Construction Environmental Management Plan - Stage B Network

Googong Township Integrated Water Cycle Project

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IMPORTANT NOTE

Document Status

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4.0	*Approved CEMP updated by Guideline ACT*	*MF*	*RS*	*17/11/2014*
5.0	*Updated incident reporting flowchart and construction footprint.*	*KB*	*RS*	*19/12/2014*
6.0	*Scope of works change with additional pipeline works (lead-in sewer line) are part of the sewer reticulation network for the subdivision included into GLA package. See page 24*	*MF*	*RS*	*18-02-2015*
7.0	*Update of contact details of the Independent Environmental Representative (IER) and the Department of Planning and Environment.*	*CW*	*KB*	*27/04/15*
8.0	*Update of contact details of site superintendent and environmental constraints map*	*MF*	*KB*	*17/7/15*

Approval for Issue

Name	Signature	Date
Rob Salisbury		18/08/2014

Distribution of controlled copies

Copy no.	Issued to	Version
1	Googong Township Pty Ltd	*8*
2	Environmental Representative	*8*
3	*Guideline ACT*	*8*
4	Department of Planning and Environment ~~Infrastructure~~	*8*

Acronyms and glossary

Acronym	Meaning
BWPS	Bulk water pumping station
CEMP	Construction Environmental Management Plan
CIC	Canberra Investment Corporation
CoA	Minister for Planning's Condition of Approval
DoE	Department of the Environment (Cth)
DP&E~~I~~	Department of Planning and Environment ~~Infrastructure~~(NSW)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now referred to as the Department of the Environment)
EA	Environmental Assessment
EEC	Endangered Ecological Community
EPA	Environment Protection Agency
EPL	Environment Protection Licence
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*
ER	Environmental Representative
EWMS	Environmental work method statement
GTPL	Googong Township Proprietary Limited
IWC	Integrated Water Cycle
NH1A	Neighbourhood 1A
NOW	NSW Office of Water
OEH	Office of Environment and Heritage (NSW)
OEMP	Operation Environmental Management Plan
PIRMP	Pollution Incident Response Management Plan
POELA Act	*Protection of the Environment Legislation Amendment Act 2011*
POEO Act	*Protection of the Environment Operations Act 1997*
QCC	Queanbeyan City Council
SoC	Statement of Commitments
SPS	Sewage pumping station
WRP	Water recycling plant

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1.0 Introduction

1.1 Background

Googong Township Proprietary Limited (GTPL) – a partnership between Canberra Investment Corporation (CIC) and Mirvac, is responsible for the development of the new Googong Township that will be located in the Canberra region, around seven kilometres south of Queanbeyan in NSW. The new Googong Township will be home to about 16,000 people and developed over the next 25 years. The township is designed around an integrated water cycle (IWC), with a dedicated water recycling plant (WRP) that will reduce the consumption of potable water in the community by around 60 per cent and recycle the township's water for non-potable use.

The Googong Township Water Cycle Project Environmental Assessment (November, 2010) (EA) was prepared under (the now repealed) Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) to assess the impacts of construction and operation of infrastructure for the potable water, recycled water and sewage systems required to service the township.

Concept Approval for the ultimate development (Stage 1 and Stage 2) and a Project Approval for Stage 1 of the Googong Township IWC Project were granted by the NSW Planning Assessment Commission, under delegation from the Minister for Planning and Infrastructure on 24 November 2011.

The Googong Township IWC Project is being constructed and operated in stages to ensure the infrastructure is correctly sized to meet the incremental level of demand. Stage 1 of the IWC Project comprises new infrastructure to deliver potable drinking water to the township, treat wastewater and utilise recycled water for re-use in the township and for environmental discharge.

The development of Neighbourhood 1A (NH1A) is approved by Queanbeyan City Council (QCC) under Part 4 of the EP&A Act. NH1A includes construction of the subdivision and associated infrastructure including stormwater, roads, civil works and utilities. The Part 4 development has been managed under separate Construction Environmental Management Plans (CEMPs).

1.2 Construction staging

Stage 1 of the IWC Project (as approved) comprises the following infrastructure:

- A water recycling plant (WRP).
- Two temporary reservoirs for recycled and potable water.
- Four pumping stations including two sewage pumping stations, one bulk water pumping station (BWPS) and one recycled water pumping station.
- Mains pipework (including rising and distribution mains) for sewage, recycled water and potable water to connect to NH1A.
- Rising and distribution mains for sewage, recycled water and potable water.

Construction of Stage 1 will be carried out in three sub-stages. A Staging Report has been prepared in accordance with the requirements of Condition of Approval (CoA) A5 to detail the stages and identify the relevant CoA for each stage, and how these will be addressed across and between the stages.

As per the Staging Report, construction of Stage 1 will take place over the following sub-stages:

- Stage A – Network (west) and Stage A – Network (east) (to be completed in early 2014).
- Stage AB – WRP (to commence in mid 2014).
- Stage B – Network (subject of this CEMP).

In relation to staging, CoA A6 allows GTPL to submit any strategy, plan or program required by the approval on a progressive basis, with the approval of the Director-General. In accordance with CoA A6 and the Staging Report, this CEMP has been prepared for the construction of Stage B Network.

Note that Stage A – Network (west), Stage A – Network (east) and Stage AB WRP have been delivered by separate contractors, and managed through separate and stage-specific CEMPs.

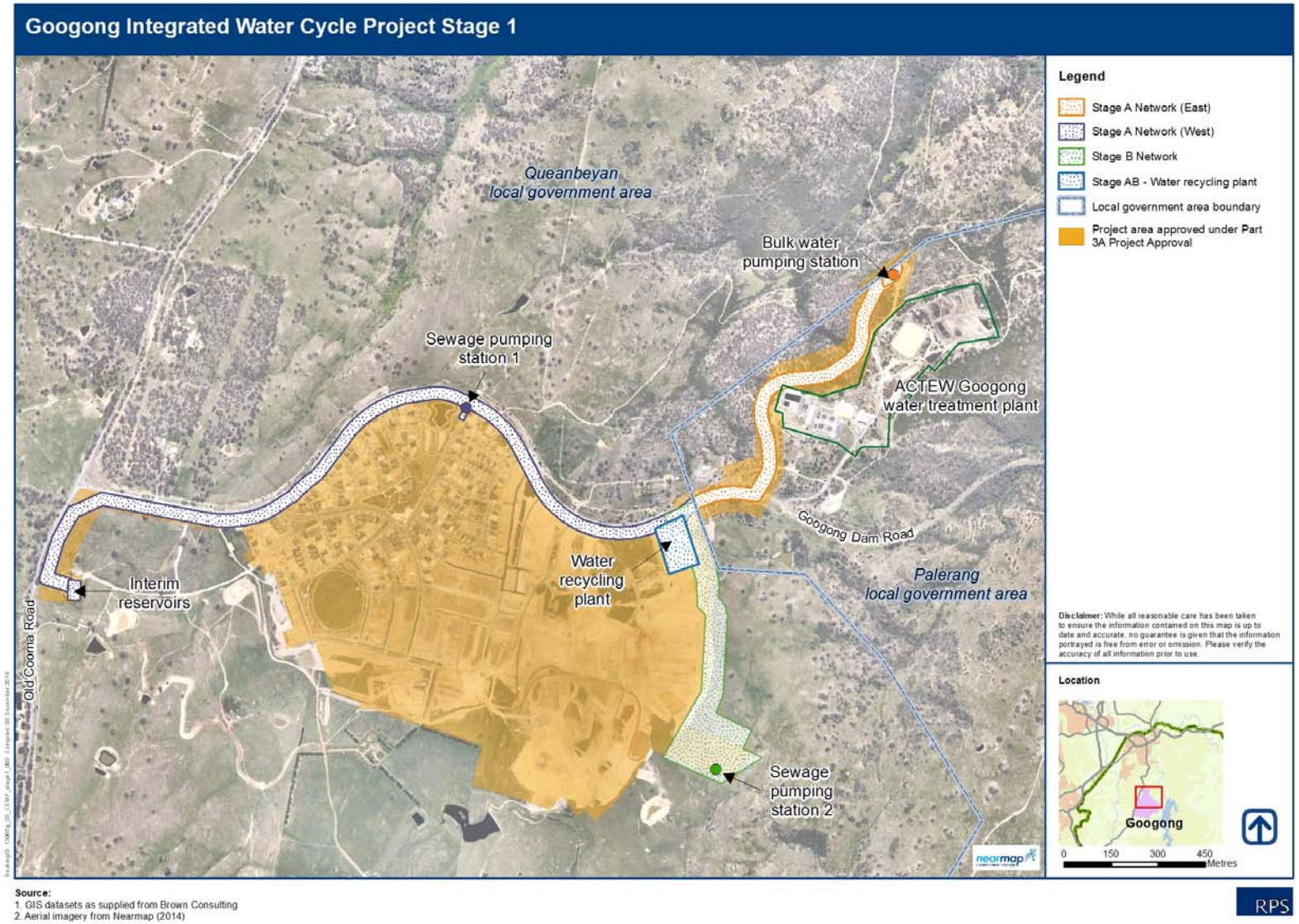


Figure 1 Googong Township IWC Project – Stage 1 [updated construction footprint]

1.3 Purpose of this document

The approval of the IWC Project is subject to a number of Conditions of Approval (CoA) including CoA A1, which states that the Proponent shall carry out the project generally in accordance with the EA, Statement of Commitments (SoC) and CoA.

As per CoA C19, this CEMP has been developed for the construction of Stage B Network. As outlined in CoA A5, where staging occurs, the conditions of approval need only be complied with to the extent that they are relevant to that discrete stage. This CEMP references those CoA and SoC relevant to the construction of Stage B Network.

In particular, Table 1 and Table 2 outline the CoA and SoC relating to the preparation of a CEMP and where such conditions have been addressed in this CEMP, management plans or other project documents. CoA and SoC relating to a particular issue (e.g. heritage, flora and fauna) have been considered in more detail in the management plans appended to this CEMP.

The purpose of this CEMP is to provide an approach to the management of environmental issues during construction of Stage B Network, and to ensure that the requirements of the CoA are met. The CEMP is the overarching document in the environmental management system that includes a number of documents and plans (refer Section 1.6).

This CEMP has been prepared in accordance with the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004). It is also generally consistent with AS/NZS ISO 14001.

A contractor, appointed by GTPL, will carry out the construction of Stage B Network. Unless otherwise identified, the contractor will be responsible for the ongoing review and implementation of this CEMP and related environmental documents based on detailed construction information.

This CEMP and associated documents will be made available, and are applicable, to all employees and persons involved in construction of Stage B Network, including relevant sub-contractors.

Table 1 CoA requirements for the CEMP

CoA No.	Requirement	Reference
A7	The Proponent shall ensure that all licences, permits and approvals are obtained and maintained as required throughout the life of the project. No condition of this approval removes the obligation of the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the project.	Section 3.2 Appendix 12
A8	The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.	Section 5.0
A11	The detailed design and construction of the project shall be undertaken in consultation with Council and include consideration of Councils' requirements, in relation, but not limited to: (a) project staging, easements and certification, (b) site access, parking and servicing, (c) safety, security, facilities and amenities, (d) site and infrastructure maintenance, and (e) design and development specifications, including relevant Australia and Council codes, standards and specifications.	Section 1.4 Section 6.3

CoA No.	Requirement	Reference
A12	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: ▪ Under Part 4 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and ▪ Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.	Section 3.1 Section 3.2 Appendix 12
A13	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.	This Plan and environmental management documents identified in Section 1.6
C1	Prior to the commencement of construction of the project, the Proponent shall clearly define work areas (including access trails) using the measures outlined in the CEMP under condition C19. All on-site construction movements shall be restricted to these areas to prevent uncontrolled or inadvertent access by vehicles or construction personnel.	Section 2.3 Appendix 2
C18	The Proponent shall act on all recommendations made by the Environmental Representative(s) as soon as practicable, unless otherwise agreed by the Director-General. If the Proponent chooses not to implement recommendations of the Environmental Representative(s), it shall provide written justification of the alternate course of action to the satisfaction of the Director-General within 7 days of receiving the recommendation from the Environmental Representative(s).	Section 8.1
C19	Prior to the commencement of construction, the Proponent shall prepare and implement a Construction Environmental Management Plan (CEMP) to outline environmental management practices and procedures to be followed during construction of the project. The Plan shall be consistent with the Guideline for the Preparation of Environmental Management Plans (DIPNR 2004, or its latest revision) and shall include, but not necessarily be limited to:	This Plan
	(a) a description of all relevant activities to be undertaken on the site during construction, including stages of construction where relevant;	Section 2.0
	(b) details of measures to clearly define work areas (including access trails) using a combination of posts, fencing or markers, and suitably marked up maps, as appropriate.	Section 2.3
	(c) details of mitigation, management and rehabilitation measures specific to the site that would be implemented, including but not limited to the requirements identified in the documents referred to under condition A1;	This Plan and environmental management documents identified in Section 1.6
	(d) statutory and other obligations that the Proponent is required to fulfil during construction including all relevant approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;	Section 3.1 and 3.2 Appendix 12
	(e) a description of the roles and responsibilities for all relevant employees and contractors involved in the construction of the project;	Section 4.1
	(f) a description of relevant training and induction provisions for ensuring that all employees, contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;	Section 5.0
	(g) measures to monitor and manage dust emissions, including dust generated by traffic on unsealed public roads and unsealed internal access tracks;	Air Quality Management Plan (Appendix 8)

CoA No.	Requirement	Reference
	(h) details of actions to be taken to address identified potential adverse environmental impacts;	Section 7.0
	(i) details of how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified potential adverse environmental impacts	Section 8.0
	(j) a complaints handling procedure during construction; and	Section 6.3 Complaints Management Procedure
	(k) procedures for the update of the Construction Environmental Management Plan as necessary.	Section 1.8 Section 9.1
	The CEMP shall be prepared in consultation with the relevant authorities and Councils, and submitted for the approval of the Director-General no later than one month prior to the commencement of any construction works associated with the project, or as otherwise agreed by the Director-General. Construction works shall not commence until written approval has been received from the Director-General.	Section 1.4
C20(a)	(a) a Soil and Water Management Plan to manage water quality impacts and to minimise soil erosion and the discharge of sediments and other pollutants to lands and/or waters during construction. The Plan shall be prepared in consultation with OEH and Councils and shall include, but not necessarily be limited to:	Soil and Water Management Plan (Appendix 1)
	(i) detailed engineering designs for the recycled water discharge structure;	Soil and Water Management Plan (Appendix 1)
	(ii) detailed engineering designs and rehabilitation methodology for each category of watercourse crossing;	Soil and Water Management Plan (Appendix 1)
	(iii) a description of the quantity and source of all water supplies relating to construction, hydro-testing and operation;	Soil and Water Management Plan (Appendix 1)
	(iv) a description of any dewatering activities associated with groundwater interception and measures to minimise the impacts associated with dewatering activities, including the disposal or reuse of water;	Soil and Water Management Plan (Appendix 1)
	(v) details on potential occurrence of expansive soils and saline areas within the project site and management and mitigation measures;	Soil and Water Management Plan (Appendix 1)
	(vi) details of the measures to mitigate the risk of impacting the local groundwater recharge levels (such as the planning of construction works during dry periods and the employment of construction techniques which aim to shorten the time the trenches are left open);	Soil and Water Management Plan (Appendix 1)
	(vii) a description of measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, including progressive rehabilitation;	Soil and Water Management Plan (Appendix 1)
	(viii) monitoring of impacts on water quality and soils;	Soil and Water Management Plan (Appendix 1)

CoA No.	Requirement	Reference
C20(b)	(b) a Hazards, Risk and Safety Management Plan to address:	Hazards, Risk and Safety Management Plan (Appendix 2)
	(i) the safety of construction workers in the event of a flood, bushfire and any other likely hazard or risk;	Hazards, Risk and Safety Management Plan (Appendix 2)
	(ii) the management of the risk of fuel spillages and associated activities, with respect to potential groundwater contamination, including an description of designated fuel distribution points;	Hazards, Risk and Safety Management Plan (Appendix 2)
	(iii) the safety of the public (such as bushwalkers) near the site during construction, such as installation of signage and fencing as necessary;	Hazards, Risk and Safety Management Plan (Appendix 2)
C20(c)	(c) a Traffic Management Protocol to outline the management of traffic impacts that may occur during construction of the project. The Plan shall be developed in consultation with Councils, the RTA and any other relevant road authority and shall include, but not necessarily be limited to:	Traffic Management Protocol (Appendix 3)
	(i) details of traffic routes for heavy vehicles, including any necessary route or timing restriction for oversized loads;	Traffic Management Protocol (Appendix 3)
	(ii) measures to verify the condition of roads used by construction vehicles prior to and following construction;	Traffic Management Protocol (Appendix 3)
	(iii) details of how the construction of project infrastructure will be managed in proximity to local and regional roads and with respect to sensitive receivers located in close proximity to these roads (such as maintaining access to property) and any other concurrent works occurring in close proximity to the project, such as the Googong Dam Spillway Remediation Works;	Traffic Management Protocol (Appendix 3)
	(iv) detailed consideration of measures to be employed to ensure traffic volumes and acoustic and amenity impacts along heavy vehicle routes are minimised;	Traffic Management Protocol (Appendix 3)
	(v) details of requirements to restore roads used for the construction of the project, including Old Cooma Road and Googong Dam Road; and	Traffic Management Protocol (Appendix 3)
	(vi) demonstration that all statutory responsibilities with regard to road traffic impacts have been complied with;	Traffic Management Protocol (Appendix 3)
C20(d)	(d) a Noise and Vibration Management Plan to identify measures to monitor and manage noise and vibration and to identify all feasible and reasonable noise and vibration mitigation measures. The Plan shall be developed in consultation with OEH and Queanbeyan City Council and include, but not necessarily be limited to:	Noise and Vibration Management Plan (Appendix 4)
	(i) the identification all potentially affected sensitive receivers (such as future residents of the Googong township due to the undertaking of final works associated with the water recycling plant), and noise management levels;	Noise and Vibration Management Plan (Appendix 4)
	(ii) a review of the assumptions made in Appendix J of the EA to the final determined construction noise levels;	Noise and Vibration Management Plan (Appendix 4)
	(iii) details of the measures to avoid and/or mitigate the actual noise levels, including the noise mitigation measures identified under section 13.4.4 of the EA;	Noise and Vibration Management Plan (Appendix 4)

CoA No.	Requirement	Reference
	(iv) an assessment, if blasting is proposed, to calculate the maximum instantaneous charge (MIC) able to be used in order to meet amenity-based ground vibration and overpressure criteria in condition C12;	Noise and Vibration Management Plan (Appendix 4)
	(v) details of the consultation process for noise mitigation measures with any affected sensitive receivers; and	Noise and Vibration Management Plan (Appendix 4)
	(vi) details of noise monitoring to be undertaken to manage potentially elevated noise levels;	Noise and Vibration Management Plan (Appendix 4)
C20(e)	(e) a Flora and Fauna Management Plan to outline measures to protect, and minimise the loss of, terrestrial, riparian and aquatic native vegetation and native fauna habitat as a result of construction of the project. The Plan shall be prepared in consultation with OEH, DSEWPaC (now known as DoE) and Queanbeyan City Council, and include, but not necessarily be limited to:	Flora and Fauna Management Plan (Appendix 5)
	(i) procedures for pre-construction surveys to identify key flora and fauna features within and adjacent to the construction area;	Flora and Fauna Management Plan (Appendix 5)
	(ii) procedures to accurately determine the total area, type and condition of vegetation community to be cleared;	Flora and Fauna Management Plan (Appendix 5)
	(iii) plan/s showing terrestrial vegetation communities, important flora and fauna habitat areas, EECs, threatened species (Hoary Sunray Leucochrysum albicans var. tricolor, Speckled Warbler Chthonicola sagittata and Pink-tailed Legless Lizard Aprasia parapulchella), weeds and areas to be cleared. The plans shall also identify vegetation adjoining the site which contains important habitat areas and/or threatened species, populations or ecological communities;	Flora and Fauna Management Plan (Appendix 5)
	(iv) methods to avoid and manage potential impacts on flora and fauna species and their habitat which may be directly or indirectly affected by the project, such as location of fencing to exclude access to sensitive areas, procedures for vegetation clearing or soil removal/stockpiling and procedures for re-locating hollows or installing nesting boxes and managing weeds;	Flora and Fauna Management Plan (Appendix 5)
	(v) measures for conserving and reusing topsoil;	Flora and Fauna Management Plan (Appendix 5)
	(vi) procedures to be implemented for controlling weeds and feral pests;	Flora and Fauna Management Plan (Appendix 5)
	(vii) rehabilitation details and success criteria;	Flora and Fauna Management Plan (Appendix 5)
	(viii) a program for reporting on the effectiveness of flora and fauna management measures; and	Flora and Fauna Management Plan (Appendix 5)
	(ix) a procedure to review management methods where they are found to be ineffective;	Flora and Fauna Management Plan (Appendix 5)

CoA No.	Requirement	Reference
C20(f)	(f) a Heritage Management Plan to manage potential impacts on Aboriginal and non-Indigenous heritage items. The plan shall be prepared in consultation with OEH and include, but not necessarily be limited to:	Heritage Management Plan (Appendix 6)
	(i) details of measures to be carried out to avoid impacts to known and potential Aboriginal sites and deposits;	Heritage Management Plan (Appendix 6)
	(ii) procedures for dealing with previously unidentified Aboriginal objects (excluding human remains), including: - halting of works in the vicinity; - assessment of the significance of the item(s) and determination of appropriate mitigation measures (including when works can re-commence) by a qualified archaeologist in consultation with registered Aboriginal stakeholders; - assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the projects; and - registering of the new site/s in the OEH AHIMS register.	Heritage Management Plan (Appendix 6)
	(iii) procedures for dealing with human remains (including halting of works in the vicinity and notification of the NSW Police, OEH and registered Aboriginal stakeholders and not re-commencing any works in the area unless authorised by OEH and the NSW Police); and	Heritage Management Plan (Appendix 6)
	(iv) Aboriginal cultural heritage induction processes for construction personnel and procedures for ongoing Aboriginal consultation and involvement.	Heritage Management Plan (Appendix 6)
E1	The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of becoming aware of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.	Section 7.3
E2	The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition E1 of this approval, within such period as the Director-General may require.	Section 7.3.3Table 4

Table 2 SoC requirements for the CEMP

SoC No.	Requirement	Reference
C1	A construction environmental management plan (CEMP) will be developed in consultation with relevant agencies to manage the environmental issues assessed in this EA and implement the identified mitigation and management measures where required.	This Plan and environmental management documents identified in Section 1.6
D1	Any location and/or design changes will be subject to a consistency assessment, informed through a desktop analysis of each of the environmental issues addressed in this EA.	Section 3.6
D2	Where any final location and/or design changes are not generally consistent with the Part 3A approval of the Project, the proponent will apply for modification under Section 75W of the EP&A Act.	Section 3.6
D3	The construction and operation of the Project will comply with Queanbeyan City Council's *Development Specification – Googong.*	This Plan and environmental management documents identified in Section 1.6

1.4 Consultation

Consultation is an ongoing and vital component of GTPL's approach to developing the Googong Township. The primary objective of consultation is to keep stakeholders informed and involved with the development of the IWC Project, and to establish effective lines of communication between GTPL and key stakeholders during each stage.

In particular, extensive consultation has been undertaken and is continuing with QCC who will be the ultimate operator of Stage B Network. As per CoA A11, QCC has been involved in the design process for the Stage B Network, and is also one of the stakeholders and government authorities consulted during the development of this CEMP. Those consulted during the development of this CEMP include:

- Environment Protection Authority (EPA).
- Office of Environment and Heritage (OEH).
- NSW Office of Water (NOW)
- NSW Roads and Maritime Services (RMS).
- Commonwealth Department of the Environment (DoE) (formerly known as the Department of Sustainability, Environment, Water, Population and Communities [DSEWPaC]).
- QCC.

Consultation with relevant stakeholders and government authorities will continue throughout the construction Stage B Network, as identified in the GTPL Community Engagement and Stakeholder Management Plan.

The outcome of any future consultation will be documented where relevant in subsequent revisions of this CEMP.

1.5 Certification and approval

This CEMP must be submitted for approval to the Director-General of the Department of Planning and Environment ~~Infrastructure~~ (DP&E~~I~~). Submission to DP&E~~I~~ is required no later than one month prior to commencement of construction works or as otherwise agreed, and the CEMP must be approved by the Director-General of DP&E~~I~~ prior to the commencement of construction.

The Director-General's nominee approved the Stage B Network CEMP on 27 August 2014.

1.6 Environmental management system structure

1.6.1 Construction Environmental Management Plan (CEMP)

This CEMP provides the system to manage and control the environmental aspects of Stage B Network during construction. It provides the overall framework to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The contractor will be responsible for implementing this CEMP and developing supportive documents and registers to assist with the implementation, including:

- Site inspection checklists.
- Non-compliance and corrective action reports.
- A complaints report.
- Environment incident reports.
- Environment training registers.

- Monitoring checklists.

1.6.2 Environmental management plans

A number of environmental management plans support the CEMP. These documents have been prepared to identify and manage the specific impacts or aspects of the activities described in Section 2.0. They address requirements of the CoA, SoCs and the environment assessment documentation.

The following management plans have been prepared to support this CEMP:

- Soil and Water Management Plan (Appendix 1).
- Hazards, Risk and Safety Management Plan (Appendix 2).
- Traffic Management Protocol (Appendix 3).
- Noise and Vibration Management Plan (Appendix 4)
- Flora and Fauna Management Plan (Appendix 5).
- Heritage Management Plan (Appendix 6).
- Waste and Resources Management Plan (Appendix 7).
- Air Quality Management Plan (Appendix 8).
- Pollution Incident Response Management Plan (Appendix 15).

1.6.3 Environmental Work Method Statement (EWMS)

Environmental Work Method Statements (EWMS) detail a specific construction methodology and environmental mitigation and management measures for an activity or area, for example, fencing or site-specific rehabilitation measures. EWMS will be prepared, as required by the contractor, prior to the commencement of significant activities. They will be prepared progressively in the lead up to and throughout construction, and approved by the Project Engineer ~~Environment Manager~~.

1.6.4 Environmental procedures, forms and checklists

Environmental procedures are tools used to document an environmental process (such as flocculating a sedimentation basin, dewatering a trench). Project specific procedures will be developed as required by the Project Engineer ~~Environment Manager~~.

1.6.5 Environmental constraints maps

Environmental constraints maps detail environmentally sensitive areas, including:

- Flora features, including threatened species and endangered ecological communities.
- Local waterways.
- Recorded threatened fauna habitat.
- Heritage sites.
- Noise sensitive receivers.

An environmental constraints map for the Stage B Network site is provided at Appendix 9. This map will be revised throughout construction, as required, to reflect any revision to sensitive sites. Environmental constraints maps will assist pre-construction planning and on site construction management to help identify areas of environmental sensitivity.

1.6.6 Environmental control plans

An environmental control plan will be prepared to manage the impacts of construction on the environment at the Stage B Network site. If required, a map will be prepared at a scale that ensures all controls are clearly identified. The environmental control plan will include information such as:

- Environmentally sensitive areas, including no-go areas.
- Erosion and sediment control measures.
- Noise sensitive receivers.
- Designated works areas and access tracks.
- Site compounds, stockpile locations and refuelling areas.
- Rehabilitation measures that would be implemented.

The environmental control plan will be developed by the Project Engineer ~~Environment Manager~~, and is to be implemented prior to works commencing at the site.

The Project Engineer ~~Environment Manager~~ will maintain a register of environmental control plans. An example environmental control plan is provided in Appendix 10.

1.6.7 Other project documents

GTPL is responsible for the preparation of other project documents as required by the CoA or SoC. These include:

- Compliance Tracking Program (CoA A18).
- Community Engagement and Stakeholder Management Plan (SoC CS1/CoA A14/CoA A15).
- Community Education Strategy (SoC CS3).
- Landscape Management Plan (CoA B16).
- Pink-tailed Worm-lizard Protection and Management Plan (EPBC CoA 1).
- Googong Foreshores Interface Management Strategy (EPBC CoA 2).

The contractor will comply with these overarching project documents, where relevant.

Figure 2 shows the structure of the environmental management system and its relationship to other project documents.

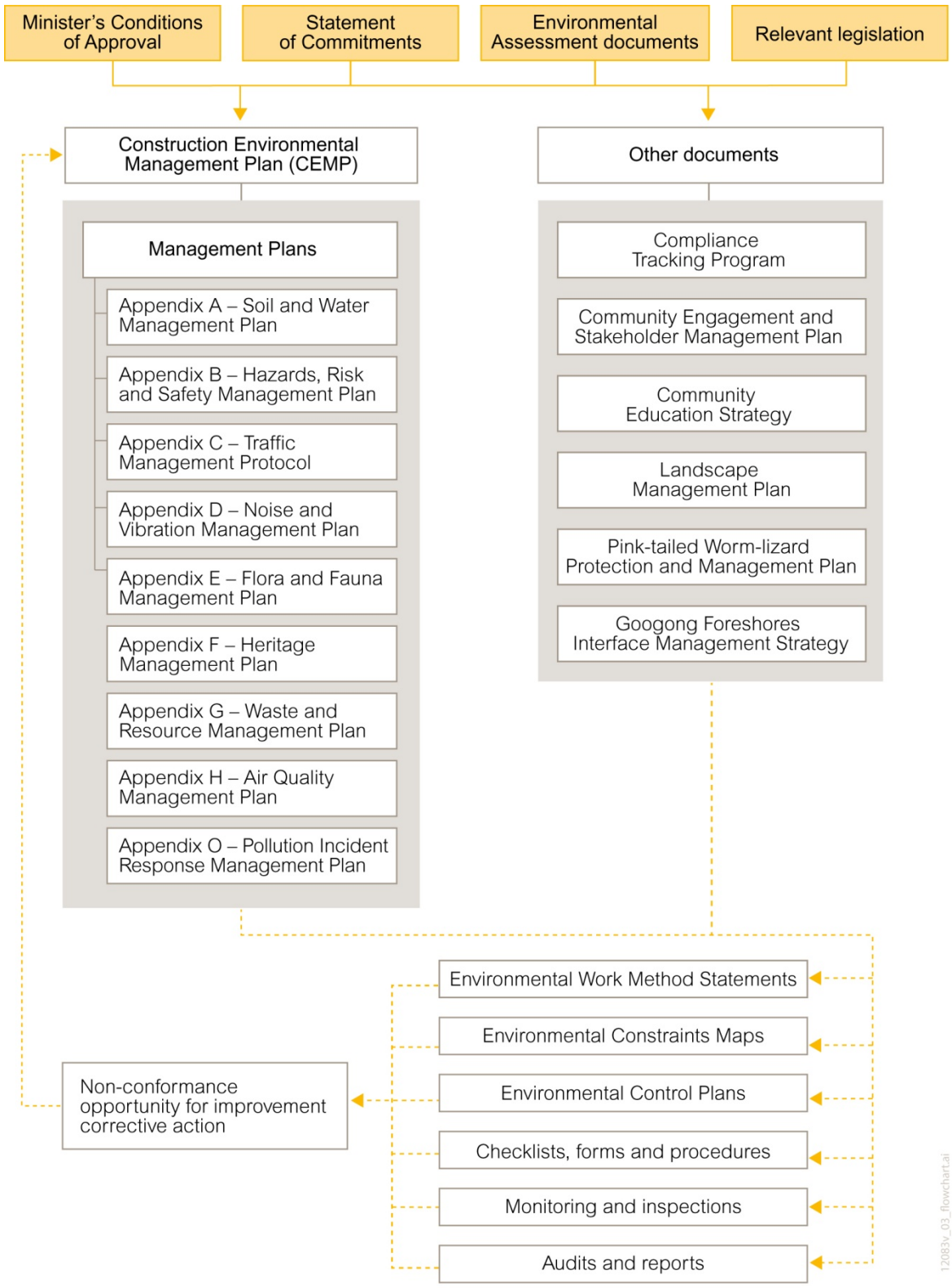


Figure 2 Environmental Management System structure

1.7 Distribution

This CEMP will be made available to all personnel, the contractor and sub-contractors. An electronic copy will be uploaded to the Googong IWC Project website [www.compliance.googong.net].

The CEMP is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained at GTPL's office.

Controlled copies will be distributed to:

- GTPL.
- Contractor.
- Environmental Representative.
- DP&E~~I~~.
- QCC.

1.8 Revision

A document review process ensures that environmental documentation including this CEMP is updated as appropriate for the specific works that are occurring on site or in response to environmental incidents. This includes following the document review process described in Section 9.1. In addition, the CEMP and environmental management plans will be reviewed by the Project Engineer ~~Environment Manager~~ after every Category One incident. The Project Engineer ~~Environment Manager~~ will ensure that any additional measures arising from the incident investigation are incorporated into the relevant plans

The contractor will coordinate the review and distribution, as appropriate, of this CEMP, management plans and other environmental documents during construction of Stage B Network, in consultation with GTPL.

For any revision of this CEMP, the contractor will ensure that documentation is:

- Developed, reviewed and approved prior to issue.
- Issued for use.
- Controlled and stored for the legally required timeframe.
- Removed from use and archived when superseded or obsolete.

The revised document will then be issued to the Environmental Representative for review. The Environmental Representative will endorse minor changes to the CEMP. Minor changes would typically include those that:

- Are editorial.
- Do not increase the extent of environmental impacts when considered individually or cumulatively.
- Do not restrict the project's ability to meet all CoA and environmental obligations.

Where the Environmental Representative determines that the change is not minor, the revised CEMP will be sent by GTPL to DP&E~~I~~ for approval.

A register will identify the current revision of particular documents. Revised documents will be distributed to controlled-copy holders, as identified in Section 1.7.

Guideline ACT will implement their own procedure for environment management control following GTPL CEMP.

2.0 Project description

2.1 General features

This CEMP applies to works for Stage B Network that will include construction of the following:

- Sewage pumping station (SPS2) and wet well storage and associated structures and ancillaries (e.g. flood lighting, above ground control cabinets and fencing), at the southern section of the Stage B Network area. The proposed SPS2 site area is approximately 50 by 20 metres.
- Dry weather emergency storage at SPS2 upstream of the wet well within the SPS2 site. A high-level flow diversion will be provided from the collection manhole to the emergency storage (sized at eight times the Average Dry Weather Flow ~723 kilolitres). The storage arrangement is likely to be similar to SPS1 and will comprise buried storage tanks. These tanks will typically sit on concrete slab foundations secured in place using stainless steel tie-down straps, subject to detailed design.
- Overflow structure (including a gas check structure) off the collecting manhole or emergency storage. The overflow will drain to the stormwater attenuation structure.
- Rising main/s which will transfer flows approximately 870 metres from SPS2 in the south to the inlet works of the WRP to the north of the Stage B Network project area. The Stage B Network will be constructed with two pipelines. One has been sized to cater for the initial stage design (200 millimetre diameter) while the second has been sized to cater for the ultimate stage design (400 millimetre diameter). A proportion of ~~I~~ the second rising main will be initially capped, filled with water and left out of service.
- Gabion wall for stormwater flow attenuation adjacent to the eastern side of SPS2. This gabion wall will be approximately five metres high, and will be located over 40 metres from Montgomery Creek.
- New vent shaft for odour management (approximately nine metres high, subject to detailed design) located as far away from the nearest future residences as possible at the SPS2 site.
- Temporary access road (minimum width 3.5 metres along the rising main alignment), which will be finished with a single coat seal initially. A retaining wall system may be required for the access road.
- Connections to telemetry, electricity and water services.

Figure 3 provides the site layout of Stage B Network.

The Stage B Network construction boundary shown in Figure 3 has been amended following approval by DP&E. This amendment was made to ensure that the temporary access track for Stage B Network construction avoided fencing and earthworks associated with the subdivision works. There are no additional potential impacts on ecological and heritage constraints associated with the amended construction boundary, as outlined in Appendices 5 and 6, respectively.

Guideline ACT plans to have one main site compound to support the construction of the project, which will be located within the Stage A Bulk water offtake project next to the ACTEW treatment plant, Guideline ACT expected to be based here until late March 2015 and then moving over to the stage B Network construction footprint at the SPS 2.

Typically these facilities will include portable buildings, parking, staff amenities and material and chemical storage.

Stage B Network SPS 2 will only house portable toilets until all facilities are moved over in late March 2015.

See Appendix 15 Pollution Incident Response Management Plan for compound location.

In addition to the above, the scope of works for the Guideline ACT has changed and Guideline ACT are now also required to undertake pipeline works from the lead-in sewer at the south of the SPS2, as part of the sewer reticulation network for the subdivision. These works, which are outside the scope of this CEMP, are still required to be undertaken in accordance with another CEMP associated with the sub-division.

Furthermore, the subdivision contactor namely Huon, have been engaged to install a man hole as part of the sewer line leading to the WRP. As a consequence, Huon are required to comply with this CEMP for the Stage B Network while undertaking these specific works.

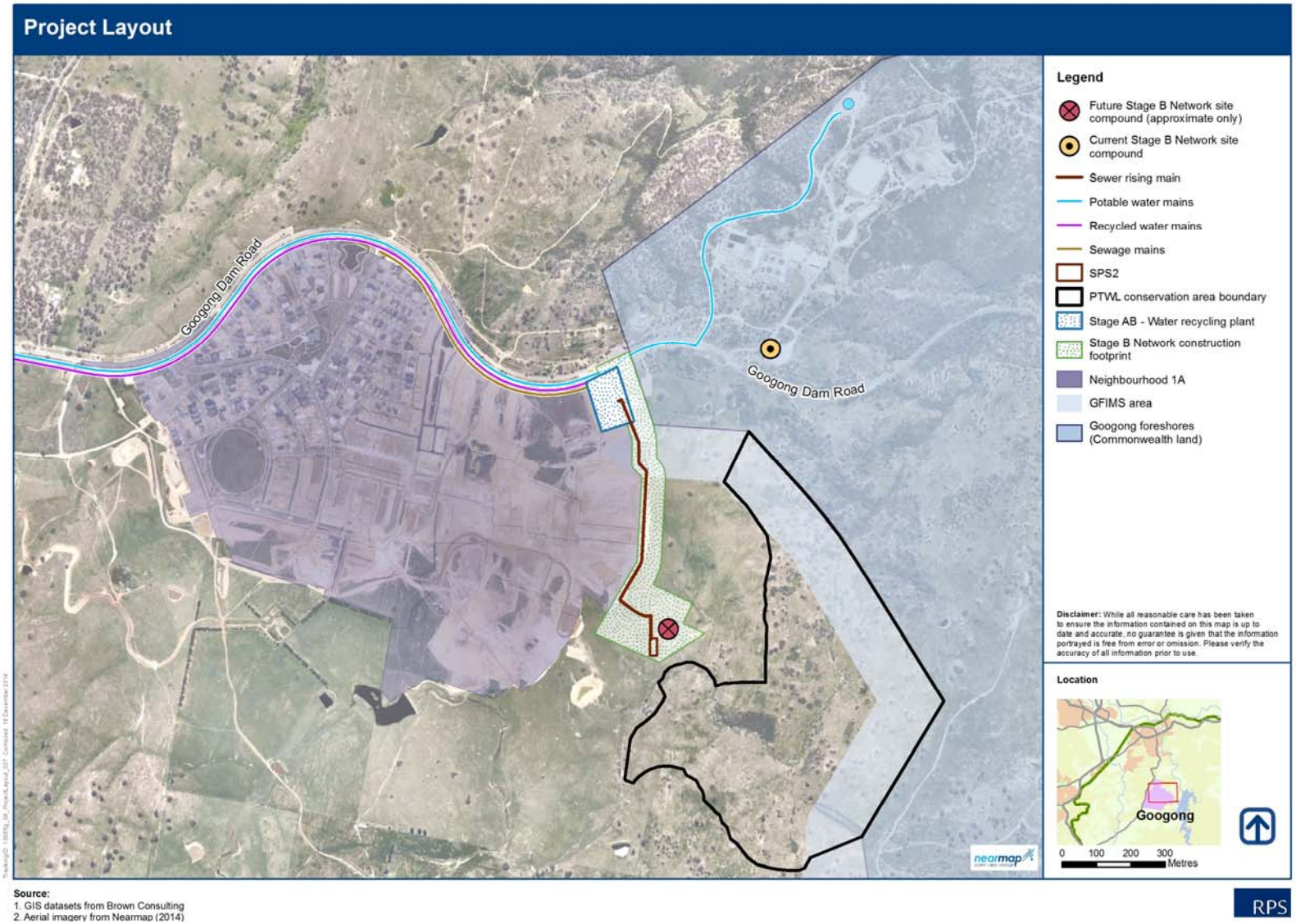


Figure 3 Site layout – Stage B Network and construction boundary [updated construction footprint]

2.2 Construction activities

2.2.1 Pre-construction activities

- Identification of the locations of existing underground services.
- Survey to finalise alignment of underground infrastructure.
- Formation of access road – excavation to grade as required, and importation and placement of appropriate fill for the road.
- Establishment of the site compound within the construction footprint area (refer to Section 2.2.4)
- Installation of temporary power and water supply – trench excavation and pipe laying.
- Erection of temporary fencing and installation of temporary gates to define the construction corridor.
- Clearing of existing vegetation.
- Removal and stockpiling of topsoil.
- Installation of appropriate environmental management controls including erosion and sediment control.

2.2.2 Construction activities

Construction of the Stage B Network is likely to take about 6-8 months and the following sequences of activities are anticipated:

2.2.2.1 Earth works

- Deep trench excavation, installation of rising main, placement and compaction of material.
- Deep excavation for the wet well and emergency storage tanks. This include excavation in rock material, where blasting would be required.

2.2.2.2 Concrete works

- Formwork erection, steel fixing, concrete deliveries, concrete pumping, concrete vibration, finishing.

2.2.2.3 Storage installation

- Excavation, concrete pouring for slab, craning tanks into excavation, backfill and compaction.
- Pipe laying and connections.

2.2.2.4 Mechanical installation

- Installation of two pumps at SPS2 and associated pipe work also the rising main which includes DN150 and DN375 sewer lines.

2.2.2.5 Electrical installation

- Power cabinets and conduit at SPS2.
- Telemetry and lighting installation.

2.2.2.6 Permanent site access

- Delivery of road base materials and asphalt.
- Lay road base materials and compact, prior to asphalting.

2.2.2.7 Site demobilisation and rehabilitation

- Removal of temporary works such as buildings, amenities, fences, gates, erosion and sediment controls.
- Reinstatement of final ground levels, replacement of topsoil and restoration.

2.2.3 Commissioning

There are two stages of commissioning:

- Dry testing of equipment (testing in a dry environment).
- Wet testing of rising main and wet well (testing with potable water).

For the wet testing, the rising main and SPS2 will undergo pressure and hydrostatic testing to test for strength and leaks. The test involves filling each component with potable water to test the pipe to a specific test pressure. About 500 kilolitres of water will be required for testing and commissioning. A small amount of water will also be required for washdown.

2.2.4 Construction compounds and access tracks

A temporary site compound is required to support construction of the Stage B Network. The primary site compound will accommodate the majority of management, engineering, specialist and administrative personnel. Typically these facilities will include portable buildings, parking facilities, staff amenities and material and chemical storage. Depending on the arrangement, electricity, sewerage, telecommunications and water supplies will be installed.

~~The contractor~~ Guideline ACT will determine the final location of the construction compound in late March 2015 as Guideline ACT plans to have one main site compound to support the construction of the project, which will be located within the Stage A Bulk water offtake project next to the ACTEW treatment plant, Guideline ACT expected to be based here until late March 2015 and then moving over to the stage B Network construction footprint but it will be located within the construction footprint shown in Figure 3 and should also meet the following criteria:

- Located in an area of low ecological significance and require minimal clearing of native vegetation (beyond that already required by the project).
- Located in an area of low heritage conservation significance and require no impact on heritage (beyond that already required by the project).
- Located in an area that will not unreasonably affect the amenity of adjacent land users.
- Located more than 40 metres from a local waterway
- Located above the 1 in 100 year flood level of Montgomery Creek.

The main construction access point will be off Googong Dam Road and Old Cooma Road shown in Figure 3. From Googong Dam Road, construction traffic may access the Stage B Network site from one of two ways:

- Temporary access track constructed within the construction footprint, running from Googong Dam Road in the north to SPS2 in the south.
- Along future roads that will be built as part of the subdivision development, entering the construction footprint from the west.

Traffic volumes are estimated to be about three to five truck movements per week for general construction activities. However during the construction of the wet well, it is likely that five to 10 trucks per day may enter and exit the site. Further detail is provided in the Traffic Management Protocol (Appendix 3).

2.3 Defining work areas

The environmental constraints map will be used in conjunction with the environmental control plan and EWMS (as required) to help identify key risk areas and to promote ongoing communication to construction personnel during construction (refer Section 1.6).

The environmental constraints map outlines the environmentally sensitive and 'no go' areas for the site. The environmental control plan, to be prepared, will clearly define work areas, including access tracks. Refer to Section 1.6 for further detail.

Areas that are to be protected during construction will be fenced with exclusion fencing and the fencing will remain in place for the duration of construction activities. Fencing type will be determined based on the sensitivity of the area and the potential for unauthorised access, but may include chain wire fencing, para-webb fencing or flagging tape.

The procedure for defining the limits to vegetation clearing is outlined in the Flora and Fauna Management Plan (Appendix 5).

3.0 Planning

3.1 Legal and other requirements

A register of legal and other requirements for the construction of Stage B Network is contained in Appendix 12. This register will be reviewed by the contractor at regular intervals (i.e. at least every six months) and updated to reflect any legislative or approval changes as required. Any changes made to the legal requirements register will be communicated to the wider project team where necessary through toolbox talks, specific training or other methods.

3.1.1 Approval under Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act)

The *Googong Township Water Cycle Project Environmental Assessment* (November, 2010) (EA) was prepared under (the now repealed) Part 3A of the EP&A Act to assess the impacts of construction and operation of infrastructure for the potable water, recycled water and sewage system required to service the township including the construction of the WRP.

Concept Approval for the ultimate development (Stage 1 and Stage 2) and a Project Approval for Stage 1 of the Googong Township IWC Project were granted by the NSW Planning Assessment Commission, under delegation from the Minister for Planning and Infrastructure on 24 November 2011.

This CEMP and environmental management documentation will comply with the conditions of both the Concept Approval and Stage 1 Project Approval, where relevant to the construction of Stage B Network. As outlined in CoA A5 of the Project Approval, where staging occurs, the conditions of approval need only be complied with to the extent that they are relevant to that discrete stage.

Part 3A of the EP&A Act was repealed on 1 October 2011. Under the transitional arrangement, the IWC Project will continue to be legislated by the provisions of Part 3A, as in force immediately before its repeal.

3.1.2 Approval under Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)

The Googong Township Project was referred to the DoE under the EPBC Act due to potential impacts on matters of national environmental significance, including migratory species, threatened species and communities. The Googong Township Project was declared a controlled action under the EPBC Act, and subsequently approved on 19 May 2011, subject to conditions.

This CEMP and environmental management documents will comply with the conditions of the EPBC Act approval, where relevant to Stage B Network.

3.1.3 Environment Protection Licence under the *Protection of the Environment Operations Act 1997* (POEO Act)

GTPL holds Environment Protection Licence (EPL) 20188, which allows for construction of sewerage infrastructure and for testing activities that do not involve discharge of recycled water to the environment. The contractor must adhere to and implement the conditions of EPL 20188. The contractor is responsible for reporting any exceedances of EPL conditions to GTPL who will notify the EPA (also refer Section 7).

Operational EPL/s will be obtained for Stage 1 to allow for discharge of recycled water to the environment once the WRP is operational. Details of operational EPL/s will be detailed in the OEMP (refer Appendix 12 for more detail).

3.1.4 Other legal requirements

Refer to Appendix 12 for a register of all legal and other requirements relevant to the construction of Stage B Network.

Environmental legislation relevant to a particular environmental management plan is referenced in that plan.

3.2 Approvals, permits and licensing

Appendix 12 contains a register of all relevant legal and other requirements, identifying the need for any environmental approvals, permits and licenses for the construction of Stage B Network. The register will be maintained by the Project Engineer ~~Environment Manager~~ and will be reviewed prior to the commencement of construction, and at regular intervals during construction and at least six-monthly as part of the Compliance Tracking Program (developed to meet CoA A18).

In accordance with CoA A7, all necessary licences, permits and approvals required for the IWC Project will be obtained and maintained as required throughout the life of the Project. In particular it is likely that the following additional approvals may be required for Stage B Network:

- Approval to construct sewerage infrastructure under Section 60 or 68 of the *Local Government Act 1993.*
- Certificate under Section 138 of the *Roads Act 1993* (should works be required on Googong Dam Road).
- Construction and occupation certificates (as per CoA A12).

A copy of the IWC Project Approval and all other relevant approvals will be kept on site at all times during construction of Stage B Network. No condition of the IWC Project Approval removes the obligation to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 75U of the EP&A Act (although this section of the EP&A Act has been repealed, the Project Approval references this section).

GTPL will also be applying for an Aboriginal Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* to enable the salvage of two Aboriginal artefacts (G1B AS4 and GA4) within the Stage B Network construction footprint. The AHIP will be obtained as part of the proposed Googong Neighbourhood 1b subdivision works prior to Stage 2 Network construction activities.

It is anticipated that groundwater will be intercepted during Stage B Network construction works. However, based on the predicted dewatering volumes, timeframes and proposed use, the NSW Office of Water advised on 30 May 2014 that a Water Access Licence under the *Water Management Act 2000* will not be required.

3.3 Environmental aspects and impacts

In order to assess the potential environmental impacts of an activity, the construction of Stage B Network will adopt a risk management approach. This process considers potential regulatory risks and the overarching commitment to protect the environment.

During the development of this CEMP, an environment risk workshop was held to revise and update environmental risks identified in the EA for the IWC Project. The outcome of this risk workshop provides the basis of the risk register (Appendix 11). The risk register includes a list of activities associated with the construction of Stage B Network, related aspects and corresponding risks before mitigation and after implementation of the measures are included in each of the environmental management plans appended to the CEMP.

The Project Engineer ~~Environment Manager~~ will review the risk register during construction of Stage B Network, as required to ensure it remains current. In particular, the environmental risk assessment will be updated:

- If a significant incident or impact occurs.
- If activities changes.

An assessment of potential risk to the environment will also be undertaken as part of the development of EWMS for specific activities or works in specific areas. This should include both the direct impact of the activity and the impact of any incident that could result from the activity. Outcomes from the ongoing risk assessments will be incorporated into the CEMP and environmental management documents as required.

3.4 Environmental policy

The environmental policy included at Appendix 13 describes GTPL's commitment to continual improvement in environmental performance and compliance with applicable legal requirements. Guideline ACT is also required by contract documentation to have an environmental policy.

Both GTPL's and the contractor's environmental policies will be displayed at the site office, and communicated to staff and other interested parties via inductions and ongoing awareness programs.

3.5 Objectives and targets

Environmental objectives and targets have been established as a way to monitor and evaluate environmental performance during construction of Stage B Network. These objectives and targets have been developed with consideration of the key issues identified through the environmental assessment and risk assessment process.

The performance of the construction of Stage B Network against the objectives and targets will be documented in the IWC Project construction compliance reports.

Environmental objectives and targets for the construction of Stage B Network are provided in Table 3.

Table 3 Environmental objectives and targets

Objective	Target	Management tool
Comply with all statutory and legal requirements.	Full compliance with statutory approvals. No regulatory infringements (prosecutions, penalty infringement notices). No formal regulatory warnings.	ER inspections, audits, construction compliance report.
Engage with the effected and broader community and minimise and manage complaints.	Communicate effectively with the community through the tools identified in the Community Information Plan. Record and response to complaints within the timeframe specified in the Community Information Plan.	Review complaints register, audits, review of monthly environmental reports, construction compliance report.
Continually improve environmental performance.	Incidents and non-conformances requiring investigation or action are appropriately investigated, and corrective actions assigned. Corrective actions are completed within designated timeframes. A program of ongoing environmental training is developed and maintained. Lessons learned from environmental incidents are implemented to minimise repeat issues.	ER inspections, audits, review of monthly environmental reports, incident investigation, construction compliance report.

3.6 Project alterations

Alterations to the IWC Project may result from detailed design refinement or changes identified during the construction period.

The GTPL Assistant Project Director is responsible to for ensuring that all IWC Project refinements are assessed for consistency against the Concept and Project Approval. During construction of Stage B Network any design changes or changes in scope of works will be communicated by the contractor to the GTPL Assistant Project Director. GTPL will undertake a consistency assessment through a desktop analysis of the environmental issues in the EA (as per SoC D1).

GTPL will determine whether the proposed alteration is consistent with the approved IWC Project. Where GTPL determines that the change is generally consistent, this CEMP would be reviewed and revised by the contractor as per the procedures outlined in Section 1.8.

A copy of the consistency assessment will be provided to the Environmental Representative and DP&E~~I~~ for information, prior to the commencement of substantial works associated with the proposed alteration. All IWC Project alterations and the outcome of any consistency assessments or modifications will be tracked through the Compliance Tracking Program.

Where GTPL determines that the proposed alteration is generally not consistent with the approved IWC Project, a modification to the approved IWC Project is required. GTPL will prepare a modification application under Section 75W of the EP&A Act, to be submitted to the Director-General DP&E~~I~~ for determination (although this section of the EP&A Act has been repealed, the Project Approval references this section).

GTPL is responsible for documenting minor changes that are consistent with the approved IWC Project, and if required, for seeking approval from the Minister under Section 75W of the EP&A Act for any substantial project modifications. No work associated with a proposed or pending modification can commence without approval of the Director-General of DP&E~~I~~.

4.0 Implementation and operation

4.1 Roles and responsibilities

4.1.1 Environmental Representative (Independent)

The responsibilities for the Environmental Representative are defined in CoA C17 and include:

- Oversee the implementation of all environmental management plans and monitoring programs.
- Advise the Project on its compliance obligations in relation to all approvals, permits and licences.
- Advise the Project of its achievement of all environmental outcomes.
- Recommend reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts.
- Stop work as soon as reasonably practicable if there is likely to be a significant risk of an adverse impact on the environment, until reasonable steps are implemented to avoid such impact, and immediately advise the GTPL Assistant Project Director.

4.1.2 GTPL Assistant Project Director

The environmental responsibilities of the GTPL Assistant Project Director include, but are not limited to:

- Review the CEMP and any environmental management plans and related documents prepared for Stage B Network.
- Ensure all project alterations are assessed for consistency against the approved IWC Project.
- Oversee the implementation of the CEMP and environmental management plans for Stage B Network.
- Liaise with government stakeholders and provide notification/information where environmental incidents have occurred.
- Monitor the environmental performance of Stage B Network in relation to GTPL requirements through the Compliance Tracking Program.

~~4.1.3 Construction Manager (Contractor)~~ Project Engineer (Contractor)

The contractor will appoint a ~~Construction Manager (or other title as applicable)~~ Project Engineer to oversee the delivery of Stage B Network. The environmental responsibilities of the ~~Construction Manager~~ Project Engineer include, but are not limited to:

- Ensure all works comply with relevant regulatory and IWC Project requirements.
- Ensure the requirements of this CEMP are fully implemented.
- Liaise with GTPL, the Environmental Representative and government authorities as required.
- Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP and the Project's compliance obligations in relation to all approvals, permits and licences.
- Ensure that all personnel receive appropriate induction training, including details of the environmental obligations.
- Ensure that complaints are investigated to achieve effective resolution.
- Plan construction works in a manner that avoids or minimises impact to environment.
- Control field works and implement/maintain effective environmental controls.

- Stop activities where there is an actual or immediate risk of harm to the environment and immediately advise the GTPL Assistant Project Director and Environmental Representative.
- Ensure steps are taken to rectify and prevent future incidents from occurring.
- Act on all recommendations made by the Environmental Representative as soon as practicable. If the ~~Construction Manager~~ Project Engineer chooses not to implement recommendations of the Environmental Representative, written justification of the alternate course of action will be provided to the Director-General of DP&E~~I~~ within seven days of receiving the recommendation. The Director-General must be satisfied with the alternate course of action.

4.1.4 ~~Environment Manager~~ Project Engineer ~~(Contractor)~~

The ~~contractor will appoint an Environment Manager (or other role as applicable)~~ Project Engineer ~~who~~ will also have overall responsibility for the implementation of environmental management on the construction of Stage B Network. The environmental responsibilities of the ~~Environment Manager~~ Project Engineer include, but are not limited to:

- Develop, implement, monitor and update the Stage B Network CEMP and management plans (including a review of the plans after any Category One incident).
- Manage environmental constraints maps, develop environmental control plans (and register) and provide input into EWMS where required (refer Appendix 9 and Appendix 10).
- Maintain and update the Environment risk register (refer Appendix 11).
- Ensure that that all environmental licences, approvals and permits are obtained and updated as required, and ensure that the Legal and other requirements register is maintained (refer Appendix 12).
- Report to ~~Construction Manager~~ Project Engineer and GTPL on environmental performance and prepare a Monthly report (refer Appendix 14).
- Lead liaison with the Environmental Representative.
- Oversee site monitoring, and undertake weekly inspections and audits.
- Develop and facilitate induction, toolbox talks and other training programs relating to environmental requirements for all site personnel.
- Maintain a register of all project site inductions and environmental training.
- Stop activities where there is an actual or immediate risk of harm to the environment and immediately advise the ~~Construction Manager~~ Project Engineer, Environmental Representative and the GTPL Assistant Project Director.
- Ensure steps are taken to rectify and prevent future incidents from occurring.
- Manage an incident register and provide documentation on environmental incidents, non-conformance and corrective actions to ~~Construction Manager~~ Project Engineer and the GTPL Assistant Project Director.

4.1.5 ~~Design Manager (Contractor)~~

The ~~contractor will appoint a Design Manager (or other title as applicable)~~ Project Engineer will also have responsibility for ensuring the CoA and SoC related to design of the Stage B Network are incorporated.

~~4.1.6 Superintendent (Contractor)~~

~~The environmental responsibilities of the superintendent include, but are not limited to:~~

- ~~Advise all personnel and sub-contractors of their responsibilities under the CEMP and site-specific environmental issues.~~

- ~~Coordinate the implementation of the CEMP.~~
- ~~Identify resources required for implementation of the CEMP.~~
- ~~Program toolbox talks and daily pre-start meetings to include environmental requirements where required.~~
- ~~Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Project Engineer.~~
- ~~Coordinate action in emergency situations and allocate required resources.~~
- ~~Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Engineer.~~

4.1.7 Wider project team (including sub-contractors)

- Comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by a member of the Project's management.
- Participate in the compulsory IWC Project/site specific induction program, toolbox talks and daily pre-start meetings.
- Stop activities where there is an actual or immediate risk of harm to the environment and report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the ~~Construction Manager or Environment Manager~~ Project Engineer.

4.2 CEMP availability

A copy of this CEMP will be held in the site office. An electronic copy of the approved CEMP will be available on the IWC Project website [www.compliance.googong.net]. Supporting documents, for example relevant EMWS and environmental control plans will be held on site and on any online document control management systems.

5.0 Competence, training and awareness

5.1 Purpose

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The Project Engineer ~~Environment Manager~~ will coordinate the environmental training. Several forms of environmental training will be provided, including:

- A project site induction, including environmental roles and responsibilities.
- Toolbox talks.
- Pre-start meetings.
- Environmental awareness training for specific issues.
- The Project Engineer ~~Environment Manager~~ will maintain a register of all project site inductions and environmental training carried out. Records of attendees at EWMS toolboxes will be kept on file.

5.2 Site inductions

All personnel (including sub-contractors) will attend a site induction prior to commencing any work on site. The site induction will include an environment component and will ensure all personnel are aware of the environmental risks on site, the requirements of the CEMP and their responsibilities around the implementation of environmental management measures.

The environmental component will include, but not be limited to, an overview of:

- Purpose and objectives of the CEMP.
- Conditions of environmental licences, permits and approvals.
- Key environmental issues and responsibilities.
- Working hours.
- Mitigation measures for the control of environmental issues.
- Boundaries for vegetation clearing, location of exclusion zones, and other environmental constraints.
- Responsibilities under the *NSW Heritage Act 1977* and *NSW National Parks and Wildlife Act 1974*, for example if a potential relic/item is uncovered during construction.
- Incident management, response and reporting requirements.
- A record of all environment inductions will be maintained by the Project Engineer ~~Environment Manager~~ and kept on site.

5.3 Toolbox talks, training and awareness

Toolbox talks will typically be held weekly and will be used to raise awareness and educate personnel on issues related to all aspects of construction including environmental issues. Toolbox talks will include details of EWMS, relevant to upcoming works and targeted to relevant personnel.

Environmental issues may include (but are not limited to):

- Erosion and sedimentation control.
- Incidents and spill response.

- Managing noise and amenity impacts.
- Threatened species, endangered ecological communities and protection of vegetation.
- Heritage and managing unexpected finds.
- Improvements to existing procedures based on findings of environmental inspections, monitoring and audits (refer Section 8.0).
- Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form. Each attendee is required to sign off on the toolbox talk to register their understanding, and records of attendance will be maintained.
- For activities with high environmental risk, targeted environmental awareness training will be provided. The content of targeted training may include the topics outlined above, or as otherwise required, dependant on the nature of construction activities and the type of impact and environmental risk.
- The Project Engineer ~~Environment Manager~~ will maintain a register of environmental training. The register will include a record of the topic, content, dates, name(s) and qualifications of trainers, names and signatures of personnel trained.

5.4 Pre-start meetings

The pre-start meeting is a tool for informing the workforce of the day's activities, including information relating to the work schedule, safety, environment or other information that may be relevant to the day's work.

Environmental concerns covered in the pre-start meeting will include any aspect of the day's construction activities that may be impacted by, or may impact on, the environment. Risks and measures to manage those risks will be discussed.

All workers will be required to attend a daily pre-start meeting, prior to commencement of that day's construction and sign on to a pre-start meeting attendance sheet. The Project Engineer ~~Construction Manager~~ will record pre-start topics, dates delivered and a register of attendees.

6.0 Communication and consultation

6.1 Internal communication

A key to ensuring compliance with environmental obligations and continual improvement is the ongoing communication to project personnel.

GTPL and the contractor will communicate regularly to discuss any issues or concerns with on site environmental management, any amendments to environmental management documents that might be required or any changes to construction activities.

The contractor will ensure regular communication around the environmental requirements and performance updates is carried out, for example through training and awareness raising as described in Section 5.3.

Both the Project Engineer ~~Construction Manager and Environment Manager~~ are responsible for notifying GTPL and the Environmental Representative of any environmental incidents as soon as they become aware of the incident.

The Project Engineer ~~Environment Manager~~ has the responsibility to report on the ongoing environmental performance of the construction of Stage B Network to GTPL and the Environmental Representative. The Project Engineer ~~Environment Manager~~ will report on progress and key environmental issues through the preparation of monthly environment reports (refer Appendix 14).

6.2 Communication with government agencies

The GTPL Community Engagement and Stakeholder Management Plan outlines GTPL's approach to communication with government agencies.

The GTPL Assistant Project Director will be the main point of contact regarding specific environmental issues and has the responsibility to notify DP&E~~I~~, EPA or any other relevant agencies of environmental incidents. The GTPL will also report on the progress of Stage B Network construction through the preparation of a compliance tracking report every six months that will be issued to DP&E~~I~~.

The Environmental Representative will also liaise with DP&E~~I~~ and provide the Department with copies of inspections reports and other documentation as necessary.

6.3 Stakeholder and community consultation

6.3.1 Community Engagement and Stakeholder Management Plan

The Community Engagement and Stakeholder Management Plan provides a coordinated approach to stakeholder communication and liaison – from government agencies to Aboriginal and community groups – during the delivery phase of Stage 1. It provides an overview of activities, identifies key interfaces and promotes consistency of message, to ensure successful ongoing relationships.

It is an active document that will be updated as the Stage 1 IWC Project progresses.

6.3.1.1 Community Information Plan

A Community Information Plan has been developed to provide an approach to community communication and consultation processes in accordance with the requirements of CoA A14 and is appended to the Community Engagement and Stakeholder Management plan. The Plan identifies opportunities for providing information and consulting with the community during the construction phase of the IWC Project. The Plan

defines an approach to positive and proactive interactions with the community in the lead up to and during construction.

Communication tools defined in the strategy include:

- Community newsletters.
- Email updates.
- Displays.
- Community events.
- Advertising notifications.
- Letterbox notifications.
- Meetings.
- Fact sheets.
- Website.
- Signage.

GTPL is responsible for implementing the Community Information Plan during construction of Stage B Network.

The contractor is responsible for providing notification to council, and nearby residents for activities such as noisy works and blasting (as detailed in the environmental management plans). The contractor will provide details of notification to GTPL.

6.3.1.2 Complaints Management Procedure

The Complaints Management Procedure, is included as an appendix to the Community Engagement and Stakeholder Management Plan and details:

- Protocols for receiving complaints.
- A methodology for the recording, tracking and reporting on complaints.
- Timeframes for responding to and resolving complaints.
- An escalation process for complaints that cannot be easily resolved.

The community can make an enquiry or complaint by telephone, post, email or face to face. Details of how to contact the project team will be advertised in local newspapers (before the project begins and ever six months during construction and for at least the next two years of operation), on the project website, on site signage and on all communication materials. The Project Engineer ~~Construction Manager~~ must direct all complaints and enquiries to the GTPL Assistant Project Director.

The Complaints Management Procedure outlines the specific procedure that GTPL will undertake in order to manage complaints and should be read in conjunction with the Community Engagement and Stakeholder Management Plan.

7.0 Incidents and emergencies

7.1 Classification of environmental incidents

There are two categories of environmental incidents.

7.1.1 Category one

Category one incidents include:

- Unauthorised sediment discharge or fuel, oil or chemical spill leaving site where the pollution incident causes or threatens material harm to the environment or people (as per Part 5.7 of the POEO Act).
- Unauthorised impact to threatened species and endangered ecological communities.
- Unauthorised impact to Aboriginal or non-Aboriginal heritage items, sites or relics.
- Carrying out of work without necessary approval/permit/licence.

7.1.2 Category two

Category two incidents include:

- Pollution incidents that can be cleaned up without material harm to the environment or people (as per Part 5.7 of the POEO Act).
- A non-conformance with the environmental management system does not result in a Category one incident.

7.2 Incident management

7.2.1 Pollution Incident Response Management Plan

The *Protection of the Environment Legislation Amendment Act 2011* (POELA Act) has introduced several changes to improve the way pollution incidents are reported, managed and communicated to the general community. This includes a new requirement (under Part 5.7A of the POELA Act) to prepare, keep, test and implement a pollution incident response management plan.

A Pollution Incident Response Management Plan (PIRMP) has been prepared and is included at Appendix 15. The PIRMP must be maintained and implemented by the contractor during construction of Stage B Network.

In summary, the incident management response is outlined in the following sections.

7.2.2 Category one

- If necessary, stop work in relevant area and take necessary actions or put in place suitable controls to avoid and reduce impacts of incidents to the environment or community.
- Project personnel to immediately notify the ~~Environment Manager and/or Construction Manager~~ Project Engineer.
- ~~Environment Manager or Construction Manager~~ Project Engineer to immediately notify the GTPL Assistant Project Director and the Environmental Representative (refer to Section 7.3).
- GTPL to immediately notify the EPA and DP&E~~I~~ (and others as required) for pollution incidents causing or threatening material harm (refer to Section 7.3).
- GTPL to immediately notify DP&E~~I~~ (and others as required) for all other category one incidents.

- ~~Environment Manager~~ Project Engineer to complete an incident report and record in the incident register (to be developed and managed by the contractor) and submit report to GTPL within two days.
- GTPL and contractor to investigate incident (root cause analysis) and implement any opportunities for improvement (as soon as practical, but within one week) (refer Section 7.3).
- GTPL to issue copy of incident report and root cause analysis to DP&E~~I~~ (and others as required) for their consideration (within seven days).

7.2.3 Category two

- If necessary, stop work in relevant area and take necessary actions or put in place suitable controls to avoid and reduce impacts of incidents to the environment or community.
- Project personnel to immediately notify the ~~Environment Manager and/or Construction Manager~~ Project Engineer.
- ~~Environment Manager or Construction Manager~~ Project Engineer to immediately notify the GTPL Assistant Project Director and the Environmental Representative (refer to Section 7.3).
- ~~Environment Manager~~ Project Engineer to complete an incident report and record in the incident register (to be developed and managed by the contractor) and submit report to GTPL within two weeks.
- GTPL and contractor to investigate incident (root cause analysis) and implement any opportunities for improvement (as soon as practical, but within one week) (refer Section 7.3).
- GTPL to report on category two incidents to DP&E~~I~~ in the six-month construction compliance report.
- GTPL to report on category two incidents to EPA in the Annual Return.

7.3 Incident reporting

The ~~Construction Manager or Environment Manager~~ Project Engineer must immediately notify GTPL and the Environmental Representative of any environment incidents immediately and in writing within 24 hours of the incident occurring.

GTPL and/or the Environmental Representative will determine if the incident is a Category one or Category two incident and then follow the appropriate reporting protocol (see below and refer Figure 4).

All incident recording, management and reporting will be in accordance with the requirements of the Compliance Tracking Program, which documents GTPL's:

- Mechanisms for recording incidents and actions taken in response to those incidents.
- Provisions for reporting environmental incidents to the Director-General during construction and operation.

7.3.1 Category one pollution incident reporting – notification under the POEO Act

All pollution incidents causing or threatening material harm to the environment must be notified to the EPA via the EPA Environment Line (telephone 131 555) in accordance with Section 148 of the POEO Act and Condition R2 of EPL 20188.

A 'pollution incident' includes a leak, spill or escape of a substance, or circumstances in which this is likely to occur. Material harm is defined under the POEO Act:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial.
- If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds $10,000.

All pollution incidents causing or threatening material harm to the environment must be notified to each relevant authority in accordance with Section 148 of the POEO Act. For Category one pollution incidents, GTPL will immediately (that is promptly and without delay, after they become aware of the incident) notify:

- DP&E~~I~~.
- EPA.
- Ministry of Health.
- WorkCover.
- QCC and/or Palerang Council.
- Fire and Rescue NSW.

An environment incident report (in accordance with the reporting requirements of EPL 20188) will be prepared by the contractor and provided to GTPL and the Environmental Representative within two days of the incident occurring, including learnings from the incident and proposed measures to prevent the occurrence of a similar incident.

Within seven days of the incident occurring, GTPL will provide a detailed incident report and copy of the root cause analysis investigation to the EPA, including the following information in accordance with Section 150 of the amended POEO Act and Condition R3 of EPL 20188:

- The time, date, nature duration and location of the incident.
- The location of the place where pollution is occurring or is likely to occur.
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known.
- The circumstances in which the incident occurred, including the cause of the incident, if known.
- The action or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.
- Other information prescribed by the regulations.

7.3.2 All other Category one incident reporting

For all other Category one incidents, GTPL will notify the Director-General of DP&E~~I~~ and any relevant agencies as soon as practicable after GTPL becomes aware of the incident.

An environment incident report will be prepared by the contractor and provided to GTPL and the Environmental Representative within two days of the incident occurring, including learnings from the incident and proposed measures to prevent the occurrence of a similar incident.

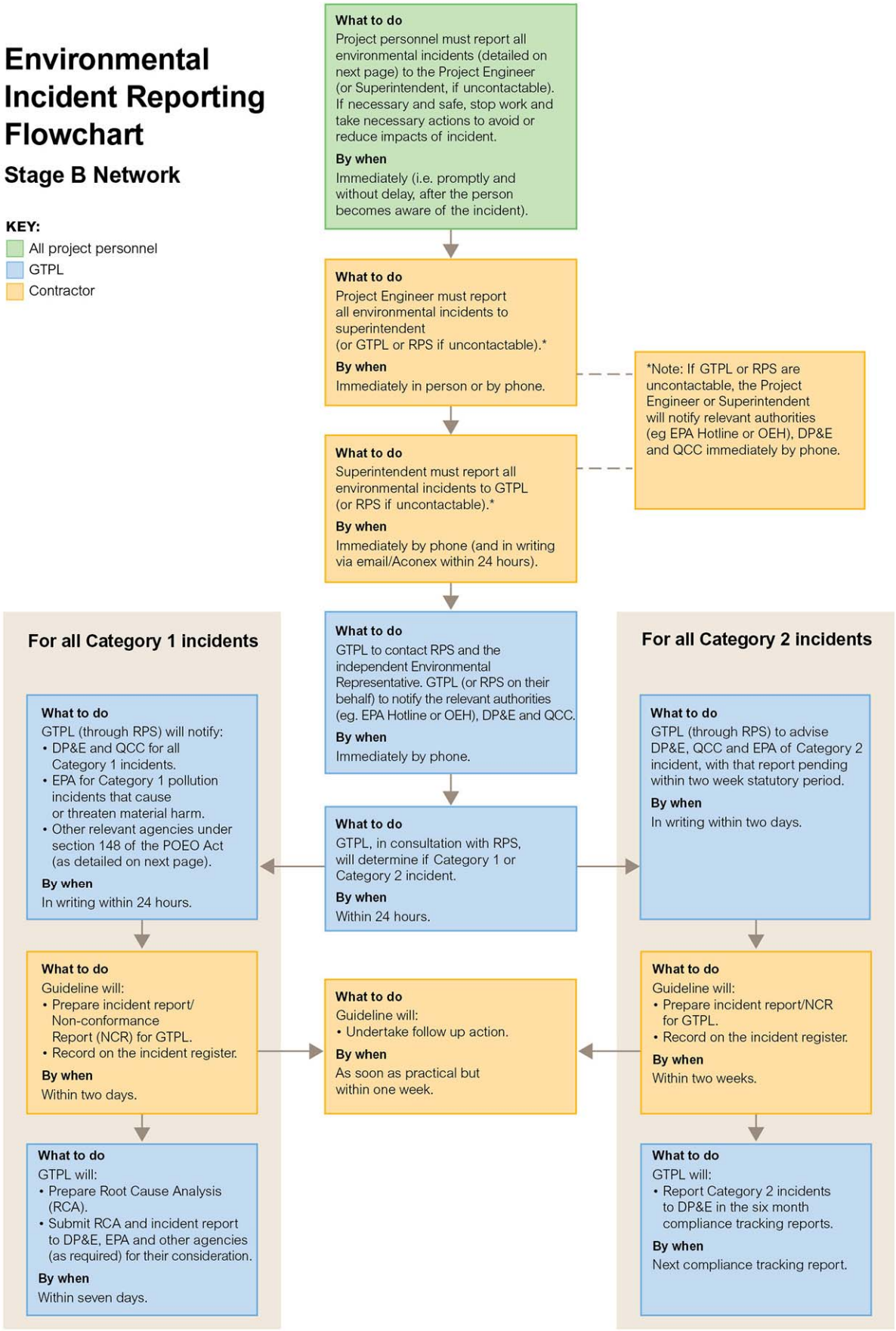
Within seven days of the incident occurring, GTPL will provide the Director-General of DP&E~~I~~, and any relevant agencies, a detailed incident report and copy of the root cause analysis investigation.

7.3.3 Category two incident reporting

An environment incident report will be prepared by the contractor and provided to GTPL and the Environmental Representative within two weeks of the incident occurring, including learnings from the incident and proposed measures to prevent the occurrence of a similar incident.

Category two incidents will be reported to DP&E~~I~~ through the six-monthly construction compliance reports. They will also be reported to the EPA through the Annual Return in accordance with Condition R1 of EPL 20188. Key contacts for environmental emergencies are provided in Table 4.

Figure 4 Incident reporting flowchart [*Needs to be printed at A3 and posted up onsite*] [figure updated]



WHAT IS AN ENVIRONMENTAL INCIDENT?

What is a Category 1 Incident?

- A pollution incident which causes or threatens material harm to the environment or people (as per Part 5.7 of the NSW Protection of the Environment Operations Act 1997 (POEO Act). For example, unauthorised sediment discharge or fuel, oil or chemical spill leaving site.
- Unauthorised impact to threatened species and endangered ecological communities.
- Unauthorised impact to Aboriginal or non-Aboriginal heritage items, sites or relics.
- Carrying out of work without necessary approval/permit/licence.

What is a Category 2 Incident?

- Pollution incidents that can be cleaned up without material harm to the environment or people (as per Part 5.7 of the POEO Act).
- A non-conformance with the environmental management system that does not result in a Category 1 incident.

CONTACT DETAILS

	Name	Phone	Email
PROJECT TEAM			
	GUIDELINE/BLACK MOUNTAIN		
	Michael Fields (Project Engineer)	0412 916 835	michael.fields@guidelineact.com.au
	Chris Daly (Superintendent)	0459 223 958	chris.daly@blackmtn.com.au
	GTPL		
	Craig Harris (Assistant Project Director)	0409 999 059	craig.harris@cicaustralia.com.au
	RPS		
	Rob Salisbury (Environment Advisor to GTPL)	0416 034 054	rob.salisbury@rpsgroup.com.au
	ECOLOGY AND HERITAGE PARTNERS		
	Richard Sharp (Environment Representative)	0457 303 596	rsharp@ehpartners.com.au
AGENCIES			
	DP&E		
	Lisa Mitchell (Manager Water Infrastructure Projects)	(02) 9228 6284	lisa.mitchell@planning.nsw.gov.au
	EPA (Pollution Incidents)		
	Julian Thompson (Unit Head - South East Region)	(02) 6229 7002	julian.thompson@epa.nsw.gov.au
	Sharon Peters (Regional Operations Officer)	(02) 6229 7002	sharon.peters@epa.nsw.gov.au
	EPA Hotline	131 555	
	OEH (Heritage and Biodiversity)		
	Jackie Taylor (Archaeologist – South East)	0408 201 239	jackie.taylor@environment.nsw.gov.au
	Heritage Council of NSW (for non-Aboriginal heritage)	(02) 9873 8500	
	Rod Pietsch (Senior Threatened Species Officer)	(02) 6229 7114	rod.pietsch@environment.nsw.gov.au
	QCC		
	QCC Duty Officer	0417 499 153	
OTHER AGENCIES			
	NSW Rural Fire Service	000	
	Southern NSW Local Health District Public Health Unit	(02) 6080 8900	
	WorkCover NSW	131 050	

Notification of pollution incidents under Section 148 of the Protection of Environment Operations Act 1997.

Pollution incidents causing or threatening material harm to the environment must, immediately after the incident is made aware of, notify each relevant authority of the incident and all relevant information about it.

Relevant authority means any of the following:
a) for all incidents
- EPA
- QCC

b) potentially
- Southern NSW Local Health District Public Health Unit
- WorkCover NSW
- NSW Rural Fire Service

Contact details have been provided for the relevant authorities.

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Information as of November 27, 2014

Table 4 Emergency contacts

Emergency contact/organisation	Name	Contact details
GTPL Assistant Project Director	Craig Harris	0409 999 059
Project Engineer (Guideline ACT)	Michael Fields	0412916835
Superintendent (Black Mountain)	Chris Daly	0459 223 958
Environmental Representative (Ecology and Heritage Partners)	Richard Sharp	0457 303 596
OEH – EPA	Pollution line	131 555
OEH – EPA (South East region)	Julian Thompson	(02) 6229 7002
DP&E~~I~~	Lisa Mitchell	(02) 9228 628~~34~~
	~~Belinda Scott~~	~~(02) 9228 6472~~
NSW Health	N/A	(02) 9391 9000
Police	N/A	000 (or 112 from mobiles)
Local police	N/A	131 444
Ambulance	N/A	000 (or 112 from mobiles)
Canberra Hospital	N/A	(02) 6244 2222
Queanbeyan Hospital	N/A	(02) 6298 9211
NSW Rural Fire Service	N/A	000 (or 112 from mobiles)
Gas/electricity	N/A	131 909
Queanbeyan City Council	N/A	(02) 6285 6000 After hours (02) 6298 1234
ACTEW Corporation	N/A	6248 3111
WorkCover NSW	N/A	13 10 50
Telstra	N/A	132 999
ACT Territory and Municipal Services	N/A	13 22 81
WIRES	N/A	1300 194 737

7.4 Incident investigation

All environmental incidents will be investigated. A root cause analysis approach will adopted to identify the origin of the problem in order to:

- Determine what happened.
- Determine why it happened.
- Identify and implement measures to reduce the likelihood that it will happen again.

The CEMP and environmental management plans will be reviewed by the Project Engineer ~~Environment Manager~~ after every Category One incident. The Project Engineer ~~Environment Manager~~ will ensure that any additional measures arising from the incident investigation are incorporated into the relevant plans.

Where the Director-General (DP&E~~I~~) provides recommendations to address the cause or impact of any incident reported to the DP&E~~I~~, the contractor for Stage B Network will meet the requirements of the Director-General's recommendations, in the timeframe specified, unless otherwise agreed.

Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident.

Any recommended actions to improve existing processes or systems will be managed through the Non-Conformance Register (to be developed by the contractor), as outlined in Section 8.3.

7.5 Emergency response

The objectives of the Hazards, Risk and Safety Management Plan (Appendix 2) will be communicated to all project team members and persons working on site.

Emergency controllers/fire wardens are to be assigned specific responsibilities and are to be trained, where necessary, in the evacuation procedures and the use of any specialised emergency response equipment (e.g. fire extinguishers, spill kits, etc.). Spill management will be undertaken in accordance with the Hazards, Risk and Safety Management Plan (Appendix 2) and the Soil and Water Management Plan (Appendix 1).

Guideline ACT will implement emergency procedure as per Guideline ACT Workplace Health and Safety Management Plan.

8.0 Environmental inspections, monitoring and auditing

8.1 Environmental inspections

8.1.1 Weekly inspections

The ~~Environmental Manager (or delegate)~~ Project engineer will undertake at least weekly inspections of the work sites to monitor and evaluate the effectiveness of environmental management measures. If any environmental controls require maintenance, are ineffective, or require installation to address an actual or potential environmental issue, these observations will be recorded on the environmental inspection checklist (to be developed by the contractor). Any action will also be given a priority.

The Project Engineer will undertake at least weekly inspections of the work sites to monitor and evaluate the effectiveness of environmental management measures this is line with the GTPL CEMP.

If any environmental controls require maintenance, are ineffective, or require installation to address an actual or potential environmental issue, these observations will be recorded on the site Environment Weekly Checklist (GLA-EF-3.2-01) If any action is required this will be recorded on the checklist. Rectification works will be carried out and noted on the same checklist. If the issue is not (or cannot be) addressed in a reasonable time, or if a significant breach of the environmental controls occurs, a Non Conformance/Corrective Action (NCA) Report will be issued (GLA-QF-4.2-20). In the event of an environmental incident (e.g. Client or public complaint or EPA Warning/Fine) a Non Conformance/Corrective Action (NCA) Report will be completed (GLA-QF-4.2-20). All NCA reports are review by Guideline ACT management and subsequent corrective and preventive actions are taken as required.

8.1.2 Environmental Representative inspections

As per CoA C17 an independent Environmental Representative has been appointed for the IWC Project and will undertake regular inspections of the Stage B Network construction work site. The frequency of site inspections will be determined by the nature of activities being undertaken and their associated environmental risks.

A member of the project team will participate in all Environmental Representative inspections, and records will be maintained. Required actions will be discussed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

The contractor will act on all recommendations made by the Environmental Representative as soon as practicable. If the contractor chooses not to implement recommendations of the Environmental Representative, written justification of the alternate course of action will be provided to the Director-General of DP&E~~I~~ within seven days of receiving the recommendation. The Director-General must be satisfied with the alternate course of action.

8.2 Environmental monitoring

Monitoring will be undertaken to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements. The monitoring requirements for required aspects are included in the relevant environmental management plans.

8.3 Non-conformity, corrective and preventative actions

A non-conformance is an action or omission that does not conform with the requirements of this CEMP and supporting environmental documentation, or any legal or other requirement as outlined in Appendix 12. Any member of the project team or the Environmental Representative can identify a non-conformance.

An opportunity for improvement may be identified through the review and monitoring processes that will be implemented during the construction of Stage B Network. Review, monitoring or auditing may identify a variety of improvements that must or should be made to ensure continual improvement. For example, an internal audit of the incident register may identify an opportunity for improvement in areas such as documentation (CEMP, management plans, procedures, checklists etc) or resourcing (number and experience of environmental or other personnel). Any member of the project team or the Environmental Representative can identify an opportunity for improvement.

8.3.1.1 Identifying non-conformance

Non-conformances may be identified in one of the following ways:

- Environmental incidents.
- Through monitoring and/or reporting.
- CEMP audits/review.
- Project team communication/feedback.

8.3.1.2 Reporting non-conformance

Non-conformances will be investigated and reported. The following details must be included:

- Details of the person reporting the non-conformance.
- Description of the non-conformance including time, date and location.
- Summary of the non-conformance including personnel involved, cause and environmental impact.
- Summary of actions taken to remediate the situation and mitigate further environmental impact.
- Further action required, a timeframe for completion and responsibility to correct or prevent future non-conformances.

8.3.1.3 Recording non-conformance

Following the investigation and reporting, a summary of the non-conformance must be recorded in a non-conformance register to be maintained by the contractor. Improvement opportunities will also be recorded in the non-conformance register, for example to capture any system improvements recommended as the result of an incident investigation.

8.3.1.4 Review of the non-conformance register

The register will be reviewed regularly to ensure actions are closed out in a timely manner or as required. Procedures for rectifying any non-compliance identified during environmental auditing or review of compliance are also documented in the Compliance Tracking Program.

8.4 Auditing

8.4.1 Internal audits

Internal auditing will be undertaken generally on a six monthly basis throughout the construction of Stage B Network. The purpose of auditing is to verify compliance with:

- This CEMP and environmental management plans.
- Approval requirements (CoAs, SoCs).
- Any relevant legal and other requirements (e.g. licenses, permits, regulations).

8.4.2 Independent external audits

External auditing will be undertaken by an independent environment auditor in accordance with ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing. Independent auditing will occur every six months as outlined in the Compliance Tracking Program, developed to address the requirements of CoA A18.

8.5 Reporting

8.5.1 Monthly environment report

The Project Engineer ~~Environment Manager~~ will prepare a monthly environment report to track progress on environmental performance. The monthly report will include relevant details including, but not limited to:

- Environmental inspections.
- Environmental monitoring.
- Environmental incidents.
- Environmental non-conformances.
- Environmental audits.
- Planned and completed construction notifications to the community.
- Complaints and enquiries.
- Training.

This report will be provided to GTPL and the Environmental Representative on a monthly basis. A template for monthly reporting is located in Appendix 12.

8.5.2 Construction compliance report

Six-monthly construction compliance reporting, as outlined in the Compliance Tracking Program, will record compliance with the CoA, SoCs and other licences/approvals/permits. Construction compliance reports will be prepared by GTPL for distribution to the Environmental Representative and the Director-General (DP&E~~I~~). In order to prepare the periodic compliance reports, the contractor will be required to provide all relevant information as requested by the GTPL Assistant Project Director.

9.0 Documentation

9.1 Environmental records

The Project Engineer ~~Environment Manager~~ is responsible for maintaining all environmental management records. Types of records include:

- All monitoring, inspection and compliance reports/records.
- Reports on environmental incidents, environmental non-conformances, complaints and close out actions.
- Copy of environmental control plan register, site induction register, environmental training register, incident register and non-conformance register.
- Monthly environmental reporting and other environmental reporting as required by the contract documentation or the Compliance Tracking Program.
- Induction and training records.
- Correspondence with government agencies and other stakeholders.
- Community engagement and stakeholder management information.

All environmental management documents are subject to ongoing review and continual improvement. This includes changes to legislative or licensing requirements.

Only the Project Engineer ~~Environment Manager~~ has the authority to change any of the environmental management documentation.

Appendix 1

Soil and Water Management Plan

Appendix 2

Hazards, Risk and Safety Management Plan

Appendix 3

Traffic Management Protocol

Appendix 4

Noise and Vibration Management Plan

Appendix 5

Flora and Fauna Management Plan

Appendix 6

Heritage Management Plan

Appendix 7

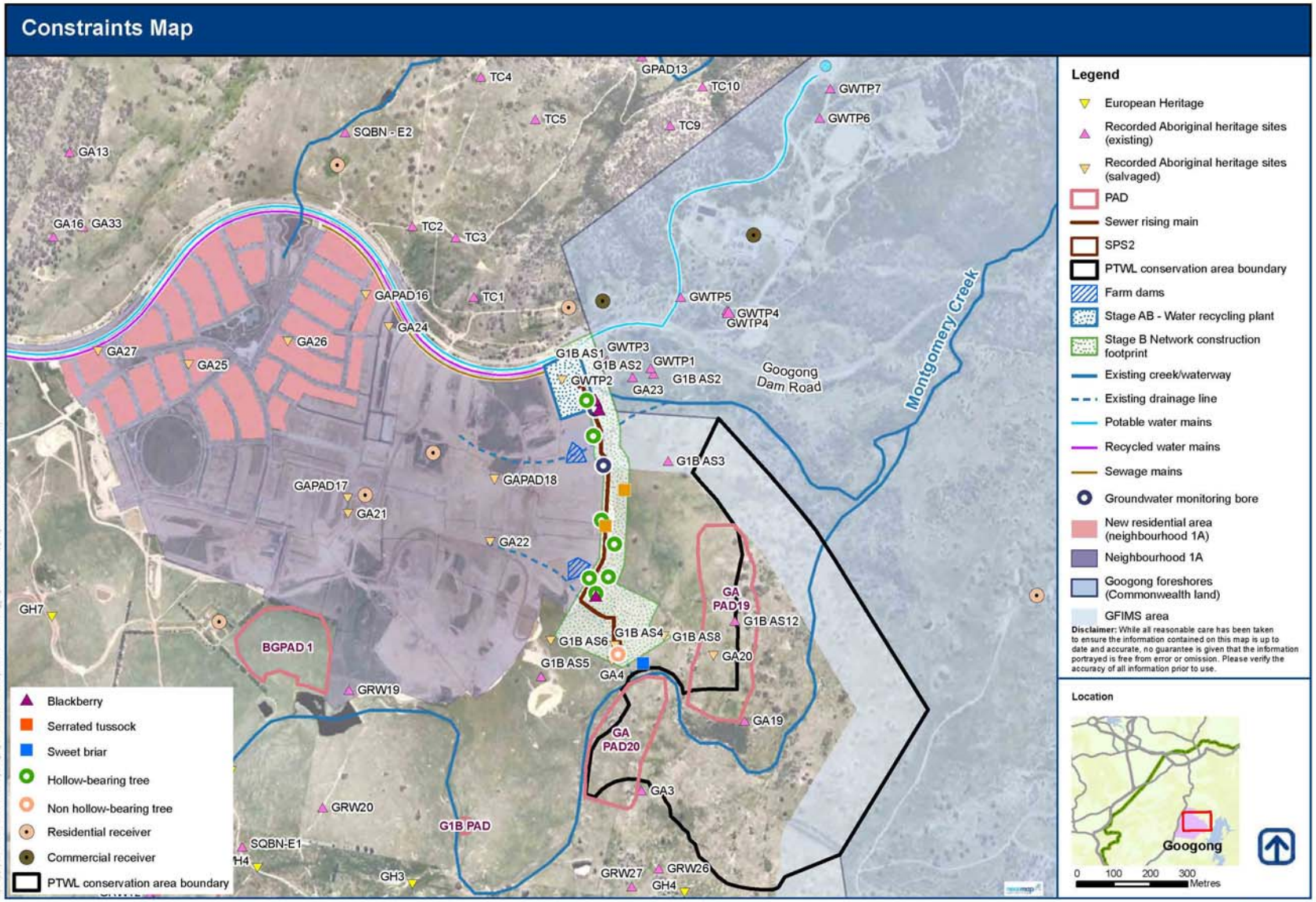
Waste and Resource Management Plan

Appendix 8

Air Quality Management Plan

Appendix 9

Environmental constraints map [figure updated]



Sources:
1. GIS datasets as supplied from Brown Consulting, Navin Officer, SMEC, SLR Consulting, Biosis
2. Aerial imagery from Nearmap (2014)

Appendix 10

Example Environmental Control Plan

Appendix 11

Risk register

Introduction

The environmental risk assessment has been performed in accordance with the principles of AS/NZS 4360:2004. This risk assessment was used to confirm the key issues and identify the scope of environmental impact mitigation and management measures required for construction of Stage B Network.

The risk assessment focused on the following issues, as identified in the Environmental Assessment (EA):

- Water quality and hydrology.
- Soils.
- Groundwater.
- Ecology.
- Heritage.
- Traffic and access.
- Waste.
- Air quality
- Noise and vibration.
- Hazards and risk.
- Visual amenity.
- Socio-economic.
- Community.
- Utilities and services.
- Incident management.
- Legislative approvals.

For each issue, associated risks (impacts) have been identified. The relative level of risk was assessed and ranked using the risk analysis matrix presented below. Each environmental risk is categorised based on:

- The environmental aspect.
- Relative scale of the potential impact (refer Table 5).
- Type of potential impact.
- Likelihood of occurrence (refer Table 6).

Table 5 Risk assessment consequence definitions

Consequence level	Definition
Extreme	▪ Would result in a major prosecution under relevant environmental legislation. ▪ Would cause long-term and irreversible impacts.
Major	▪ Would result in a fine or equivalent under relevant environmental legislation. ▪ Would cause medium-long-term, potentially irreversible impacts.
Moderate	▪ Would result in a medium-term, reversible impact.
Minor	▪ Would result in short-term, reversible impact.
Insignificant	▪ Would not result in any perceptible impacts.

Table 6 Risk assessment likelihood definitions

Likelihood level	Definition
Almost certain	The impact is expected to occur in most circumstances.
Likely	The impact will probably occur in most circumstances.
Possible	The impact will probably occur at some time.
Unlikely	The impact could occur at some time.
Rare	The impact may only occur in exceptional circumstances.

Table 7 Risk matrix

Likelihood	Consequences				
	Insignificant	**Minor**	**Moderate**	**Major**	**Extreme**
Almost certain	Significant	Significant	High	High	High
Likely	Moderate	Significant	Significant	High	High
Possible	Low	Moderate	Significant	Significant	High
Unlikely	Low	Low	Moderate	Moderate	Significant
Rare	Low	Low	Low	Moderate	Moderate

The risk rankings identified are documented in Table 8 and were used to develop the impact mitigation and management strategies for the CEMP and management plans and procedures.

Risk assessment results

Table 8 outlines the results from the environmental risk assessment by including the recognised risks and the associate risk rating before and after the implementation of the mitigation measures include in this CEMP and environmental management plans.

Table 8 Risk assessment results – before and after consideration of mitigation

Risk	Risk rating – before mitigation			Risk rating – after mitigation		
Water quality and hydrology						
Surface water quality impacts due to construction (dewatering, sediment runoff, chemical spills etc).	Likely	Minor	Significant	Unlikely	Minor	Low
Unforeseen impacts upon water quality in the Googong Dam catchment.	Rare	Moderate	Low	Rare	Moderate	Low
Soils						
Expansive soils that exist in the area may create stability issues during construction.	Unlikely	Minor	Low	Unlikely	Minor	Low
Contamination of land or soils due to chemical spills.	Possible	Minor	Moderate	Unlikely	Minor	Low
Increased soil erosion and potential for soil erosion due to disturbance of topsoil and loss of vegetation.	Possible	Minor	Moderate	Unlikely	Minor	Low
Failure to adequately identify contaminated soils results in impacts on surrounding environment once exposed.	Unlikely	Major	Moderate	Unlikely	Minor	Low
Groundwater						
Interception of groundwater without a license.	Possible	Major	Significant	Unlikely	Major	Moderate
Changes to groundwater flows and quality due to construction activities.	Possible	Minor	Moderate	Unlikely	Minor	Low
Ecology						
Removal of native vegetation including endangered ecological communities in addition to that already approved.	Unlikely	Major	Moderate	Rare	Major	Moderate
Impacts on threatened species (NSW/Commonwealth) in addition to that already approved.	Unlikely	Major	Moderate	Unlikely	Major	Moderate

Risk	Risk rating – before mitigation			Risk rating – after mitigation		
Native flora and fauna habitat loss in addition to that already approved.	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Failure to adequately address environmentally sensitive areas in design and construction.	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Encourage further migration of weeds (noxious and environmental).	Likely	Moderate	Significant	Unlikely	Moderate	Moderate
Wildlife entrapment in trenches.	Likely	Minor	Significant	Unlikely	Minor	Low
Increased vehicle/fauna interactions due to increased traffic.	Possible	Minor	Moderate	Unlikely	Minor	Low
Heritage						
Direct impacts on known items of significance during construction.	Likely	Major	High	Rare	Major	Moderate
Unforeseen impacts, including discovery and impacts on sites that are of cultural heritage or recreational value.	Possible	Major	Significant	Unlikely	Major	Moderate
Traffic and access						
Road diversion and/or temporary closure of roads. Impacts to road users.	Possible	Minor	Moderate	Unlikely	Minor	Low
Road diversion and/or temporary closure of roads. Impacts to private property access.	Unlikely	Minor	Low	Unlikely	Minor	Low
Waste						
Incorrect classification and / or inappropriate disposal of construction waste.	Likely	Moderate	Significant	Unlikely	Moderate	Moderate
Excessive waste from construction and general waste from construction camps.	Possible	Minor	Moderate	Unlikely	Minor	Low
Air quality						
Greenhouse gas emissions during construction (emissions from vehicles, plant and equipment).	Almost certain	Insignificant	Significant	Almost certain	Insignificant	Significant
Plant and equipment emissions affecting local air quality.	Unlikely	Minor	Low	Unlikely	Minor	Low
Dust from earthmoving equipment activities (vegetation clearing, wind erosion from stockpiling of excavated	Almost certain	Minor	Significant	Unlikely	Minor	Low

Risk	Risk rating – before mitigation			Risk rating – after mitigation		
material, etc).						
Noise and vibration						
Working outside approved hours.	Likely	Minor	Significant	Unlikely	Minor	Low
Noise and vibration impacts.	Almost certain	Minor	Significant	Possible	Minor	Moderate
Hazards and risks						
Safety hazards and risks as a result of construction (bushfire, personal safety and security, chemical storage).	Possible	Extreme	High	Unlikely	Extreme	Significant
Visual amenity						
Inadequate site rehabilitation.	Possible	Minor	Moderate	Unlikely	Minor	Low
Temporary visual impacts (site compounds, works).	Possible	Insignificant	Low	Possible	Insignificant	Low
Socio-economic						
Impacts on recreational use at various nearby sites.	Possible	Minor	Moderate	Unlikely	Minor	Low
Community						
Inadequate / late response to community complaints	Likely	Moderate	Significant	Unlikely	Moderate	Moderate
Utilities and services						
Impacts and interruptions to utilities and services.	Unlikely	Major	Moderate	Unlikely	Minor	Low
Incident management						
Inadequate response to incident, including reporting requirements.	Likely	Major	High	Unlikely	Major	Moderate
Legislative approvals						
Carrying out activities inconsistent with conditions of Project Approval.	Likely	Major	High	Unlikely	Major	Moderate
Non-compliance with legislative requirements.	Likely	Major	High	Unlikely	Major	Moderate
Cumulative impacts						
Cumulative noise, dust, vegetation impacts as a result of Part 4 subdivision occurring concurrently.	Likely	Moderate	Significant	Unlikely	Moderate	Moderate

Appendix 12

Legal and other requirements

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
General				
Environmental Planning and Assessment Act 1979 (EP&A Act)	All	Comply with the terms Minister for Planning's approval for the IWC Project. Obtain the Minister's approval for any project modifications that are not consistent with the Approved Project.	S75W	The IWC Project has been approved under Part 3A of the EP&A Act subject to Conditions of Approval (CoA). The construction of Stage B Network must comply with all CoA. Any changes not consistent with the IWC Project Approval would require additional assessment and approval from the Minister.
	BCA and Certification	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: ▪ Under Part 4 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and ▪ Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.	Part 4	The contractor will ensure that all new buildings and structures are constructed in accordance with the relevant requirements of the BCA and obtain the relevant construction/occupation certificates from Queanbeyan City Council (QCC).
Water				
Water Management Act 2000 (WM Act)	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence. Do not use of water on land (unless supplied by a water utility, irrigation corporation etc. or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that a water use approval under Section 89, a water management work approval under Section 90 or an activity approval under Section 91 of the WM Act is not required. The construction of Stage B Network will be carried out consistent with the aims of the WM Act. It is anticipated that groundwater under the Water Sharing Plan for NSW Murray Darling Basin Fractured Rock Groundwater Sources will be intercepted during Stage B Network construction works. However, based on the predicted dewatering volumes, timeframes and proposed use, the NSW Office of Water advised on 30 May 2014 that a Water Access Licence under the Water Management Act 2000 will not
	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	
	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
				be required.
Water Act 1912 (Water Act) Note that this Act is being progressively repealed by the *Water Management Act 2000.*	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water.	S21B	The Water Act does not apply, as the Stage B Network site is located within a Water Sharing Plan area, and so *Water Management Act 2000* applies.
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	The Water Act does not apply, as the Stage B Network site is located within a Water Sharing Plan area, and so *Water Management Act 2000* applies.
Protection of the Environment Operations Act 1997 (POEO Act)	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of any EPA licence.	S120	The construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant. Under Section 47 of the POEO Act a Scheduled Development Environment Protection Licence is required for construction of Stage B Network. GTPL holds EPL 20188 for construction works.
Local Government Act 1993 (LG Act)	Construction and operate water and wastewater facilities	Construction and operate water and wastewater facilities.	S60 (local council)	While QCC will not be responsible for the construction of Stage B Network, but as QCC will operate the plant, QCC (with support from GTPL) will seek approval from the Minister under S60 of the *Local Government Act 1993* to operate Stage 1 of the IWC Project.
	Construction and operate water and wastewater facilities	Construction and operate water and wastewater facilities.	S68 (private sector)	GTPL will seek approval from QCC for approval to construct and operate (if required) sewerage infrastructure.
Water Industry Competition Act 2006 (WIC Act)	Construction and operate water and wastewater facilities	Obtain a Network operator's licence prior to construction for construction maintenance and operation of water industry infrastructure.		As QCC will operate the water and wastewater facilities, GTPL are not required to seek a Network operator's licence under the WIC Act.
Noise				
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant.
	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Construction of Stage B Network will be carried out in accordance with the POEO Act, where

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
				relevant.
Roads				
Roads Act 1993	Works and structures on public roads	Do not erect a structure or carry out a work in, on or over a public road, or dig up or disturb the surface of a public road, or remove or interfere with a structure, work or tree on a public road, or pump water into a public road from any land adjoining the road, or connect a road (whether public or private) to a classified road, otherwise than with the consent of the appropriate roads authority.	S138	The contractor will apply for a road occupancy permit under Section 138 for any works undertaken on public roads. The relevant roads authority is QCC for Googong Dam Road and Roads and Maritime Services for Old Cooma Road.
Contaminated land				
Protection of the Environment Operations Act 1997	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. It is however not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.	S142A – S142E	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant.
Contaminated Land Management Act 1997 (CLM Act)	Reporting contamination	Notify the EPA if: ▪ Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. ▪ Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. ▪ Contamination meets other criteria that may be prescribed by the regulations.	S60	Construction of Stage B Network will be carried out in accordance with the CLM Act, where relevant. Refer to Soil and Water Management Plan for contamination reporting requirements.
Biodiversity				
Noxious Weeds Act 1993	Weed control	As a private landowner, control noxious weeds on the land as required under the control category or categories specified in relation to the weeds concerned. Notify relevant control authority within 3 days of becoming aware (or ought reasonably to have known) that a notifiable weed (W1 weed) is on land. Must not scatter or cause to scatter notifiable weed material.	S12 S16 S30	Construction of Stage B Network will be carried out in accordance with the *Noxious Weeds Act 1993*, where relevant.

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
National Parks and Wildlife Act 1974 (NPW Act)	Native fauna	Do not harm any animal that is of a threatened species population or ecological community, or its habitat except in accordance with a planning approval.	Part 8A	Construction of Stage B Network will be carried out in accordance with the NPW Act, where relevant.
		Do not harm critical habitat except as in accordance with a planning approval.	S98	Construction of Stage B Network will be carried out in accordance with the NPW Act, where relevant.
		Do not harm native fauna (other than listed unprotected fauna) except in accordance with a planning approval or licence.	S120	Construction of Stage B Network will be carried out in accordance with the NPW Act, where relevant.
	Flora and native vegetation conservation	Do not pick protected native plants without a licence.	S117 S131	Construction of Stage B Network will be carried out in accordance with the NPW Act, where relevant.
Native Vegetation Act 2003	Flora and native vegetation conservation	Only clear native vegetation in accordance with a planning approval or property vegetation plan.	S12	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that an authorisation to clear native vegetation or State protected land referred to in section 12 of the *Native Vegetation Act 2003* is not required. Construction of Stage B Network will be carried out consistent with the aims of the Act and will consult with OEH where required, regarding clearing of native vegetation.
Fisheries Management Act 1994 (FM Act)	Dredging and reclamation	Do not carry out dredging or reclamation work except under the authority of a permit issued by the Minister.	S201	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that a permit under section 201, 205 or 219 of the FM Act is not required.
	Fish passage	Do not block fish passage without a permit	S219	The IWC Project will be carried out in accordance with the *Fisheries Management Act 1994*, where relevant. No blockage of fish passage is expected for Stage B Network works.
Environment Protection Biodiversity Conservation Act 1999 (Commonwealth) (EPBC Act)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Construction of Stage B Network will be carried out in accordance with the EPBC Act, where relevant.

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
		Comply with the terms of any EPBC Act approval for the project.		The IWC Project was approved on 19 May 2011 (EPBC 2011/5829). The approval is subject to conditions. Relevant conditions are addressed in the CEMP and Flora and Fauna Management Plan.
Waste				
Protection of the Environment Operations Act 1997	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Part 5.6A	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant.
	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: ▪ Is VENM. ▪ Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. ▪ Is covered by a 'general exemption'. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land. A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.	Part 3.2 Schedule 1	Due to the relatively small volume of spoil likely to be generated by the construction of Stage B Network, it is unlikely that a licence to dispose of waste to landfill will be required. Spoil will be reused on site where possible. Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant.
		Only transport waste to a facility that can lawfully accept the waste.	S143	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
				Waste and Resource Management Plan.
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the Waste and Resource Management Plan.
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the Waste and Resource Management Plan.
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the Waste and Resource Management Plan.
Heritage				
Heritage Act 1977 (Heritage Act)	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that an approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977* is not required. Construction of Stage B Network will be carried out in consistent with the aims of the Heritage Act.
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that an approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977* is not required. Construction of Stage B Network will be carried out in consistent with the aims of the Heritage Act.
		Notify the heritage Council on discovery of a relic	S146	Under Section146 of the Heritage Act the Heritage Council may need to be notified should a 'relic' be found which has not been previously identified in the EA. This requirement is not removed by Part 3A approval.

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
				Reporting requirements are outlined in the Heritage Management Plan.
National Parks and Wildlife Act 1974	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	Construction of Stage B Network will be carried out in accordance with the NPW Act, where relevant.
		Notify the OEH and DP&E~~I~~ immediately of the location or discovery of all new or unrecorded Aboriginal objects.	S89A	Construction of Stage B Network will be carried out in accordance with the NPW Act, where relevant.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Sustainability, *Environment*, Water, Population and Communities.	S20	Construction of Stage B Network will be carried out in accordance with the Aboriginal and Torres Strait Islander Heritage Protection Act 1984, where relevant.
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	Construction of Stage B Network will comply with the provisions of any declaration in relation to a significant Aboriginal area or object.
General				
Protection of the Environment Operations Act 1997	Harming the environment	Do not risk harming the environment by wilfully or negligently: ▪ disposing of waste unlawfully. ▪ causing any substance to leak, spill or otherwise escape (whether or not from a container); or ▪ emitting an ozone depleting substance	S115 S116 S117	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant.
	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant.

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Construction of Stage B Network will be carried out in accordance with the POEO Act, where relevant. Notification instructions are provided in Section 7.3 and the PIRMP (Appendix 15).
	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA.	S47 S48	Construction of Stage B Network will be carried out in accordance with the POEO Act and the relevant EPLs, where relevant.
Environmentally Hazardous Chemicals Act 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes. Codes of practice for the Storage and Handling of Corrosive substances is required.		Construction of Stage B Network will be carried out in accordance with the *Environmentally Hazardous Chemicals Act 1985*, where relevant. Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan.
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Construction of Stage B Network will be carried out in accordance with the *Dangerous Goods (Road and Rail Transport) Act 2008*, where relevant. Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan.
Pesticides Act 1999	Hazards and risks	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Construction of Stage B Network will be carried out in accordance with the *Pesticides Act 1999*, where relevant. Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan.
State Emergency and Rescue Management Act 1989	Hazards and risks	Manage risks in emergency and/or maintenance situations at key infrastructure (in this case bush fire, flood or similar natural disaster) (SoC R2)		Construction of Stage B Network will be carried out in accordance with the *State Emergency and Rescue Management Act 1989* where relevant in relation to emergency preparedness and response. Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan

Act	Activity/aspect	Requirement	Reference	Applicability to the construction of Stage B Network
Rural Fires Act 1997 and the Rural Fires Regulation 2002	Hazards and risks	Manage risks in emergency and/or maintenance situations at key infrastructure (in this case bush fire, flood or similar natural disaster)		Construction of Stage B Network will be carried out in accordance with the *Rural Fires Act 1997* where relevant – in relation to emergency situation management. Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan
National Greenhouse and Energy Reporting Act, 2007 and Regulations 2008	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	The National Greenhouse and Energy Reporting Act 2007 (the NGER Act) is a unified framework for the reporting of greenhouse gas emissions (GHGs) and energy use for significant corporation emitters of greater than 50kt CO2-e and energy consumption of 200Tj. GTPL is not required to report under the NGERs Act as they do not meet the required threshold.

Appendix 13

Environment policy

The following is the CIC Corporate Environmental Policy, as adopted by Googong Township Proprietary Limited (GTPL).

CIC is committed to a high standard of environmental management practice. To achieve this objective any consultants or contractor engaged by CIC shall provide an Environmental Management Plan that covers the following requirements as appropriate;

The Consultant or Contractor must implement an Environment Management Plan that:

- Acknowledges the potential impact of activities, products or services on the environment;
- Includes an environmental policy that has the total support of management involved in the works;
- Has planning processes and procedures in place that have the capacity to identify possible environmental impacts;
- Has planning processes and procedures in place to develop mitigation measures to minimise environmental impacts;
- Establishes responsibilities and procedures for implementing required mitigation measures;
- Establishes systems and procedures to review the implementation process.
- Establishes a process of management review of systems and procedures that support the environmental policy and which will lead to continually improving performance.

[Contractor to insert environmental policy]

Appendix 14

Monthly environmental report (template)

Scope

This monthly report is to be provided to GTPL monthly to track progress on environmental performance. The report is to include relevant details including but not limited to:

- Environmental inspections.
- Environmental monitoring.
- Environmental incidents.
- Environmental non-conformances.
- Environmental audits.
- Environmental reporting against licences, approvals, permits etc.
- Planned and completed notifications to the community regarding construction activities.
- Complaints and enquiries.
- Training.

Project description

Stage B Network will include construction of the following:

- Sewage pumping station (SPS2) and wet well storage and associated structures and ancillaries (e.g. flood lighting, above ground control cabinets and fencing), at the southern section of the Stage B Network area. The proposed SPS2 site area is approximately 50 by 20 metres.
- Dry weather emergency storage at SPS2 upstream of the wet well within the SPS2 site. A high-level flow diversion will be provided from the collection manhole to the emergency storage (sized at eight times the Average Dry Weather Flow ~723 kilolitres). The storage arrangement is likely to be similar to SPS1 and will comprise buried storage tanks. These tanks will typically sit on concrete slab foundations secured in place using stainless steel tie-down straps, subject to detailed design.
- Overflow structure (including a gas check structure) off the collecting manhole or emergency storage. The overflow will drain to the stormwater attenuation structure.
- Rising main/s which will transfer flows approximately 870 metres from SPS2 in the south to the inlet works of the WRP to the north of the Stage B Network project area. The Stage B Network will be constructed with two pipelines. One has been sized to cater for the initial stage design (200 millimetre diameter) while the second has been sized to cater for the ultimate stage design (400 millimetre diameter). The second rising main will be initially capped, filled with water and left out of service.
- Gabion wall for stormwater flow attenuation adjacent to the eastern side of SPS2. This gabion wall will be approximately five metres high, and will be located over 40 metres from Montgomery Creek.
- New vent shaft for odour management (approximately nine metres high, subject to detailed design) located as far away from the nearest future residences as possible at the SPS2 site.
- Temporary access road (minimum width 3.5 metres along the rising main alignment), which will be finished with a single coat seal initially. A retaining wall system may be required for the access road.
- Connections to telemetry, electricity and water services.

Reporting period

Period starting	Period ending

Scope of construction activities undertaken

Provide details on construction activities undertaken during the reporting period.

Area	Key activities (provide summary)

Environmental inspections

Provide details on environmental inspections undertaken during the reporting period.

Inspection type (Weekly inspection or Environmental Representative inspection)	Date	Key issues (identify key issues identified and actions taken)	Outstanding issues (identify any outstanding issues)

Environmental monitoring

Provide details on environmental monitoring undertaken during the reporting period.

Monitoring type and location *(noise, vibration, water quality etc)*	**Date**	**Outcome** (identify any exceedances of criteria and provide explanation)	**Action taken** *(identify any actions taken or further action required)*

Discussion of environmental monitoring results

- *… (provide summary)*

Environmental incidents

Provide details on environmental incidents that occurred during the reporting period.

Incident type and location *(category of incident, location and extent)*	**Date**	**Response** *(identify extent of environmental impacts, response, reporting)*	**Investigation** *(identify requirements for / results of investigation and further action required)*

Environmental non-conformances

Identify non-conformances that occurred during the reporting period and review the non-conformance register to identify outstanding actions. Environmental incidents above are excluded from this section.

Non-conformance *(provide summary)*	**Date**	**Status** *(closed or open)*	**Further action required** *(provide summary)*

Environmental audits

Provide details on internal and external audits undertaken during the reporting period.

Audit type *(internal or external, provide details)*	**Date**	**Undertaken by**	**Description**	**No. of non-conformances** *(details ~~in~~ 0 above)*

Environmental reporting against licences, approvals, permits

Provide details on any other reporting undertaken during the reporting period eg relating to the Part 3A IWC Project Approval, any other statutory licences or permits.

Licence, approval or permit details	Date	Reported to	Description

Completed construction notifications

Provide details of completed construction notifications undertaken during the reporting period eg relating to Condition of Approval A14 and outlined in the Community Information Plan.

Notification type	Date completed	Distributed/sent to	Description
Eg Letter regarding blasting		Sent to sensitive receivers (list addresses) and QCC	Letter regarding blasting activities that occurred on [date].

Planned construction notifications

Provide details of planned construction notifications for the upcoming reporting period eg relating to Condition of Approval A14 and outlined in the Community Information Plan.

Notification type	Date to be sent by	To be distributed/sent to	Description
Eg Letter regarding blasting		Sent to sensitive receivers and QCC	Letter regarding planned blasting activities to occur on [date].

Community complaints/enquiries

This section should provide a summary record of environmental complaints received during the reporting period and outline the response and status (open/closed).

Note that any community or environmental complaints or enquiries received by the contractor should be forwarded immediately to GTPL by emailing the details of the complaint to the iwc@googong.net address or dialling the project hotline on 1800 838 438, after which the appropriate follow up action will be agreed by GTPL and the contractor.

GTPL and the contractor are required to respond to all complaints within 48 hours as per Condition of Approval A17 and outlined in Complaints Management Procedure, an appendix to the Community Engagement and Stakeholder Management Plan.

All communication with other stakeholders/community should be recorded and provided to GTPL who will record in the IWC Project consultation manager database.

Complaint made by *(list contact details)*	Date of complaint	Issue raised *(provide summary)*	Actions taken *(provide summary)*	Date closed out

Training

Training type *(induction, toolbox talk, other)*	Date	Topics covered *(provide summary)*	No of personnel trained

Appendix 15

Pollution Incident Response Management Plan