual</i> (Department of Infrastructure, Planning and Natural Resources, 2005). ▪ RTA's <i>Guidelines for the Control of Erosion and Sedimentation in Roadworks.</i> ▪ DNR's (1998) <i>Constructed Wetlands Manual.</i> ▪ <i>Acid Sulfate Soils Manual</i> (Acid Sulfate Soil Management Advisory Committee 1998). ▪ <i>Managing Urban Stormwater – Soils and Construction</i> Volume 1 4th Edition ▪ <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i>, January 2007 (DECC) ▪ <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW</i>, August 2005 (DECC) ▪ <i>National Environment Protection Measure for Ambient Air Quality</i>, 1998 (Environment Protection and Heritage Council) ▪ Construction Compliance Reports.
Key supporting documents	<ul style="list-style-type: none"> ▪ Erosion and sedimentation control sub-plan. ▪ Acid sulfate soils management sub-plan. ▪ Spoil and fill sub-plan. ▪ Groundwater management sub-plan. ▪ Surface and groundwater monitoring program. ▪ Flood management study.

5.2 Noise and vibration management

Table 5-2 Noise and vibration management

Environmental objectives	<ul style="list-style-type: none"> ▪ Manage potential noise and vibration impacts from the construction works. ▪ Minimise noise impacts on the local community. ▪ Ensure no vibration damage occurs to existing structures.
Key legislation	<ul style="list-style-type: none"> ▪ POEO Act 1997. ▪ Environmental Planning and Assessment Act 1979 (Department of Planning, Fairfield, Liverpool and Campbelltown Councils). ▪ Local Government Act 1993.
Key guidance documents	<ul style="list-style-type: none"> ▪ Chapter 4, <i>NSW Industrial Noise Policy</i>. ▪ German Standard DIN 4150 Part 3 <i>Structural Vibration in Buildings. Effects on Structures</i>. ▪ British Standard BS 6472 – <i>Guide to Evaluate Human Exposure to Vibration in Buildings 1 Hz to 80 Hz</i>. ▪ Environmental protection licence – 12971. ▪ Australian Standard AS 2436 <i>Guide to noise Control on Construction, Maintenance and Demolition Sites</i> (1981). ▪ Australian Standard AS 1055 <i>Acoustics – Description and Measurement of Environmental Noise</i> (1997). ▪ Australian Standard AS 2107 <i>Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors</i> (2000). ▪ Department of Environment and Conservation <i>Assessing Vibration: a Technical guideline</i> (2006). ▪ DECC NSW, <i>Construction Noise Guideline</i>. ▪ Draft for Consultation, August 2008.
Key supporting documents	<ul style="list-style-type: none"> ▪ Noise and vibration management sub-plan. ▪ Noise and Vibration Impact Statement(s) (NVIS).

5.3 Biodiversity management

Table 5-3 Biodiversity management

Environmental objectives	<ul style="list-style-type: none"> ▪ Maintain and protect species, populations and communities of National and State conservation significance identified within the construction area. ▪ Minimise mortality and injuries to individual animals and damage to individual plants/trees. ▪ Minimise habitat degradation.
Key legislation	<ul style="list-style-type: none"> ▪ EPBC Act (Commonwealth). ▪ <i>Threatened Species Conservation Act 1995.</i> ▪ <i>National Parks and Wildlife Act 1974.</i> ▪ <i>Noxious Weeds Act 1993.</i> ▪ <i>Rivers and Foreshores Improvement Act, 1948.</i> ▪ <i>NSW Fisheries Management Act 1994.</i>
Key guidance documents	<ul style="list-style-type: none"> ▪ NSW National Parks and Wildlife Service, 2003, <i>Acacia pubescens</i> threatened species information, NSW National Parks and Wildlife Service, Hurstville. ▪ Department of Environment and Conservation, 2005, Draft Recovery Plan for the Green and Golden Bell Frog (<i>Litoria aurea</i>), Department of Environment and Conservation (NSW), Hurstville, NSW. ▪ Rail Services Australia, 2000, Management plan for <i>Acacia pubescens</i> on Rail Access Corporation managed land, Rail Services Australia, Sydney. ▪ RailCorp's management plan for <i>Acacia pubescens</i>. ▪ Fairfull, S and Witheridge, G, <i>Why do fish need to cross the road? Fish passage requirements for waterway crossings.</i> NSW Fisheries.
Key supporting documents	<ul style="list-style-type: none"> ▪ Biodiversity management sub-plan. ▪ Rehabilitation, landscape and enhancement strategy. ▪ Weed management strategy. ▪ Letter to ARTC regarding the Threatened grey headed flying fox dated 7th of November 2008 (PB).

5.4 Aboriginal and built heritage management

Table 5-4 Aboriginal and built heritage management

Environmental objectives	<ul style="list-style-type: none"> ▪ Avoid damage or destruction of items of built heritage items during pre-construction, construction and post-construction phases of the Project. ▪ Ensure sites/artefacts of built heritage significance and sites/artefacts of historical significance are managed in accordance with the NSW <i>Heritage Act 1977</i> (amended 1998) during pre-construction, construction and post-construction phases of the project. ▪ Manage built heritage items, artifacts and historical relics that might be impacted by the construction of the SSFL with due diligence and in accordance with the requirements of the NSW <i>Heritage Act 1997</i> as amended. ▪ Ensure items of built heritage and artifacts are not damaged, and historical relics are not disturbed during pre-construction, construction and post-construction phases of the project. ▪ Ensure that stakeholders including the Heritage Branch of the DoP, RailCorp and local Councils are kept Informed on strategies for management of heritage items and action being taken to minimize heritage impacts. ▪ Provide a linkage to the Urban Design and Landscape Plan to clearly identify its relationship to this Heritage sub plan with respect to appropriate landscaping strategies.
Key legislation	<ul style="list-style-type: none"> ▪ <i>Heritage Act 1977.</i> ▪ <i>Local Government Act 1993.</i> ▪ <i>National Parks and Wildlife Act 1974.</i> ▪ <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984.</i>
Key guidance documents	<ul style="list-style-type: none"> ▪ Heritage Office and Urban Affairs and Planning <i>Archaeological Assessment Guidelines</i> (1996). ▪ Department of Planning's <i>Excavation Directors Assessment Criteria.</i> ▪ <i>NSW Heritage Office's (2001) Guidelines for photographic recording of heritage items.</i> ▪ <i>Interim Community Consultation Requirements for Applicants.</i> ▪ <i>Draft Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation</i> (DEC 2004). ▪ <i>Ask First: A Guide to Respecting Indigenous Heritage Places and Values</i> (Australian Heritage Commission 2002). ▪ <i>Aboriginal Cultural Heritage Standards and Guidelines Kit</i> (NSW NPWS, 1997). ▪ <i>Draft Guidelines for Aboriginal Heritage Impact Assessment</i> (NSW NPWS, n.d.). ▪ <i>Australia ICOMOS 'Burra' Charter</i> for the conservation of culturally significant places (Australia ICOMOS 1999).
Key supporting documents	<ul style="list-style-type: none"> ▪ Aboriginal heritage management sub-plan. ▪ Built heritage management sub-pan. ▪ Procedures for unidentified historical relics or Aboriginal objects. ▪ Education program for Construction Work Site Personnel regarding unidentified heritage items and Aboriginal cultural materials. ▪ Interpretation strategy in accordance with the <i>Interpreting Heritage Places and Items Guidelines</i> (2005). ▪ Historical Archaeological Assessment (HAA) (as per CoA 73). ▪ Statement of Heritage Impacts (SOHI) (as per CoA73).

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- ARTC (2008) SSFL Urban Design and Landscape Plan. Sydney NSW.
 - Caldus Cook Group (2005) Built Heritage Assessment for the Southern Sydney Freight Line Chippendale NSW.
 - Casey & Lowe Pty Ltd, Archaeology & Heritage (2006) Archaeological Assessment Southern Sydney Freight Line –Liverpool Section for Australian Rail Track Corporation, Marrickville NSW.
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5.5 Dust management

Table 5-5 Dust management

Environmental objectives	<ul style="list-style-type: none"> ▪ Minimise the potential for the generation dust and other emissions. ▪ Dust management objectives consistent with DECC guidelines. ▪ Develop a monitoring program to assess compliance. ▪ Maintain acceptable air quality in the vicinity of the works in regards to dust generation and the movement of dust. ▪ Receive no complaints from nearby residents or local road users. ▪ Ensure air quality meets the air quality goals and DECC's guidelines.
Key legislation	<ul style="list-style-type: none"> ▪ POEO Act. ▪ EP&A Act (Department of Planning, Campbelltown, Fairfield and Liverpool City Councils). ▪ <i>National Parks and Wildlife Act, 1974.</i>
Key guidance documents	<ul style="list-style-type: none"> ▪ DEC Guideline <i>Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales.</i> ▪ Protection of the Environment Operations (Clean Air) Regulation, 2002 (DECC). ▪ <i>National Environment Protection Measure for Ambient Air Quality, 1998</i> (Environment Protection and Heritage Council).
Key supporting documents	<ul style="list-style-type: none"> ▪ Dust management sub-plan. ▪ Progressive rehabilitation strategy.

5.6 Hazard and risk management

Table 5-6 Hazard and risk management

Environmental objectives	<ul style="list-style-type: none"> ▪ Identification of hazards and risks associated with Construction. ▪ Mitigation measures and contingency plans. ▪ Control measures to minimise vapour and odour levels. ▪ Measures for the monitoring and control of sub-surface seepage. ▪ Hazardous material management measures.
Key legislation	<ul style="list-style-type: none"> ▪ <i>Environmentally Hazardous Chemicals Act, 1985.</i> ▪ EP&A Act. ▪ <i>Contaminated Land Management Act, 1997.</i> ▪ POEO Act. ▪ <i>Heritage Act, 1977</i> (Heritage Office/ Campbelltown, Fairfield and Liverpool City Councils). ▪ <i>National Parks and Wildlife Act, 1974.</i> ▪ <i>Contaminated Land Management Act, 1997.</i>
Key guidance documents	<ul style="list-style-type: none"> ▪ Department of Planning's Hazardous Industry Planning Advisory Paper No. 7, "<i>Construction Safety Study Guidelines</i>". ▪ Relevant occupational standards for specific chemicals. ▪ Hazardous material management measures. ▪ Occupation Health and Safety Regulation 2001. ▪ Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002(2005)] (National Occupational Health and Safety Commission, 2005). ▪ the National Standard for Synthetic Mineral Fibres [NOHSC:1004(1990)]. ▪ the National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)]. ▪ Environmentally Hazardous Chemicals Regulation, 1999 ▪ <i>Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Waste</i> (DECC). ▪ Australian Standard 1940 – 2004 the <i>Storage and Handling of Flammable and Combustible Liquids</i>. ▪ <i>Acid Sulfate Soil Manual</i> (Acid Sulfate Soil Management Advisory Committee, 1998).
Key supporting documents	<ul style="list-style-type: none"> ▪ Hazard and risk management sub-plan. ▪ Contingency plans. ▪ Construction Work Site Boundaries. ▪ Construction safety study. ▪ Final Hazard Analysis (FHA) in accordance with the DoP's Hazardous Industry Planning Advisory Paper No. 6, <i>Guidelines for Hazard Analysis</i>. ▪ A peer review report of the operational safety systems within one month prior to the commencement of construction.

5.7 Waste management

Table 5-7 Waste management

Environmental objectives	<ul style="list-style-type: none"> ▪ To avoid the generation of water material wherever possible. ▪ To ensure that all waste material generated on site is handled in a responsible manner. ▪ In accordance with legislative requirements, specifically the Waste Avoidance and Resource Recovery Act 2001 and DECC's Environmental Guidelines: Waste Classification Guidelines. ▪ To establish procedures and management actions consistent with the waste minimisation hierarchy principles of avoid, reduce, reuse, recycle, dispose. ▪ To prevent pollution associated with the management and disposal of waste material. ▪ To promote sustainable resources use by maximising the reuse of waste materials on-site. ▪ To ensure that site personnel and sub-contractors are aware of and comply with ARTC's waste management obligations and procedures in accordance with the waste management hierarchy. ▪ The following targets have been established to maximise the quantity of materials that are recycled during the construction phase of the project: <ul style="list-style-type: none"> ▶ 100% of waste oil and lubricants to be collected for recycling ▶ 100% of cleared vegetation to be reused in revegetation, or other beneficial reuses such as sediment control and habitat recreation ▶ no material that is commercially recyclable is to be disposed to landfill ▶ all unsuitable spoil is to be reused in landscaped mounds, noise mounds or recontouring, unless contaminated ▶ collected run-off water to be used for dust suppression, in preference to drawing water from watercourses or potable supplies ▪ 100% of weed free topsoil to be recovered for reuse in landscaping and revegetation; and topsoil from threatened species areas to be salvaged for reuse in translocation program.
Key legislation	<ul style="list-style-type: none"> ▪ POEO Act. ▪ WARR Act. ▪ <i>Environmentally Hazardous Chemicals Act, 1985.</i> ▪ <i>Contaminated Land Management Act 1997.</i> ▪ <i>Noxious Weeds Act 1993.</i> ▪ <i>Pesticide Act 1999</i>
Key guidance documents	<ul style="list-style-type: none"> ▪ NSW Government's Waste Reduction and Purchasing Policy. ▪ Waste classification guideline, (DECC)
Key supporting documents	<ul style="list-style-type: none"> ▪ Waste management sub-plan.

5.8 Traffic management

Table 5-8 Traffic management

Environmental objectives	<ul style="list-style-type: none"> ▪ Ensure public safety. ▪ Ensure adequate access to work sites. ▪ Ensure that road damage due to construction traffic is monitored and addressed in a way that is satisfactory to the relevant road authority. ▪ Ensure that disruptions to traffic flows on public streets are managed to the satisfaction of the relevant road authority. ▪ Ensure that disruption to public transport services are managed to the satisfaction of the relevant transport provider. ▪ Ensure that affected local residents, businesses and commuters are advised of any disruption to traffic flows and public transport services. ▪ Reduce the exposure of the community to construction heavy vehicle traffic and its associated noise and vibration.
Key legislation	<ul style="list-style-type: none"> ▪ POEO Act. ▪ <i>Roads Act 1993.</i>
Key guidance documents	<ul style="list-style-type: none"> ▪ <i>Road Occupancy Manual.</i> ▪ <i>RTA Delegation to Councils Regulation of Traffic.</i> ▪ <i>RTA's Traffic Control at Work Sites, Version 3, September 2003.</i> ▪ Section 2 of <i>Australian Standard 1742.3-2002 Manual of Uniform Traffic Control Devices, Part 3: Traffic Control Devices for Works on Roads.</i> ▪ <i>Pedestrian Access and Mobility Plan (PAMP).</i>
Key supporting documents	<ul style="list-style-type: none"> ▪ Traffic Management Reports. ▪ Traffic management sub-plan. ▪ Traffic Control Plans for Leumeah, Minto, Casula, Warwick Farm, Cabramatta and Sefton railway Stations.

6. Environmental training and inductions

6.1 Environmental induction

All SSFL Project personnel, including contractors and visitors, will receive site induction into the requirements of this CEMP, prior to starting work on this Project. The induction will be appropriate to the level of their involvement in the Project.

Site inductions will be developed to induct personnel into the broad aspects of the Project. The environmental component of this induction will reinforce that it is the responsibility of all personnel to adhere to the environmental requirements. The induction training will be delivered by the Project Director or delegate and will cover, but not be limited to, the following topics:

- role of the CEMP
- project responsibilities
- identification of legal obligations
- identification and management of sensitive areas
- erosion and sediment control
- traffic and access
- flora and fauna protection
- water quality protection
- waste management
- protection of the local amenity
- emergency and incident management procedures.

A register of all environmental training carried out, including dates, names of persons trained and trainer details, has been developed and will be maintained throughout construction.

6.2 Environmental training

Personnel for specific tasks shall have the relevant training, skills or experience. Where project-specific environmental training needs are required, these will be provided by the ARTC Environment Manager, and will cover specific environmental issues; including built and indigenous heritage, control measures and equipment.

A register will be kept and maintained of all environmental training, including dates, names of persons trained and trainer details. Prior to commencement on site, all Project personnel, including contractors, will undergo a site induction covering awareness of quality, safety and environment issues and controls, site rules and administration.

Additional environmental training will be provided to Project personnel via toolbox meetings. These will be conducted as required. This will include additional on-site training for specific work packages conducted by the specific work package contractor. Records of all employees trained and of details of the toolbox meetings will be maintained.

7. Communication and complaints

Effective communication between the Project Director, project team, contractors and external stakeholders will be undertaken throughout the Project to ensure effective implementation of the CEMP.

Project communication can be categorised into internal and external communications, as well as communications specifically dealing with complaints. The specific communication methods for each category are discussed below.

7.1 Internal communications

Communication on environmental issues within the project team will be maintained, as a minimum, through the following forums (organiser as noted):

- weekly project team meetings (Project Director)
- toolbox meetings (Environment Manager/Contractor Environment Officer (work package specific))
- daily work briefings (Site Supervisor (work package specific))
- minutes of formal meetings will be taken and distributed to record issues raised and actions required, with action status established at subsequent meetings
- contractors (specific work packages) will maintain open communication with ARTC through the Construction Manager. (The Construction Manager and ARTC Project Director or delegate will hold a contractor's kick-off meeting with each contractor before the contractor starts any work on a construction site. Environmental performance requirements will be discussed as well as reviewing all relevant project environmental procedures and requirements relating to the contractors work. The Environment Manager, or delegate, will attend part of these meetings.)

7.2 External communications

Community and regulatory authority consultation

The Project Director is responsible for communication with external parties and stakeholders. Key stakeholder groups have been identified and consulted through the CLG process as discussed in section 2.2.2 and are as follows:

- Bankstown City Council
- Campbelltown City Council
- DEWHA (previously Department of Environment and Water Resources, prior to the Department of Environment and Heritage)
- DECC (previously Department of Environment and Conservation)
- DWE (including the previous Department of Natural Resources)
- DoP
- Fairfield City Council
- Liverpool City Council
- RTA

- Rail Corporation NSW (RailCorp)
- providers of utilities and services, such as gas, electricity, water, sewerage 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 Community and Stakeholder Involvement Plan (CIP) is the guiding document for community consultation and interaction for the Project. The CIP defines the procedures and processes for managing external communications on the Project in accordance with CoA 19.

7.3 Complaints handling

A mechanism for seeking and acting on feedback from stakeholder groups through the duration of the Project is detailed in the CIP *Complaints Management Procedure*. This system details the procedure to receive, record, monitor and report on complaints specific to the project (refer CIP). The complaints handling procedure is provided in Table 7-1.

Table 7-1 Complaints handling procedure

Step	Action
1	Complaint received by project staff (e.g. resident at the project site or by telephone on 1800 182 543).
2	Project staff obtains details of the complaint and complainant contact details (name, address, telephone number).
3	Project staff should assess whether the complaint can be resolved at the first point of contact.
4	If yes to 3, the project staff should take whatever action is necessary to resolve the complaint and advise the complainant of the solution.
5	If the complaint cannot be resolved at first point of contact, the complaint should be referred to the Contract Works – Package Manager/Construction Manager.
6	Contract Works – Package Manager/Construction Manager will investigate the complaint and assess what action, if any, is necessary to resolve the complaint.
7	Contract Works – Package Manager/Construction Manager will follow-up with a verbal response on what action is proposed within 2 hours during night-time works and 24 hours at other times.
8	If the complaint cannot be resolved at first point of contact or follow-up verbal response, Contract Works – Package Manager / Construction Manager will follow-up with a written response to the complainant within 10 days.
9	If the complaint cannot be resolved at first point of contact or follow-up verbal response or follow-up written response, the complaint will be referred to the Independent Community Liaison Representative for mediation.
10	All complaints will be recorded on a communications register.

All project staff will be advised of the complaints handling procedures to be followed on receipt of a complaint during the project induction.

8. Non-conformance, corrective and preventive action

Non-conformances or potential non-conformances are situations or events that do not comply with the safeguards and procedures stipulated in the CEMP or the CIP (as discussed in section 7.2). Non-conformances or potential non-conformances may be identified in any of the following situations:

- as part of site inspections, supervision or monitoring of normal operating activities
- during internal or external audits
- following significant verbal or written third party complaints.

All non-conformances are recorded using a Non-Conformance Report Form (Form CEMP-NCR). Each Non-Conformance Report is given a unique reference number that is related to the audit, inspection or activity. The person responsible for identifying the non-conformance completes the Non-Conformance Report Form.

All Non-Conformance Report Forms are copied to the Environment Manager who co-ordinates and ensures that they are investigated and corrective and preventive actions are taken. The Environment Manager maintains the Non-Conformance Report register and ensures effective implementation and follow-up. The Environment Manager is responsible for reporting to the EMR all incidences and non-conformances for information and action if an environmental impact is likely to occur.

Corrective and preventive actions are identified and recorded on the Non-Conformance Report Form. Corrective and preventive actions provide the mechanism to:

- undertake corrective (reactive) action to eliminate the causes of non-conformance
- undertake preventive (proactive) action to eliminate potential causes of non-conformances
- suggest improvements to the CEMP.

Corrective actions recorded against public complaints are addressed in Section 7.3.

The Environment Manager in consultation with the auditee or person responsible for the activity shall determine:

- how the impacts can be successfully remedied to ensure sound environmental management
- whether the regulatory authority requires to be notified of the non-conformance
- notify the complainant of any action taken to address the complaint, where appropriate.

The Environmental Manager can respond to complaints if required.

At regular intervals the Environment Manager reviews outstanding non-conformances, assesses progress or reasons for lack of, and arranges further actions as required, to ensure completion in a reasonable time-frame.

9. Incident response

The project team shall manage unexpected or accidental environmental incidents throughout the construction phase in accordance with the ARTC's internal procedures and project specific instructions.

The following environmental incidents could arise on the Project:

- spills or leaks of fuel or other chemical associated with the construction works
- significant release of sediment to water course, drainage lines, stormwater or sewer
- spillage of spoil or waste during transportation around site or to landfill
- damage to threatened or protected flora and/or fauna
- fire or flood.

These incidents could result in a fatality/medical emergency, property loss or damage, and/or environmental harm, such as soil or water contamination, air pollution or vegetation degradation.

When incidents occur on site, notification, reporting and investigation will be undertaken in accordance with the ARTC *Project Safety Management Plan*. Immediate notification to ARTC Project Director is required. Preventive actions to ensure further incidents do not occur on site are detailed in the Package Specific Site Emergency Plans.

It is the responsibility of the Contracts Work Package Manager to manage the response to environmental incidents on his specific work package and follow up actions required to mitigate the incident and prevent its recurrence. It is also his responsibility to ensure staff and contractors are trained in incident response and reporting.

The follow up of an incident of any nature is the responsibility of the relevant contractor and will include a tool box meeting with all site personnel to ensure the issue is discussed to minimise the likelihood of its recurrence and consequence severity. In the event the tool box meeting identifies re/training to reduce repeat incidences the Contractor will be responsible for funding and conducting.

Any incidents that involve damage to vegetation require the Contractor to replace vegetation to a similar standard and undergo a toolbox meeting and/or training as appropriate.

All environmental incidents that have the potential to result in off-site environmental impacts will be immediately notified to ARTC, in accordance with the ARTC EPL, and if required, to DECC and DoP. The Project Director, Project Manager or Environmental Manager are responsible for contacting DECC, DoP, Local Councils, applicable stakeholders and nearby residents as required or as detailed in the CIP.

Where a risk specific to a work package is identified in the hazard and risk management sub-plan all identified mitigation measures must be implemented. Where specific training is required it should be identified and provided in accordance with Section 6.

Procedures for addressing environmental incidents and their contingency measures are generally included in the Site Emergency Management Plan. Specific events and control procedures are identified in Tables 9-1 to 9-3.

Table 9-1 Incident response procedure – leaks or spills

Step	Action
1	Ensure the safety of any persons within the vicinity of the incident – including public, construction workers and project team.
2	Identify the source of the pollution (leak, spill, emission or damage) and stop the flow or the damaging activity immediately (provided it is safe to do so).
3	Switch off any sources of ignition.
4	Prevent the leak or spill spreading by identifying where the spill may go and: <ul style="list-style-type: none"> ■ dam the flow with earth/sand/other material ■ divert from drains/watercourses where possible ■ get spill kit, from site compound, re-fuelling vehicle, or other ■ use absorbent materials if appropriate ■ place booms across watercourses as a precaution.
5	Start notifications, and determine the required action to clean up the pollution incident or rectify damage.
6	Notifications: <ul style="list-style-type: none"> ■ Contracts Work Package Manager ■ Design or construction manager ■ ARTC-Project Director ■ Environment Manager ■ EMR ■ DECC, DoP.
7	Clean up the pollution incident.
8	Dispose of spoiled spoil kit/absorbent materials.
9	Record the incident on the Non-Conformance Report Form/Incident Report Form and identify the cause of the incident, corrective action taken and any preventive action required.

Table 9-2 Incident response procedure – damage to flora and fauna

Step	Action
1	If impact or potential impact in addition to approved works is identified, stop work immediately. Start notifications.
2	If fauna injured: <ul style="list-style-type: none"> ■ Check for danger (to yourself, and to animal). ■ Handle the animal as little as possible (do not attempt to handle snakes). ■ Follow simple animal first aid (remove threat; minimise stress by covering with towel or blanket; place animal gently in a box; put in a warm, quiet, dark area; do not disturb animal). ■ Contact WIRES, local vet, or fauna specialist.
3	If vegetation damaged: <ul style="list-style-type: none"> ■ Major roots (diameter greater than 300 millimetres) that are damaged or exposed during works are to be treated or repaired under the supervision of a suitably qualified arborist or tree surgeon.

Step	Action
4	Start notifications: <ul style="list-style-type: none"> ▪ Contracts Work Package Manager ▪ Design or construction manager ▪ ARTC-Project Director ▪ Environment Manager ▪ EMR. ▪ DECC
5	Record the incident on the non-conformance report form/incident report form and identify the cause of the incident, corrective action taken and any preventive action required.

Table 9-3 Incident response procedure – natural emergency

Step	Action
1	If natural emergency is likely to have impact, or potential natural emergency identified (e.g. heavy rainfall, extreme fire danger) monitor situation and take preventive action.
2	Preventive actions: <ul style="list-style-type: none"> ▪ Stop work if required. ▪ Place equipment in safe position (e.g. buckets down on excavators, cover excavations).
3	Ensure the safety of any persons within the vicinity of the incident — including public, construction workers and project team.
4	Notify internal team — ARTC PD — then authorities, if not immediately life-threatening. If life-threatening, contact 000 immediately.
5	Where appropriate, undertake remedial action: <ul style="list-style-type: none"> ▪ extinguish small fires if equipment and trained staff available ▪ move people/items to higher ground in case of flooding, and place barricades ▪ park all equipment and place in safe configuration, if not already undertaken as part of action #2.
6	Follow any instructions from authorities and provide any assistance and/or materials required.
7	Record the incident on the Non-Conformance Report Form/Incident Report Form and identify the cause of the incident, corrective action taken and any preventive action required.

9.1 Contact details

The following table outlines contact details for ARTC emergency response personnel and emergency response authorities. Follow the applicable Table 9-1 to 9-3, incident response procedure before contacting any of these emergency contacts.

Table 9-4 Contact details of ARTC emergency response personnel and authorities

Contact persons, name and title as applicable	Contact details
Contracts Work Package Manager Design or construction manager	Not confirmed at this stage.
ARTC-Project Director	(02) 8259 0711 or mobile 0488 417 581
Environment Manager	(02) 8259 0700 or mobile 0413 337 736
Environmental Manager Representative	(02) 9239-7464
Police, Fire, Ambulance	000

10. Monitoring and auditing

Monitoring and auditing will be undertaken to determine the impact on the environment and identify opportunities for improvement. Monitoring to be implemented for specific actions or environmental issues (e.g. monitoring erosion and sedimentation controls) will be detailed in a relevant sub-plan.

Formal reporting of the performance of construction activities against the Minister's CoA and SoCs will be conducted by the Environment Manager or other project team members as requested by the Project Director. Project auditing requirements are detailed in Table 10-1.

Table 10-1 Auditing report requirements

Audit type	Audit report	Requirements as detailed in CoA and SoCs'	Reporting frequency
Pre-construction	Pre-construction compliance report	CoA number 8 outlines the reporting requirements for reporting.	Submit report at least 4 weeks before construction commences (or within any other time agreed to by the Director-General of DoP).
Construction	Construction compliance reports	CoA number 9 and 10 outlines the reporting requirements for reporting.	Submit report every 6 months for the duration of construction.
	Energy Audits		Conduct internal audits every 6 months for the duration of construction.
Construction environmental impact	Construction environmental impact audit report	CoA number 11 and 12 outlines the reporting requirements for reporting.	Submit report a maximum 3 months after the Project begins operation (or at any other time interval agreed to by the Director-General of DoP).

The content of these reports will cover those requirements as detailed in the CoA for the Project.

The CEMP will be reviewed and amended in response to an environmental incident, non-conformance or the outcomes of an environmental audit. The Environment Manager and Project Director are responsible for reviewing and amending the CEMP and sub plans in response to environmental incidents.

The EMR will carry out site inspections of active work sites to evaluate compliance with the CEMP and provide notice to ARTC of any non-compliances; this will be conducted fortnightly as a minimum and all project personnel will provide access and assistance as required.

Personnel responsible for preparing other reports will be selected on an applicability basis. Reports will be prepared in line with Federal and State Government requirements and ARTC's internal monitoring and auditing schedule as outlined Table 10-1.

11. Document management

11.1 Control of documents

Project records/reports, including contractor records, will be maintained to provide evidence of the effective operation of this CEMP. The records will be identifiable as to the date, work package and activity concerned. Such records include, but are not limited to:

- correspondence to/from stakeholders and interested parties
- permits, licences and approvals
- induction training records
- environmental complaints/enquiries
- non-conformance and corrective action
- environmental incidents
- audits and reports.

Records/reports typical content will include a report on the observed situation, a response to the relevant requirements and recommendation for performance improvement as necessary. A description of typical report content can not be provided at the pre-construction stage as it is unknown what events will occur at the construction stage. All reports as far as practical will have a standard report proforma to streamlining reporting and review process.

Records shall be filed, stored and maintained in accordance with the Project Management Plan.

11.2 Review and update

The CEMP will be reviewed as required to ensure that it addresses ongoing environmental issues and any changes in legislation, policies or guidelines.

Any changes to the Project that require further environmental assessment will be brought to the attention of the Director-General by the Project Director.

Updating the CEMP is the responsibility of the Project Director. Following updating of the CEMP the document shall be submitted by the Project Director to the Director-General for approval or consent.

Following the updating of the CEMP, the amendments shall be presented to internal project members, site/project team and relevant contractors through the established communication protocols outlined in Section 6, *Communication and complaints* and specifically Section 6.1 *Internal communication* and section 6.2 *External communication*.

Appendix A

Minister's Conditions of Approval
and Statement of Commitments

Appendix B

ARTC Environmental Policy

Appendix C

Constraints maps

Appendix D

Ancillary Facilities

Ancillary Facilities

Definition

The Project Approval defines ancillary facilities for the Southern Sydney Freight Line as follows:

Temporary construction facility including batch plants (concrete or bitumen), site office and compound, stockpile (and other materials storage) sites, sedimentation and detention ponds, construction vehicle access tracks and parking areas.

Criteria for siting ancillary facilities

The criteria for siting ancillary facilities and avoiding environmental impacts are provided by Statement of Commitment (SoC) 104. Ancillary facilities must satisfy the following criteria unless otherwise approved through the CEMP and the DoP:

- Be located within the Activity;
- Have ready access to the road network;
- Be located to minimise the need for heavy vehicles to travel through residential areas;
- Be sited on relatively level land;
- Be separated by the nearest residences by at least 200m (or at least 250m for a temporary batch plant) except where adequate screening is provided by a cutting or natural feature;
- Not be within 100m of, or drain directly to, SEPP 14 wetlands;
- Be located above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented;
- Not require vegetation clearing beyond that already required for the activity; and
- Not affect the land use of adjacent properties.

Assessment

Prior to siting ancillary facilities, Contractors will undertake an assessment of the proposed site against the criteria listed in SoC 104. ARTC will provide Contractors with the Ancillary Facilities Checklist.

Where a criterion is not met the Contractor must identify mitigation measure to demonstrate that in siting the ancillary facility at the proposed location, adverse environmental impacts will be minimised.

Where a proposed site for an ancillary does not meet the criteria The EMR will review the information provided by Contractors included with the checklist.

Approval

Approval for siting of ancillary facilities will be provided by the EMR through their responsibilities given through CoA 18 and listed under the CEMP.

Ancillary Facilities Location Check List

Assessment of Site for Ancillary Facility against Requirement of SoC 104:

Temporary construction facility including batch plants (concrete or bitumen), site office and compound, stockpile (and other materials storage) sites, sedimentation and detention ponds, construction vehicle access tracks and parking areas.

Criteria – The Site for the Ancillary Facility must:	Assessment/ Comment	Reviewed by	Date
<ul style="list-style-type: none"> ■ Be located within the Activity; 			
<ul style="list-style-type: none"> ■ Have ready access to the road network; 			
<ul style="list-style-type: none"> ■ Be located to minimise the need for heavy vehicles to travel through residential areas; 			
<ul style="list-style-type: none"> ■ Be sited on relatively level land; 			
<ul style="list-style-type: none"> ■ Be separated by the nearest residences by at least 200m (or at least 250m for a temporary batch plant) except where adequate screening is provided by a cutting or natural feature; 			
<ul style="list-style-type: none"> ■ Not be within 100m of, or drain directly to, SEPP 14 wetlands; 			
<ul style="list-style-type: none"> ■ Be located above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; 			
<ul style="list-style-type: none"> ■ Not require vegetation clearing beyond that already required for the activity; and 			
<ul style="list-style-type: none"> ■ Not affect the land use of adjacent properties. 			

List of supporting information attached (eg photos, sketches, plans).