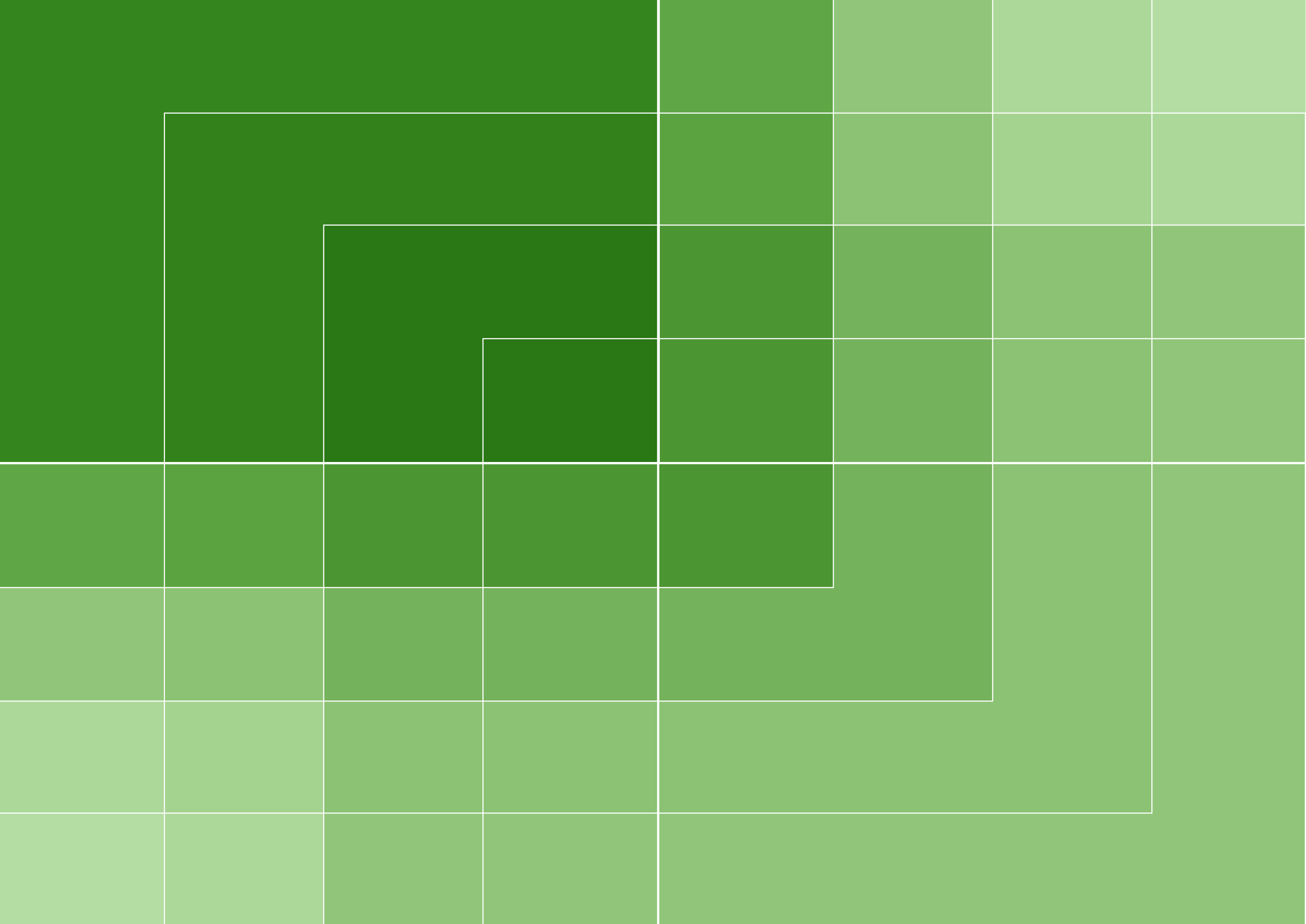


# APPENDIX B

## Construction Environmental Management Framework



## Construction Environmental Management Framework

October 2012 (Version 1.2)





North West Rail Link Construction Environmental Manaqgement Framework  
Version Register

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1.0	For EIS 1	4 April 2012
1.1	For EIS 1 Submissions Report	26 July 2012
1.2	For EIS 2	31 October 2012

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# 1 Introduction

## 1.1 Purpose and Scope

This Environmental Management Framework (Construction Environmental Management Framework) is a North West Rail Link (NWRL) project wide framework which sets out the environmental, stakeholder and community management requirements for the construction of the project.

The NWRL project is approved staged infrastructure under Part 5.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The project is proposed to be implemented in two stages under this approval, with each stage having its own Environmental Impact Statement (EIS) and approval process as follows:

- ❖ **Stage 1** – Major Civil Construction Works (EIS 1). Stage 1 received planning approval on 25 September 2012.
- ❖ **Stage 2** – Stations, Rail Infrastructure and Systems (EIS 2).

The project will be delivered under multiple, separate construction contracts.

This Construction Environmental Management Framework provides a linking document between the planning approval documentation and the construction environmental management documentation to be developed by the Principal Contractors relevant to their scope of works.

NWRL Principal Contractors will be required to implement and adhere to the requirements of this Construction Environmental Management Framework in designing and constructing the NWRL works. The requirements of this Construction Environmental Management Framework will be included as a contract document in all design and construction contracts related to the NWRL.

## 1.2 Status

This is a controlled document. It will be updated as required through the life of the NWRL project.

## 1.3 Environment and Sustainability Policy

Transport for NSW (TfNSW) has developed an Environment and Sustainability Policy (Appendix A) for the NWRL Project. NWRL Principal Contractors will be required to undertake their works in accordance with this policy. Specifically the policy reflects a commitment in the delivery of the NWRL to:

- ❖ Optimise environmental and sustainability outcomes, transport service quality, and cost effectiveness.
- ❖ Develop effective and appropriate responses to the challenges of climate change, carbon management, resource and waste management, land use integration, customer and community expectation, and heritage and biodiversity conservation.
- ❖ Be environmentally responsible, by enhancing the natural environment and reducing the project ecological footprint, while complying with all applicable environmental laws, regulations and statutory obligations

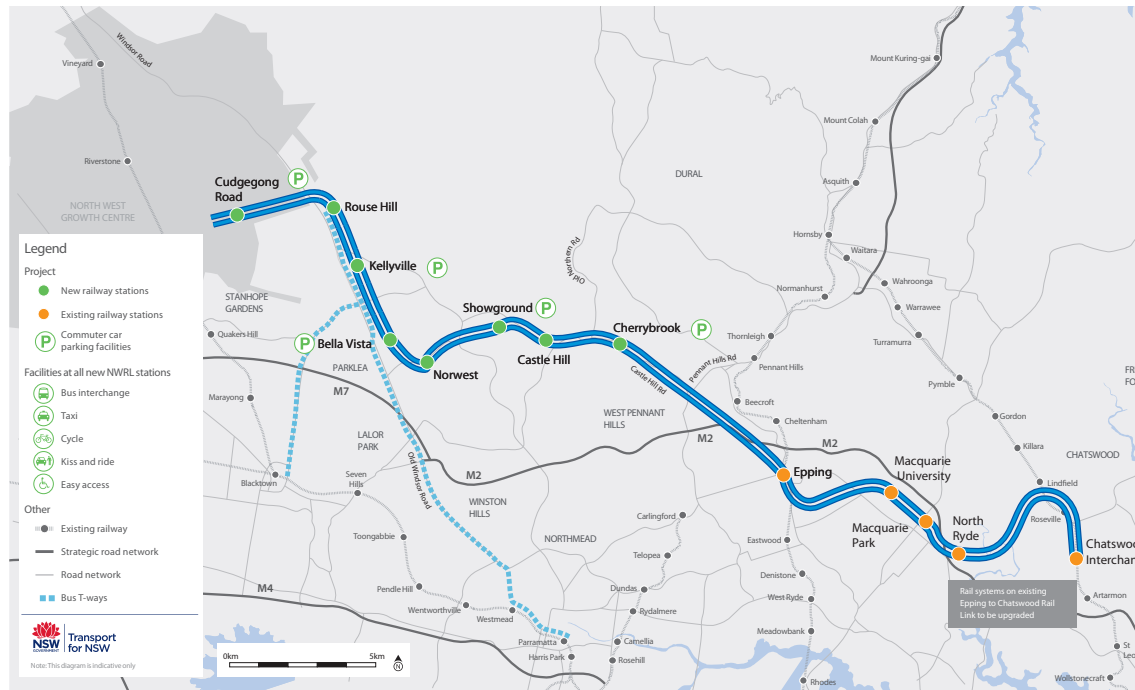
## 1.4 Project Description

The NWRL will provide eight new stations and services over a 23 kilometre addition to the rail network from Epping to beyond Rouse Hill in north west Sydney as shown on **Figure 1**. The base scope of the project includes the construction of stations at Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road. Bus, pedestrian, taxi and cycle access facilities would be provided at all stations with park and ride spaces proposed at Cherrybrook, Hills Centre, Bella Vista, Kellyville and Cudgegong Road Stations. The project scope also includes a train stabling facility at Tallawong Road beyond Rouse Hill to accommodate 16 eight car train sets, with the potential to later increase this capacity for up to 24 train sets.

The greater majority of the railway, approximately 15.5 km, is underground in tunnel from Bella Vista to Epping. Such significant lengths require multiple, simultaneous excavation processes by TBM and roadheaders. The balance of the NWRL is 7.5 km of above ground civil works dominated by a 4.2 km long elevated viaduct structure, with some shorter sections of embankment and cutting. Two major concrete batch plant and precast facilities are also proposed, at Balmoral Road and Memorial Drive to service the construction of the tunnel and viaduct components of the project respectively.

The full project description is provided within the two EISs.

Figure 1 Overview of alignment



2 Legislative and Other Requirements

The key NWRL environmental obligations to be addressed at different stages of the project are contained within:

- ❖ Legislative requirements.
- ❖ Project approval documentation.
- ❖ Ministers’ Conditions of Approval.
- ❖ Environment Protection Licences.
- ❖ Other permits, approval and licences.
- ❖ Standards and guidelines.

2.1 Key Legislative Requirements

**Table 1.1** below identifies key NSW environmental legislative requirements and their application to the construction of the NWRL current as at the date of this document. TfNSW and its Contractors should regularly review their legislative requirements.

Table 1.1 NSW Legislative Requirements

Legislation and Administering Authority	Requirements	Application to NWRL
<b>Contaminated Land Management Act 1997</b> NSW Environment Protection Authority (EPA)	The Act provides a process for the investigation and remediation of land where contamination presents a significant risk of harm to human health or some other aspect of the environment.	The NWRL must follow the process where contaminated land is identified.
<b>Dangerous Goods Act 1985</b> EPA Workcover	A licence is required for the storage (Workcover) and /or transport (EPA) of prescribed quantities of dangerous goods.	The NWRL Principal Contractors must obtain a licence where storage of dangerous goods would exceed licensable quantities.
<b>Environmental Planning and Assessment Act 1979</b> Department of Planning and Infrastructure (DP&I)	Planning approval required for the proposal as State Significant Infrastructure.	The NWRL must adhere to mitigation measures (including Statement of Commitments) within the EIS and comply with any Minister’s Conditions of Approval.
<b>Fisheries Management Act 1994</b> Department of Primary Industries (Fisheries)	The relevant objectives of the Act are to conserve threatened species, populations and ecological communities and promote ecologically sustainable development, including the conservation of biological diversity	The NWRL is exempt from permits required under sections 201, 205 or 219.

Legislation and Administering Authority	Requirements	Application to NWRL
<b>Heritage Act 1977</b> NSW Office of Environment and Heritage (OEH)	The Act aims to encourage the conservation of the State’s heritage and provides for the identification and registration of items of State heritage significance.	The NWRL is exempt from approvals required under Part 4 and permits required under section 139.
<b>National Parks and Wildlife Act 1974</b> OEH	The objectives of the Act are for the conservation of nature and the conservation of objects, places or features (including biological diversity) of cultural value within the landscape.	The NWRL is exempt from obtaining an Aboriginal Heritage Impact Permit required under section 90.
<b>Native Vegetation Act 2003</b> OEH	The objective of the Act is to protect and improve the value of native vegetation.	The NWRL is exempt from section 12 authorisation to clear native vegetation.
<b>Noxious Weeds Act 1993</b> Department of Primary Industries	The Act aims to prevent the introduction of new weeds and restrict the spread of existing weeds.	The NWRL Principal Contractors must control weeds as required on land under the management of the Contractor.
<b>Protection of the Environment Operations Act 1997</b> EPA	The relevant objective of the Act is to prevent environmental pollution.	The NWRL is a scheduled activity under Schedule 1 of the Act. Therefore the NWRL must obtain an Environment Protection Licence (EPL). Further details on the requirements to obtain an EPL are provided in Section 2.2.
<b>Roads Act 1993</b> Roads and Maritime Service	The relevant objective of the Act is to regulate the carrying out of various activities on public roads.	The NWRL Principal Contractor must obtain consent under section 138 for carrying out work in, on or over a public road, or digging up or disturbance of the surface of the road.
<b>Waste Avoidance and Resource Recovery Act 2001</b> EPA	The objectives of the Act are to reduce environmental harm and provide for the reduction in waste generation.	NWRL Principal Contractors must implement strategies to reduce waste volumes and report on waste generated.
<b>Water Management Act 2000</b> NSW Office of Water	The relevant objective of the Act is to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality.	The NWRL is exempt from obtaining water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91.

**Table 1.2** below identifies key Commonwealth environmental legislative requirements and their application to the construction of the NWRL current as at the date of this document. TfNSW and its Contractors should regularly review their legislative requirements.

Table 1.2 Commonwealth Legislative Requirements

Legislation and Administering Authority	Requirements	Application to NWRL
<b>Environment Protection and Biodiversity Conservation Act 1999</b> Department of Sustainability, Environment, Water, Population and Communities	The relevant objective of the Act is to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance.	The NWRL submitted a referral as its works may have an impact on the matters of national environmental significance outlined in Section 2.3.
<b>National Greenhouse and Energy Reporting Act 2007</b> Department of Climate Change and Energy Efficiency	The Act established a framework for reporting of greenhouse gas emissions, abatement actions, energy consumption and production data.	NWRL Principal Contractors must report on greenhouse gas and energy usage data as required by the Act.

2.2 Environment Protection Licence Requirements

The NWRL meets the definition of a number of scheduled activities under Schedule 1 of the *Protection of the Environmental Operation Act 1997* (POEO Act) and as such must obtain an Environment Protection Licence (EPL).

- a. Where required NWRL Principal Contractors will be required to:
- Hold an EPL which covers their scope of works as necessary under the POEO Act.

• Undertake their scope of works in accordance with the conditions of the applicable EPL/s as issued by the EPA.

2.3 Environment Protection and Biodiversity Conservation Act 1999 Referral

The NWRL has submitted a referral under the *Environment Protection and Biodiversity Conservation Act 1999* to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities as it may have an impact on the following Matters of National Environmental Significance:

Four listed ecological communities as follows:

- ❖ Blue Gum High Forest of the Sydney Basin Bioregion (critically endangered ecological community).
- ❖ Cumberland Plain Shale Woodland and Shale-Gravel Transition Forest (critically endangered ecological community).
- ❖ Shale / Sandstone Transition Forest (endangered ecological community).
- ❖ Turpentine-Ironbark Forest in the Sydney Basin Bioregion (critically endangered ecological community).

Potential habitat for six listed fauna species as follows:

- ❖ Green and Golden Bell Frog (vulnerable).
- ❖ Grey-headed Flying Fox (vulnerable).
- ❖ Large-eared Pied bat (vulnerable).
- ❖ Regent Honeyeater (endangered; migratory).
- ❖ Spotted-tailed Quoll (endangered).
- ❖ Swift Parrot (endangered).

Potential habitat for nine listed migratory fauna species as follows:

- ❖ Black-faced Monarch.
- ❖ Cattle Egret.
- ❖ Fork-tailed Swift.
- ❖ Great Egret.
- ❖ Latham’s Snipe.
- ❖ Regent Honeyeater.
- ❖ Rufous Fantail.
- ❖ Satin Flycatcher.
- ❖ White-throated Needletail.

As the NWRL has been determined to be a controlled action under the Environment Protection and Biodiversity Conservation Act, TfNSW and the Principal Contractors will comply with the conditions of any approval issued under the this act

2.4 Standards and Guidelines

Numerous environmental publications, standards, codes of practice and guidelines are relevant to the NWRL construction and are referenced throughout this Construction Environmental Management Framework. A summary of these applicable standards and guidelines is provided in **Table 1.3.**

Table 1.3 Environmental Standards and Guidelines

Standard / Guideline	Relevant Authority	Construction Environmental Management Framework Reference
Transport for NSW Sustainable Design Guidelines	TfNSW	-
ISO14001 Environmental Management System – Requirements with Guidelines for Use	DP&I	Section 3.1
Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004)	DP&I	Section 3.1
Interim Construction Noise Guidelines (Department of Environment and Climate Change, 2009)	EPA	Section 5.1 and 9.2
Traffic Control at Worksites Manual Version 4 (NSW RTA, 2010)	Roads and Maritime Service (RMS)	Section 8.2
AS1742.3:2009 Manual of Uniform Traffic Control Devices – Traffic Control Devices for Works on Roads	RMS	Section 8.2
Guide to Traffic Management – Part 2: Traffic Theory (Austroads, 2008)	RMS	Section 8.2
Managing Contaminated Land Planning: Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning & Environment Protection Authority, 1998)	DP&I	Section 6.2
Acid Sulphate Soil Manual (NSW Acid Sulphate Soils Management Advisory Committee, 1998)	EPA	Section 6.2
Managing Urban Stormwater: Soil and Construction (Landcom, 2008)	EPA	Section 15.2
AS2436:1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites	EPA	Section 9.2
Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (Department of Environment and Climate Change, 2007)	EPA	Section 9.2
Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006)	EPA	Section 9.2

Standard / Guideline	Relevant Authority	Construction Environmental Management Framework Reference
AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting	OEH	Section 12.2
Code of Practice for the Safe Removal of Asbestos 2nd edition (National Occupational Health and Safety Commission, 2005)	National Occupational Health and Safety Commission (NOHSC)	Section 15.0
Code of Practice for the Management and Control of Asbestos in Workplaces (National Occupational Health and Safety Commission, 2005)	NOHSC	Section 15.0
AS2601:1991 Demolition of Structures	DP&I	Section 15.0
Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2008)	EPA	Section 17.1 and 17.2
Waste Reduction and Purchasing Policy (Environment Protection Authority, 1997)	EPA	Section 17.1

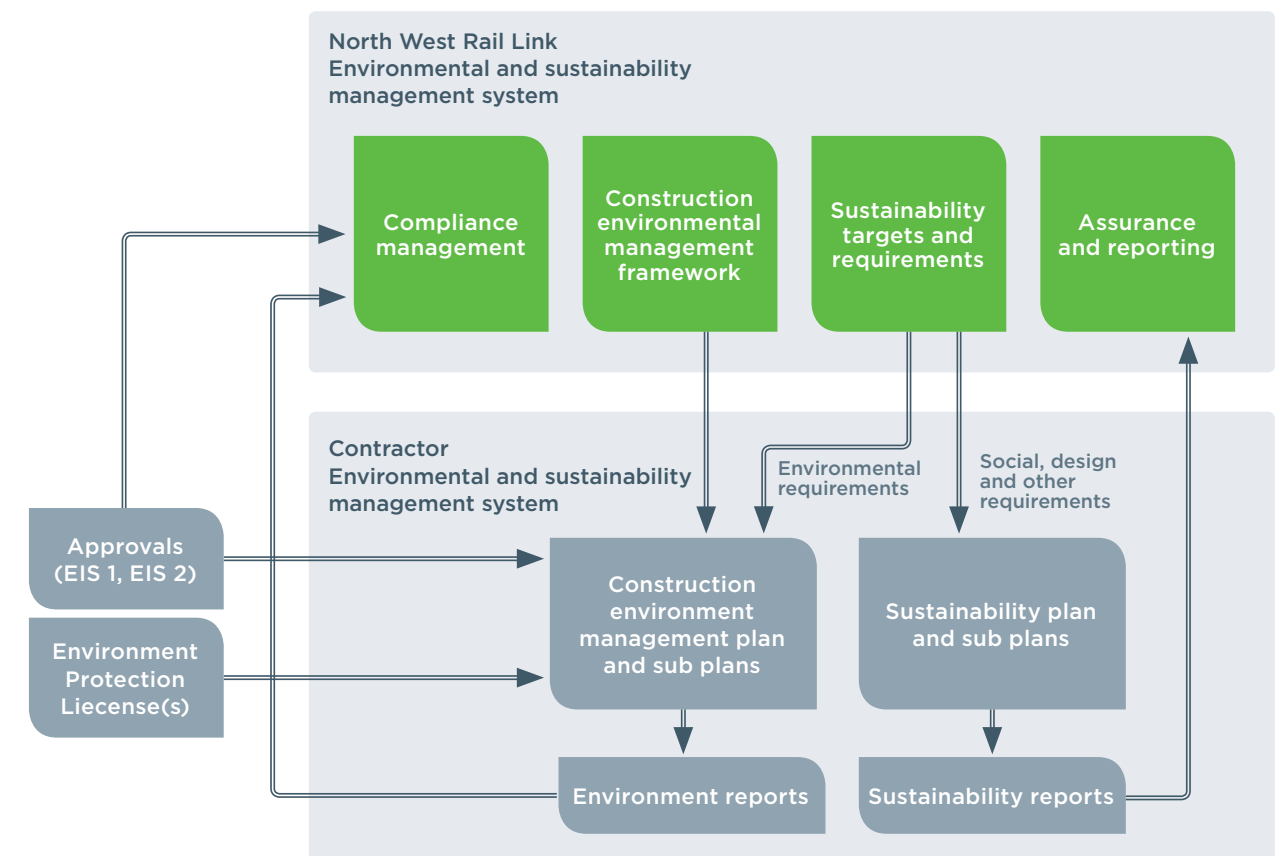


### 3 Environmental Management

#### 3.1 Environmental and Sustainability Management System

- a. All NWRL Principal Contractors will be required to have a corporate environmental management system certified under ISO 14001.
- b. All NWRL Principal Contractors will be required to develop an environmental and sustainability management system for the project. The E&SMS must:
  - i. be consistent with the principles of *ISO 14001 Environmental Management Systems – Requirements with Guidelines for Use*;
  - ii. be consistent with the NWRL Sustainability Strategy and NWRL Environment and Sustainability Policy;
  - iii. include specific procedures to address the following:
    - Identification of and compliance with legal and regulatory obligations, environmental provisions of the contract documentation, relevant approval documentation, their own corporate requirements and this Construction Environmental Management Framework.
    - Identification and assessment of environmental aspects.
    - Identification of environmental risks and development of appropriate control measures to be implemented to provide environmental protection.
    - Tracking and monitoring of design and construction sustainability targets.
    - Assurance frameworks to audit the sustainability program.
  - iv. include provision to produce monthly reports.
- c. All sub-contractors engaged by the Contractor will be required to work under the Principal Contractor's E&SMS.
- d. The relationship between key documents within the NWRL Environment and Sustainability Management System and the Principal Contractor's Environment and Sustainability Management System is shown in **Figure 2**. Notably:
  - i. the Construction Environment Management Plan and its sub plans will capture the construction environmental requirements emerging from the EISs, subsequent planning approvals and the NWRL Sustainability Strategy.
  - ii. The Sustainability Plan and its sub plans will capture governance and design requirements as well as social sustainability initiatives required by the NWRL Sustainability Strategy.
  - iii. These plans will vary in scope across different delivery packages.

Figure 2 Environmental Management and Sustainability Structure



3.2 Construction Environmental Management Plans

- a. All NWRL Principal Contractors will be required to prepare and implement a Construction Environmental Management Plan (CEMP) relevant to the scale and nature of their scope of works.
- b. The CEMP will cover the requirements of the relevant planning approval documentation, the project approval conditions, the conditions of all other permits and licences, the Contractor’s corporate EMS, the environmental provisions of the contract documentation and this Construction Environmental Management Framework.
- c. The purpose of the CEMP will be to detail how the project will deliver the environmental requirements and how issues that arise are handled. As a minimum the CEMP will include:
  - i. Project specific environmental policy, key performance indicators, objectives and targets.
  - ii. Identification of legislative and other requirements.
  - iii. Procedures to identify project specific environmental risks.
  - iv. Resource requirements, roles and responsibilities, including those of sub-contractors.
  - v. Communication requirements, including liaison with stakeholders and the community.
  - vi. Induction and training requirements.
  - vii. Identification of project specific environmental risks.
  - viii. Identification of appropriate control measures.
  - ix. Procedures for monitoring and evaluating environmental performance.
  - x. Reporting requirements.
  - xi. Procedures for emergency and incident management.
  - xii. Procedures for non-conformance control, corrective and preventative actions.
  - xiii. Procedures for audit and review.
  - xiv. Procedures for the control of environmental records.
  - xv. Development and maintenance of Environmental Management Sub-Plans and site / activity specific environmental procedures.
- d. The CEMP and associated sub-plans will require the approval of TfNSW prior to any construction works commencing. Depending on the conditions of approval the CEMP and certain sub-plans may also require the approval of Department of Planning and Infrastructure (DP&I), and other government agencies.

3.3 Construction Environmental Management Sub-Plans

- a. Where required, the Principal Contractor will prepare issue-specific environmental sub-plans to address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub-plans will include:
  - i. Spoil management
  - i. Groundwater management
  - ii. Soil and water management
  - iii. Traffic and transport management.
  - iv. Noise and vibration management.
  - v. Heritage management.
  - vi. Flora and fauna management.
  - vii. Visual amenity management.
  - viii. Carbon and energy management.
  - ix. Air quality management.
  - x. Waste management.

3.4 Environmental Procedures

- a. The Principal Contractor will prepare and implement site and / or activity specific environmental procedures. These procedures may include method statements, control maps or other documents as required by the Principal Contractor.
- b. The procedures will include:
  - i. A breakdown of the work tasks relevant to the specific site and / or activity.
  - ii. Potential impacts associated with each task.
  - iii. A risk rating for each of the identified potential impacts.
  - iv. Mitigation measures relevant to each of the work tasks.
  - v. Responsibility to ensure the implementation of the mitigation measures.
  - vi. Constraints maps and / or drawings as appropriate to each site and / or activity.
- c. Relevant workers will be trained in the requirements of and will sign off the procedures prior to commencing works on the specific site and / or activity.

3.5 Additional Environmental Assessments

A number of works may require additional environmental assessment to be undertaken, eg the provision of high voltage power supply to a number of the construction sites.

- a. Where the requirement for an additional environmental assessment is identified, this will be undertaken prior to undertaking any physical works. The environmental assessment will include:
  - i. A description of the existing surrounding environment.
  - ii. Details of the ancillary works and construction activities required to be carried out including the hours of works.
  - iii. An assessment of the environmental impacts of the works, including, but not necessarily limited to, traffic, noise and vibration, air quality, soil and water, ecology and heritage.
  - iv. Details of mitigation measures and monitoring specific to the works that would be implemented to minimise environmental impacts.
  - v. Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).

3.6 Existing Condition Surveys

- a. Principal Contractors will offer condition surveys, in writing, to all relevant land and infrastructure owners (those where the works have potential to cause cosmetic or structural damage). If accepted, the Principal Contractor must produce a comprehensive written and photographic condition report prior to relevant works commencing.

3.7 Register of Hold Points

- a. TfNSW and NWRL Principal Contractors will identify hold points, beyond which approval is required to proceed with a certain activity. Examples activities include vegetation removal and water discharge. Hold points will be documented in relevant CEMPs.
- b. **Table 1.4** provides the structure for the register of hold points as well as a preliminary list of hold points which will be implemented.

Table 1.4 Preliminary Register of Hold Points

Hold Point	Release of Hold Point	By Who
Prior to Vegetation Clearing / Ground Disturbance	Pre-clearing inspection	Qualified Ecologist
	Erosion and sediment control plan	Contractor’s Environmental Manager or delegate
Discharge of water	Water tested to verify compliance and approval to discharge	Contractor’s Environmental Manager or delegate

3.8 Training, Awareness and Competence

- a. NWRL Principal Contractors will be responsible for determining the training needs of their personnel. As a minimum this will include site induction, regular toolbox talks and topic specific environmental training as follows:
  - i. The site induction will be provided to all site personnel and will include, as a minimum:
    - Training purpose, objectives and key issues.
    - Contractor’s environmental policy and key performance indicators.
    - Due diligence, duty of care and responsibilities.
    - Relevant conditions of any environmental licence and the relevant conditions of approval.
    - Site specific issues and controls including those described in the environmental procedures.
    - Reporting procedure for environmental hazards and incidents.
    - Communication protocols.
  - ii. Toolbox talks will be held on a regular basis in order to provide a project or site wide update, including any key or recurring environmental issues.
  - iii. Topic specific environmental training, eg erosion and sediment control training, will be undertaken for relevant site personnel as determined by the Principal Contractor.

3.9 Emergency and Incident Response

- a. NWRL Principal Contractors will develop and implement a Pollution Incident Response Management Plan, in accordance with the requirements of the POEO Act. Contractors’ emergency and incident response procedures will be in accordance with any TfNSW procedures and will include:
  - i. Categories for environmental emergencies and incidents.
  - ii. Notification protocols for each category of environmental emergency or incident, including notification of TfNSW and notification to owners / occupiers in the vicinity of the incident. This is to include relevant contact details.
  - iii. Procedures for the immediate notification of each relevant authority when the incident results in material harm to the environment.
  - iv. Identification of personnel who have the authority to take immediate action to shut down any activity, or to affect any environmental control measure (including as directed by an authorised officer of the EPA).
  - v. On-site rectification actions.
- b. The Contractor will make all personnel aware of the plan and their responsibilities.

3.10 Roles and Responsibilities

- a. TfNSW will be the proponent of the works and will retain responsibility for:
  - i. The provision of contracts and procurement of Principal Contractors. The procurement of Contractors will consider past environmental performance and proposed environmental management system.
  - ii. Undertaking regular audits, of the Contractors against their environmental obligations.
- b. Additionally TfNSW will engage independent Environmental Representatives (ERs) to undertake the following, along with any additional roles as required by the project approval conditions:
  - i. Review, provide comment on and endorse (where required) any relevant environmental documentation to verify it is prepared in accordance with relevant environmental legislation, planning approval conditions and relevant standards.
  - ii. Monitor and report on the implementation and performance of the above mentioned documentation and other relevant documentation.
  - iii. Provide independent guidance and advice to TfNSW and the Contractors in relation to environmental compliance issues and the interpretation of planning approval conditions.
  - iv. Be the principal point of advice for the DP&I in relation to all questions and complaints concerning the environmental performance of the project.
  - v. Ensure that environmental auditing is undertaken in accordance with all relevant project requirements.
  - vi. Recommend reasonable steps, including ‘stop works’, to be taken to avoid or minimise adverse environmental impacts.
- c. NWRL Principal Contractors will be responsible for all aspects of environmental management relevant to their scope of works. This will include:
  - i. Development and implementation of the Environmental Management and Sustainability System, Construction Environmental Management Plan, sub-plans and procedures.
  - ii. Compliance with the environmental considerations of the contract and this Construction Environmental Management Framework.
  - iii. Obtaining all necessary approvals, permits and licences required for its works (in addition the planning approval).
  - iv. Compliance with relevant approval, permit, licence and legislative conditions.
- d. Principal Contractors must employ an Environmental Manager with relevant experience.
- e. All sub-contractors engaged by the Principal Contractor will be required to operate within the EMS documentation of that Principal Contractor.



### 3.11 Environmental Monitoring, Inspections and Auditing

- a. NWRL Principal Contractors will develop and implement procedures to ensure the works are compliant with the environmental considerations of the contract documentation, the project approval, and all other permits and licences.
- b. Issue specific environmental monitoring will be undertaken as required by the subsequent sections of this Construction Environmental Management Framework or as additionally required by approval, permit or licence conditions.
- c. The results of any monitoring undertaken as a requirement of the EPL will be published on the Principal Contractor's, or a project specific, website within 14 days of obtaining the results.
- d. Environmental inspections will include:
  - i. Surveillance of environmental mitigation measures by the Site Foreman. This will be documented in the Foreman's Site Diary.
  - ii. Periodic inspections by the Principal Contractor's Environmental Manager (or delegate) to verify the adequacy of all environmental mitigation measures. This will be documented in a formal inspection record.
  - iii. Regular site inspections by the ERs at a frequency to be agreed with the Principal Contractor.
- e. NWRL Principal Contractors will be required to undertake internal environmental audits of their EMS. Internal audits will include:
  - i. Compliance with approval, permit and licence conditions.
  - ii. Compliance with the Contractor's EMS, CEMP, sub-plans and procedures.
  - iii. Community consultation and complaint response.
  - iv. Environmental training records.
  - v. Environmental monitoring and inspection results.
- f. TfNSW (or its representative) will also undertake periodic audits of the Principal Contractors' EMS and compliance with the environmental aspects of contract documentation, including this Construction Environmental Management Framework. As a minimum this will occur annually.
- g. Mandatory audits may also be required by the EPA if the EPA reasonably suspects that an activity has been or is being carried out by the EPL holder in an environmentally unsatisfactory manner.

### 3.12 Environmental Non-conformances

- a. NWRL Principal Contractors will document and detail any non-conformances arising out of the above monitoring, inspections and audits. TfNSW will be made aware of all non-conformances in a timely manner.
- b. Principal Contractors will develop and implement corrective actions to rectify the non-conformance and preventative actions in order to prevent the re-occurrence of the non-conformance. Contractors will also maintain a register non conformances, corrective actions and preventative actions.

### 3.13 Environmental Records and Compliance Reporting

- a. NWRL Principal Contractors will maintain appropriate records of the following:
  - i. Site inspections, audits, monitoring, reviews or remedial actions.
  - ii. Documentation as required by performance conditions, approvals, licences and legislation.
  - iii. Modifications to site environmental documentation (eg CEMP, sub-plans and procedures).
  - iv. Other records as required by this Construction Environmental Management Framework.
- b. Records will be retained onsite for the duration of works.
- c. Additionally records will be retained by the Principal Contractor for a period of no less than 7 years in total. Records will be made available in a timely manner to TfNSW (or their representative) upon request.
- d. Compliance reports regarding each internal and external audit (refer to Section 3.113.11) will be undertaken. Compliance reports will be produced by the Principal Contractor's Environmental Manager or delegate and submitted to TfNSW.

### 3.14 Review and Improvement of the CEMP

- a. NWRL Contractors will ensure the continual review and improvement of the CEMP, sub-plans and procedures. This will generally occur in response to:
  - i. Issues raised during environmental monitoring, inspections and audits.
  - ii. Significant environmental incidents.
  - iii. Environmental non-conformances.
- b. A formal review of the CEMP and sub-plans by the Principal Contractor's management team will also occur on a six monthly basis, as a minimum.

## 4 Stakeholder and Community Involvement

### 4.1 Overview

- a. Throughout construction, TfNSW and the Principal Contractors will work closely with stakeholders and the community to ensure they are well informed regarding the construction works.
- b. Stakeholders and the community will be informed of significant events or changes that affect or may affect individual properties, residences and businesses. These will include:
  - i. Significant milestones.
  - ii. Design changes.
  - iii. Changes to traffic conditions and access arrangements for road users and the affected public.
  - iv. Construction operations which will have a direct impact on stakeholders and the community including noisy works, interruptions to utility services or construction work outside of normal work hours.
- c. A Community Information Centre for the NWRL project is located at 299 Old Northern Road, Castle Hill (ph 1800 019 989, website [www.northwestrail.com.au](http://www.northwestrail.com.au)) and will be kept informed of key construction information of relevance to stakeholders and the community.

### 4.2 Communication and Consultation Strategy

- a. This communication and consultation strategy will form the basis of a Stakeholder and Community Involvement Plan which will be developed by the NWRL Contractors.
- b. Key elements of the communication and consultation strategy which will be implemented at appropriate times in the construction process will include:
  - i. Notification (including targeted letterbox drops, email and SMS) of any works that may disturb local residents and businesses (such as noisy activities and night works) at least seven days prior to those works commencing.
  - ii. Notification (including targeted letterbox drops) of works that may affect transport (such as road closures, changes to pedestrian routes and changes to bus stops).
  - iii. Traffic alerts (via email) to all key traffic and transport stakeholders advising of any changes to access and local traffic arrangements (at least seven days prior to significant events).
  - iv. Print and radio advertisements regarding major traffic changes.
  - v. 24-hour toll-free community project information phone line.
  - vi. Complaints management process.
  - vii. Regular community information sessions.
  - viii. Regular updates to the NWRL website ([www.northwestrail.com.au](http://www.northwestrail.com.au)), including uploading of all relevant documents, and contact details for the stakeholder and community involvement team.
  - ix. Public displays, local events and open days.
  - x. Assistance to the NWRL Community Information Centre in provision of regular community newsletters, information brochures and fact sheets and ongoing use of interactive web-based activities.
  - xi. Clear signage at the construction sites and construction updates on the hoardings at construction sites.
  - xii. Media releases and regular newspaper advertisements in local and metropolitan papers.

- xiii. Regular inter-agency group meetings.
- xiv. Community, business and stakeholder satisfaction surveys and feedback forms.
- xv. Translator and interpreter services.
- xvi. The Principal Contractor's Community Relations Team will liaise with the TfNSW Place Managers as the point of contact for the community.

### 4.3 Complaint Handling

- a. Community liaison and complaints handling will be undertaken in accordance with the Construction Stakeholder and Community Involvement Plan and will include:
  - i. NWRL Principal Contractors will deal with complaints in a responsive manner so that stakeholders' concerns are managed effectively and promptly.
  - ii. A verbal response will be provided to the complainant as soon as possible and within a maximum of two hours from the time of the complaint (unless the complainant requests otherwise). A detailed written response will then be provided, if required, to the complainant within one week.

### 4.4 Urban Design of Temporary Works

- a. NWRL Principal Contractors will develop and implement a Landscape and Temporary Works Management Plan for their scope of works. The Landscape and Temporary Works Management Plan will ensure as a minimum:
  - i. Temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including:
    - ii. Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations.
    - iii. Project information to raise awareness of the NWRL and its benefits, explain the proposed works at each site and provide updates on construction progress.
    - iv. Community information, including contact numbers for enquiries / complaints.
    - v. Signage and information to mitigate impacts on local businesses which may be obscured by the construction site.
    - vi. NWRL advertising / public awareness campaigns.
    - vii. Logos / branding, including NWRL, NSW Government, and Contractor branding.
- b. The design of all temporary works will require TfNSW approval in relation to urban design and visual impacts.
- c. Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly.
- d. The principles of *Crime Prevention Through Environmental Design* will be applied to all works, including temporary works, that have a public interface.

4.5 Business and Property Impacts

- a. NWRL Principal Contractors will proactively work with potentially affected stakeholders to identify the likely impacts and put in place measures to minimise impacts.
- b. Construction works will be undertaken to meet the following objectives:
  - i. Minimise the potential impact of the project to the operation of businesses affected by NWRL works.
  - ii. Ensure businesses are kept informed of the project and consulted in advance of major works or factors that are likely to have a direct impact.
  - iii. Consult with all business directly affected by changes to access arrangements regarding specific requirements at least two weeks prior to those changes coming into affect.
  - iv. Ensure that business stakeholder enquiries and complaints regarding the project are managed and resolved effectively.
- c. NWRL Principal Contractors will develop and implement a Business Management Plan (BMP). The Business Management Plan will document key issues by locality with a particular focus on proactive consultation with affected businesses. The Business Management Plan will include:
  - i. Identification of specific businesses which are sensitive to construction activity disturbances.
  - ii. Summary of the commercial character of the locality, its general trading profile (daily and annually) and information gained from the business profiling such as:
    - Operating hours.
    - Main delivery times.
    - Reliance on foot traffic.
    - Any signage or advertising that may be impacted.
    - Customer origin.
    - Other information specific to the business that will need to be considered in construction planning.
  - iii. Define the roles and responsibilities in relation to the control and monitoring of business disturbances.
  - iv. Identification of locality specific standard business mitigation measures which would be implemented.
  - v. Maps and diagrams to illustrate the information for easy identification of measures which would be implemented.
  - vi. Description of the monitoring, auditing and reporting procedures.
  - vii. Procedure for reviewing performance and implementing corrective actions.
  - viii. Description of the complaints handling process.
  - ix. Procedure of community consultation and liaison.

5 General Site Operations

5.1 Working Hours

- a. The majority of the station and above ground construction activities will be undertaken between 7am – 6pm on weekdays and 8am – 1pm on Saturdays.
- b. Some activities will need to be undertaken outside these hours (as identified in **Table 1.5**).
- c. As the TBMs operate continuously, the tunnelling works and associated support activities will be undertaken up to 24 hours per day and seven days per week.

Table 1.5 Proposed Construction Hours

Activity	Construction Hours	Comments or Exceptions
Underground Construction Activities		
Tunnelling works by TBM, roadheader or excavator with rock hammer.	24 hours per day, seven days per week	Some activities that support tunnelling works may need to occur 24 hours per day, up to seven days per week.  Rock hammering in the tunnel between 10pm and 7am would be precluded where it may impact on sensitive noise receivers.
Above ground Construction Activities		
Construction Sites	7am–6pm on weekdays	The following activities would be expected to be undertaken 24 hours per day, up to seven days per week where noise impact management measures have been established: <ul style="list-style-type: none"><li>❖ Surface works supporting underground construction (eg concrete pumping, truck loading).</li><li>❖ Excavation and spoil removal from station entry shafts over two shifts.</li><li>❖ Norwest Station excavation in order to minimise traffic impacts to Norwest Boulevard.</li></ul> Non-disruptive preparatory work, repairs or maintenance may be carried out on Saturday afternoons between 1pm and 5pm or Sundays between 8am and 5pm.  Activities requiring the temporary possession of roads may need to be undertaken outside the assumed hours during periods of low demand to minimise safety impacts and inconvenience to commuters.  Activities requiring rail possessions may need to be undertaken outside the standard construction hours up to 24 hours per day, seven days per week.
	8am–1pm on Saturdays	
	No works on Sundays or Public Holidays	



Activity	Construction Hours	Comments or Exceptions
Construction Traffic	24 hours per day, seven days per week	Restrictions would be in place during peak hours and during special events.  At locations where sensitive noise receivers are close to construction sites, significant construction vehicle movements are likely to be restricted during evening and night-time periods.

- d. Other works which can be undertaken outside of standard construction hours without any further approval include:
  - i. Works which are determined to comply with the relevant Noise Management Level at the nearest sensitive receiver.
  - ii. Works required to be undertaken during rail possessions.
  - iii. The delivery of materials outside of approved hours as required by the Police or other authorities (including RMS) for safety reasons.
  - iv. Where it is required to avoid the loss of lives, property and / or to prevent environmental harm in an emergency.
  - v. Where written agreement is reached with all affected receivers.
- e. With the exception of emergency and tunnelling works, activities will not take place outside standard hours without prior discussion with and / or notification of local residents, businesses and the OEH / EPA.

5.2 Site Layout

- a. NWRL Principal Contractors will consider the following in the layout of construction sites:
  - i. The location of noise intensive works and 24 hour activities in relation to noise sensitive receivers.
  - ii. The location of site access and egress points in relation to noise and light sensitive receivers, especially for sites proposed to be utilised 24 hours per day.
  - iii. The use of site buildings to shield noisy activities from receivers.
  - iv. The use of noise barriers and / or acoustic sheds where feasible and reasonable for sites proposed to be regularly used outside of daytime hours.
  - v. Aim to minimise the requirement for reversing, especially of heavy vehicles.

5.3 Reinstatement

- a. Mitigation measures for reinstatement will be produced in consultation with TfNSW, the community and stakeholders.
- b. Mitigation measures required for reinstatement will be incorporated into the CEMP and will include as a minimum:
  - i. NWRL Contractors will clear and clean all working areas and accesses at project completion.
  - ii. At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site.
  - iii. All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be made good.
  - iv. Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.

6 Spoil



Photo courtesy of Roads and Maritime Services.

6.1 Spoil Management Objectives

- a. The following spoil management objectives will apply to the construction of the project:
  - i. The beneficial reuse of spoil from the project will target 100 per cent reuse or recycling (on or off-site) of usable spoil.
  - ii. Spoil will be managed with high consideration to minimising adverse traffic and transport related issues.
  - iii. Potential contamination of land or water from contaminated spoil will be avoided.
  - iv. Spoil will be managed with consideration of the impacts on residents and other sensitive receivers.
  - v. Site contamination will be effectively managed to limit the potential risk to human health and the environment.

6.2 Spoil Management Implementation

- a. NWRL Principal Contractors will develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan will include as a minimum:
  - i. The spoil mitigation measures as detailed in the environmental approval documentation.
  - ii. The responsibilities of key project personnel with respect to the implementation of the plan.
  - iii. Spoil management monitoring requirements.
  - iv. Compliance record generation and management.

- b. Spoil management measures will be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These will include:
  - i. Records of inspections in relation to spoil management.
  - ii. Records detailing the beneficial re-use of spoil either within the project or at off site locations.
  - iii. Waste dockets for any spoil disposed of to landfill sites (refer to Section 17.2 for more detail).

6.3 Spoil Mitigation

Examples of spoil mitigation measures include:

- ❖ Implementing the spoil re-use hierarchy.
- ❖ Handling spoil to minimise potential for air or water pollution.
- ❖ Minimise traffic impacts associated with spoil removal.

7 Groundwater

7.1 Groundwater Management Objectives

- a. The following groundwater management objectives will apply to the construction of the project:
  - i. Reduce the potential for drawdown of surrounding groundwater resources.
  - ii. Prevent the pollution of groundwater through appropriate controls.
  - iii. Reduce the potential impacts of groundwater dependant ecosystems.

7.2 Groundwater Management Implementation

- a. NWRL Principal Contractors will develop and implement a Groundwater Management Plan for their scope of works. The Groundwater Management Plan will include as a minimum:
  - i. The groundwater mitigation measures as detailed in the environmental approval documentation.
  - ii. The requirements of any applicable licence conditions. The NSW Office of Water will be consulted during the development of the Groundwater Management Plan in relation to dewatering and licensing arrangements.
  - iii. The responsibilities of key project personnel with respect to the implementation of the plan.
  - iv. Procedures for the treatment, testing and discharge of groundwater from the site.
  - v. A groundwater monitoring plan.
  - vi. Compliance record generation and management.
- b. The Groundwater Monitoring Plan will:
  - i. Outline the parameters to be monitored (field parameters and laboratory parameters) and the sample frequency.
  - ii. Include details of a groundwater monitoring network to monitor groundwater levels and groundwater quality throughout the constriction phase. The groundwater monitoring network will contain monitoring wells along the whole NWRL route intersecting groundwater in both the Ashfield Shale and Hawkesbury Sandstone.
- c. NWRL Contractors will retain compliance records of all groundwater monitoring undertaken.

7.3 Groundwater Mitigation

Examples of groundwater mitigation measures include:

- ❖ Implementing all feasible and reasonable measures to limit groundwater inflows to stations and crossovers.
- ❖ Undertaking groundwater monitoring during construction (levels and quality) in areas identified as ‘likely’ and ‘potential’ groundwater dependant ecosystems.