

Googong Township water cycle project: Stage A - Network (west)

Construction environmental management plan
November 2014

Manidis Roberts

MANIDIS ROBERTS PTY LTD

ABN 42 003 550 972

Level 9, 17 York Street, Sydney NSW 2000
GPO Box 91, Sydney NSW 2001

t (02) 9248 9800 f (02) 9248 9810
info@manidisroberts.com.au
www.manidisroberts.com.au

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Prepared by	Michael Fields
Reviewed by	Katharine Bond
Endorsed by	Richard Sharp

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Distribution of controlled copies

Copy no.	Issued to	Version
1	GTPL	7
2	Project engineer – Guideline ACT	7
3	Environmental Representative - Ecology and Heritage Partners	7
4	Superintendent – Black Mountain	7

Revision History

Revision No.	Date issued	Change Summary
5	13-11-2014	Changes to reflect Guideline ACT environmental system and the new potable water booster facility located downstream of an existing and live Potable water reservoir and associated reticulation system.
6	17-12-2014	Updating of Figure 7.1 Environmental Incident Reporting Flowchart.
7	15-07-2015	Extra works at SPS1 regarding new sewer vent stack and to decommission the Interim Sewer Service system. Change of superintendent Name

Acronyms and glossary

BWPS	Bulk water pumping station
CEMP	Construction environmental management plan
CoA	Minister for Planning's Condition of Approval
DoE	Department of the Environment (Cth)
DP&IE	Department of Planning and Infrastructure Environment (NSW)
EP	Equivalent population
EPA	Environment Protection Authority
EPBC Act	Commonwealth <i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
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 Environment Management Plan
PIRMP	Pollution Incident Response Management Plan
POELA Act	<i>Protection of the Environment Legislation Act 2011</i>
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
QCC	Queanbeyan City Council
RMS	Roads and Maritime Services
SoC	Statement of Commitments
SPS	Sewage pumping station
WRP	Water recycling plant

1 Introduction

1.1 Background

The Googong township will be located in the Canberra region, around seven kilometres south of Queanbeyan in NSW. The township is being developed by Googong Township Proprietary Limited (GTPL), a partnership between Canberra Investment Corporation and Mirvac. It will be home to about 16,000 people and will be developed over the next 25 years.

As described in the Googong township water cycle environmental assessment (EA), the project will be constructed in stages to ensure the infrastructure is correctly sized to meet the incremental level of demand. Stage 1 includes infrastructure required to service the initial residents of the Googong township, up to 3,600 equivalent population (EP). Stage 2 includes development of infrastructure to service the entire Googong township, about 16,000 EP.

An environmental assessment 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 system required to service the township (Stage 1). On 24 November 2011, a Concept Approval for the ultimate development (Stage 1 and Stage 2) and a Project Approval for Stage 1 of the Googong township water cycle project were granted by the NSW Planning Assessment Commission, under delegation from the Minister for Planning and Infrastructure.

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

1.1.1 Staging of the Googong Township water cycle project

The Approved Project - Googong township water cycle Stage 1 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 Minister for Planning's 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 outlined in the Staging Report, construction of Stage 1 will take place in the following sub-stages:

- Stage A – Network.
- Stage A – WRP.
- Stage B – Network and WRP.

Further, Stage A - Network will be delivered via two separate contracts. These being:

- Stage A – Network (east): includes all Stage A – Network scope inside the Googong Foreshore boundary (assets that will be owned and operated by Actew) and includes:
 - Bulk water connection to the existing DN1800 bulk water supply pipeline owned and operated by ACTEW.
 - Interim bulk water main from Googong filtration plant to BWPS (160 metres of pipeline).
 - BWPS to transfer bulk water to the potable water reservoir.
 - Access roads and bulk earthworks to the BWPS.
 - Initial section of potable water rising main.
- Stage A – Network (west) (the Project): includes all Stage A – Network scope outside the Googong Foreshore boundary (to be owned and operated by QCC).
 - Potable water reservoir including chemical dosing facilities
 - Recycled water reservoir including chemical dosing facilities.
 - Sewer pump station (SPS1).
 - Sewer rising main.
 - Final section of potable water rising main.
 - Recycled water rising main.
 - Recycled water gravity main.
 - Potable water gravity main.
 - Reservoir overflow water main.
 - Supply, installation, testing and commissioning of new potable water booster facility located downstream of an existing and live Potable water reservoir and associated reticulation system.

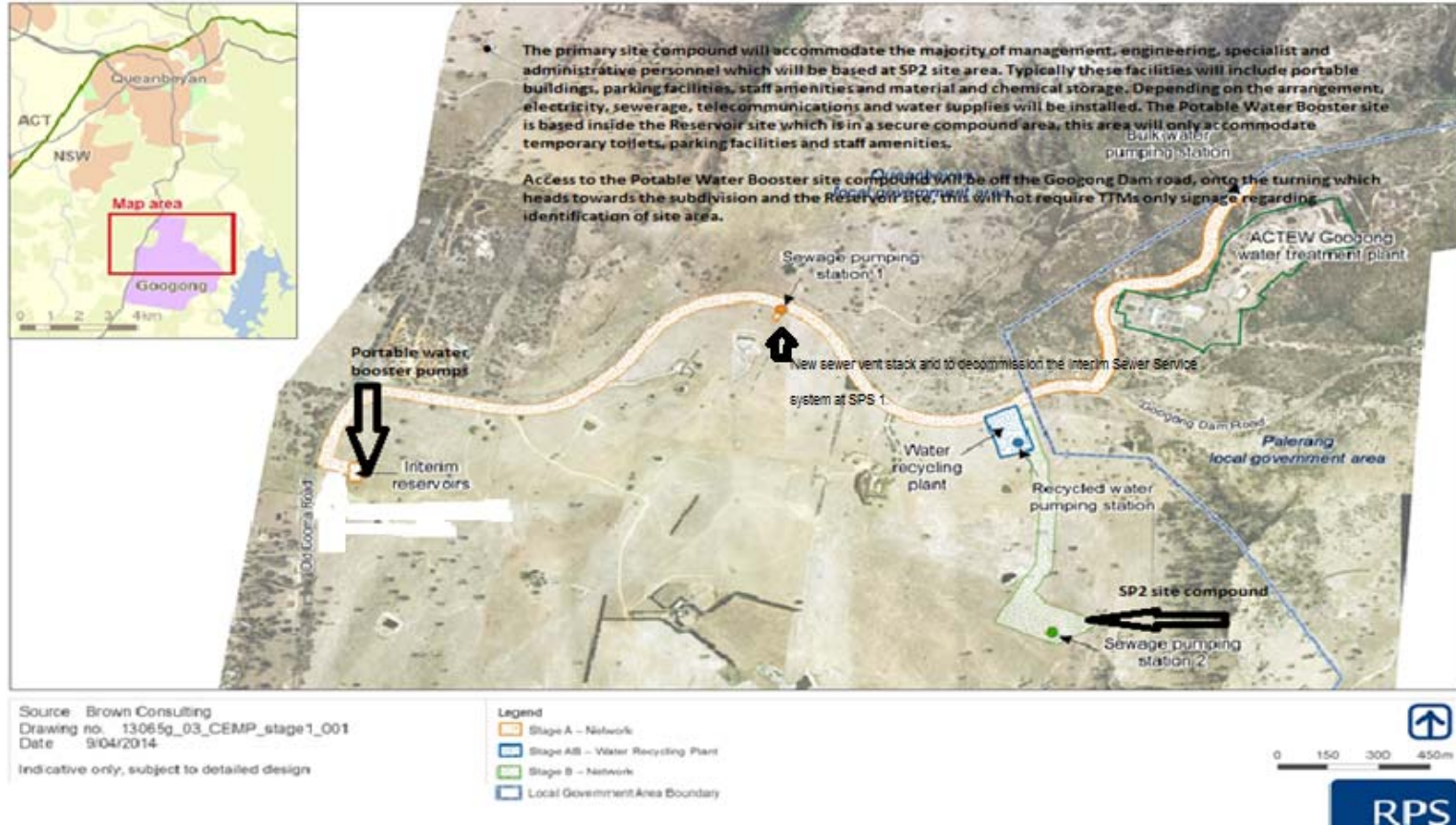
Potable Water Booster works includes

1. All necessary surveys to confirm location and dimensions of existing assets and earthworks on site in the location of the proposed booster station and off take pipework.
2. All earthworks, foundations and concrete slabs necessary for the location and support of the booster facility and its associated plant and equipment
3. All suction and discharge pipework to and from the booster facility including flexible couplings, dismantling joints, valves supports and all other fittings necessary for the safe operation and maintenance of the booster facility.
4. Connection of all pipework and valves upstream and downstream of the booster station in accordance with the drawings and schedules provided

5. Flow management of potable reservoir flows during the construction and testing and commissioning stages of the project such that service interruptions are minimised to a maximum duration of 1 hour overnight
6. Connection of power supply feeder cable and all associated conduit from existing LV distribution board to the potable water booster facility
7. Connection of alarm and fault indications cable and all associated conduit from existing QCC control panel to the potable water booster facility.
8. Telemetry end to end testing of alarms and signals as required by QCC Operations
9. Provision of training to QCC operations and maintenance personnel.
10. Cut over works will require Guideline ACT isolating the valve system at the connection point for the booster pumps. For this Guideline ACT or GTPL contractor will organise to have a connection between 2 hydrants points one on the non-portable system and the over connected to the portable system to bypass the pit which the cut over is happening.
11. Install of a new sewer vent stack and to decommission the Interim Sewer Service system at SPS 1.
 - I. Supply & Install a New Vent Stack inclusive of footing.
 - II. Final Decommissioning - removal of Macerator pump Commissioning & WAE

Figure 1.1 provides an overview of the three sub-stages. Note that Stage A – Network (east) and Stage A – Network (west) will be constructed at the same time, but delivered by separate contractors. Construction of Stage A – Network (east) and Stage A – Network (west) will be managed through separate and project-specific CEMPs. This CEMP relates to Stage A – Network (west) only.

Figure 1.1 Overview of Stage 1



1.1.2 The Project

The project comprises the construction of the first package of works under Stage 1; Stage A – Network (west) (the Project). The Project includes the construction of interim reservoirs, a pumping station for sewage, ~~and~~ mains pipework; and supply, installation, testing and commissioning of new potable water booster facility . A detailed description of the Project is provided in Section 2.

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 this CoA and the Staging Report, this CEMP has been prepared for Stage A – Network (west) (the Project).

Stage A – Network (east), Stage A – WRP and Stage B – Network and WRP would require the preparation, approval and implementation of separate CEMP(s).

1.2 Purpose of this document

This CEMP has been developed to meet the requirements of the CoA and Statement of Commitments (SoC) for the Googong Township water cycle project Stage 1, where they are relevant to the construction of Stage A – Network (west) (the Project). 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 is the overarching document in the environmental management system for the Project that includes a number of management documents. The environmental management system structure is described in Section 1.6. The 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.

The purpose of this CEMP is to provide an approach to the management of environmental issues during construction of the Project, to ensure that the requirements of the CoA are met.

Construction of the Project will be carried out by a contractor appointed by GTPL. Unless otherwise identified, the contractor will be responsible for updating and implementation of this CEMP and related environmental documents based on detailed construction information.

This CEMP and associated documents will be made available, and is applicable, to all employees and persons involved in construction of the Project, including relevant subcontractors.

This CEMP has been developed to meet the requirements of the CoA and SoC. Table 1.1 and Table 1.2 outline where the requirements are met in this CEMP (or other project documents).

Table 1.1 CoA requirements for 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 M

CoA No.	Requirement	Reference
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
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 1.5
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
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
	(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 1.5
	(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 3.2 Appendix M

CoA No.	Requirement	Reference
	(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
	(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 H)
	(h) details of actions to be taken to address identified potential adverse environmental impacts;	Section 7
	(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
	(j) a complaints handling procedure during construction; and	Section 0 Community Information Plan
	(k) procedures for the update of the Construction Environmental Management Plan as necessary.	Section 1.6 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 1.3
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 A)
	(i) detailed engineering designs for the recycled water discharge structure;	Soil and Water Management Plan (Appendix A)
	(ii) detailed engineering designs and rehabilitation methodology for each category of watercourse crossing;	Soil and Water Management Plan (Appendix A)
	(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 A)
	(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 A)

CoA No.	Requirement	Reference
	(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 A)
	(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 A)
	(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 A)
	(viii) monitoring of impacts on water quality and soils;	Soil and Water Management Plan (Appendix A)
C20(b)	(b) a Hazards, Risk and Safety Management Plan to address:	Hazard, Risk and Safety Management Plan (Appendix B)
	(i) the safety of construction workers in the event of a flood, bushfire and any other likely hazard or risk;	Hazard, Risk and Safety Management Plan (Appendix B)
	(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;	Hazard, Risk and Safety Management Plan (Appendix B)
	(iii) the safety of the public (such as bushwalkers) near the site during construction, such as installation of signage and fencing as necessary;	Hazard, Risk and Safety Management Plan (Appendix B)
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 C)
	(i) details of traffic routes for heavy vehicles, including any necessary route or timing restriction for oversized loads;	Traffic Management Protocol (Appendix C)
	(ii) measures to verify the condition of roads used by construction vehicles prior to and following construction;	Traffic Management Protocol (Appendix C)

CoA No.	Requirement	Reference
	(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 C)
	(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 C)
	(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 C)
	(vi) demonstration that all statutory responsibilities with regard to road traffic impacts have been complied with;	Traffic Management Protocol (Appendix C)
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 D)
C20(d)	(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 D)
	(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 D)
	(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 D)
	(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 D)
	(v) details of the consultation process for noise mitigation measures with any affected sensitive receivers; and	Noise and Vibration Management Plan (Appendix D)
	(vi) details of noise monitoring to be undertaken to manage potentially elevated noise levels;	Noise and Vibration Management Plan (Appendix D)

CoA No.	Requirement	Reference
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 and Queanbeyan City Council, and include, but not necessarily be limited to:	Flora and Fauna Management Plan (Appendix E)
	(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 E)
	(ii) procedures to accurately determine the total area, type and condition of vegetation community to be cleared;	Flora and Fauna Management Plan (Appendix E)
	(iii) plan/s showing terrestrial vegetation communities, important flora and fauna habitat areas, EECs, threatened species (Hoary Sunray <i>Leucochrysum albicans</i>)	Flora and Fauna Management Plan (Appendix E)
	(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 E)
	(v) measures for conserving and reusing topsoil;	Flora and Fauna Management Plan (Appendix E)
	(vi) procedures to be implemented for controlling weeds and feral pests;	Flora and Fauna Management Plan (Appendix E)
	(vii) rehabilitation details and success criteria;	Flora and Fauna Management Plan (Appendix E)
	(viii) a program for reporting on the effectiveness of flora and fauna management measures; and	Flora and Fauna Management Plan (Appendix E)
	(ix) a procedure to review management methods where they are found to be ineffective;	Flora and Fauna Management Plan (Appendix E)
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 F)

CoA No.	Requirement	Reference
	(i) details of measures to be carried out to avoid impacts to known and potential Aboriginal sites and deposits;	Heritage Management Plan (Appendix F)
	(ii) procedures for dealing with previously unidentified Aboriginal objects (excluding human remains), including:	Heritage Management Plan (Appendix F)
	(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 recommending any works in the area unless authorised by OEH and the NSW Police); and	Heritage Management Plan (Appendix F)
	(iv) Aboriginal cultural heritage induction processes for construction personnel and procedures for ongoing Aboriginal consultation and involvement.	Heritage Management Plan (Appendix F)
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 •
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 7.4

Table 1.2 SoC requirements for 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 0
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 <i>Development Specification – Googong</i> .	This Plan and environmental management documents identified in Section 0

1.3 Consultation

Consultation for the Project 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 of the Project development, and to establish effective lines of communication between GTPL and key stakeholders.

Consultation with relevant stakeholders and government authorities has continued through the development of this CEMP and management plans. Those consulted include:

- Environment Protection Authority (EPA).
- Office of Environment and Heritage (OEH).
- QCC.
- Palerang Council.
- NSW Roads and Maritime Services (RMS).
- Commonwealth Department of ~~Environment (DoE) Sustainability, Environment, Water, Population and Communities (DSEWPaC)~~.
- Consultation will continue throughout delivery of the Project with relevant stakeholders and government authorities, 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 the CEMP.

1.4 Certification and approval

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

The CEMP must be approved by the Director-General of DP&E prior to the commencement of construction.

~~The Director-General's nominee approved the Stage A Network (West) on 18 October 2012.~~

1.5 Environmental management system structure

1.5.1 Construction environmental management plan

This CEMP provides the system to manage and control the environmental aspects of the Project during construction. It provides the overall framework to ensure environmental impacts are minimised and legislative and other requirements are fulfilled.

1.5.2 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. 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 A).
- Hazards, risk and safety management plan (Appendix B).
- Traffic management protocol (Appendix C).
- Noise and vibration management plan (Appendix D)
- Flora and fauna management plan (Appendix E).
- Heritage management plan (Appendix F).
- Waste management plan (Appendix G).
- Air quality management plan (Appendix H).

1.5.3 Environmental Work Method Statement (EWMS)

EWMSs detail the specific construction methodology and environmental mitigation and management measures for an activity or area, for example, fencing. EWMS will be prepared prior to the commencement of significant activities. They will be prepared progressively in the lead up to and throughout construction, and approved by the Environment Manager.

1.5.4 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 Environment Manager.

1.5.5 Environmental constraints maps

A series of environmental constraints maps have been prepared for the length of the Project. 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.

The environmental constraints maps are provided in [9-1Appendix I](#). They 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.

1.5.6 Environmental control plans

Environmental control plans will be prepared to manage the impacts of construction on the environment at discreet sites. Maps will be prepared at a scale that ensures all controls are clearly identified. Environmental control plans 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.

Environmental control plans would be developed for sites such as:

- Compound site(s).
- Sewer pumping station site.
- Interim reservoir site.
- General trenching/pipework.

Environmental control plans will be developed by the Environment Manager, and are to be implemented prior to works commencing at that site.

A register of environmental control plans will be retained in 1.1.1Appendix A. An example environmental control plan is provided in 9.1Appendix K.

1.5.7 Other project documents

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

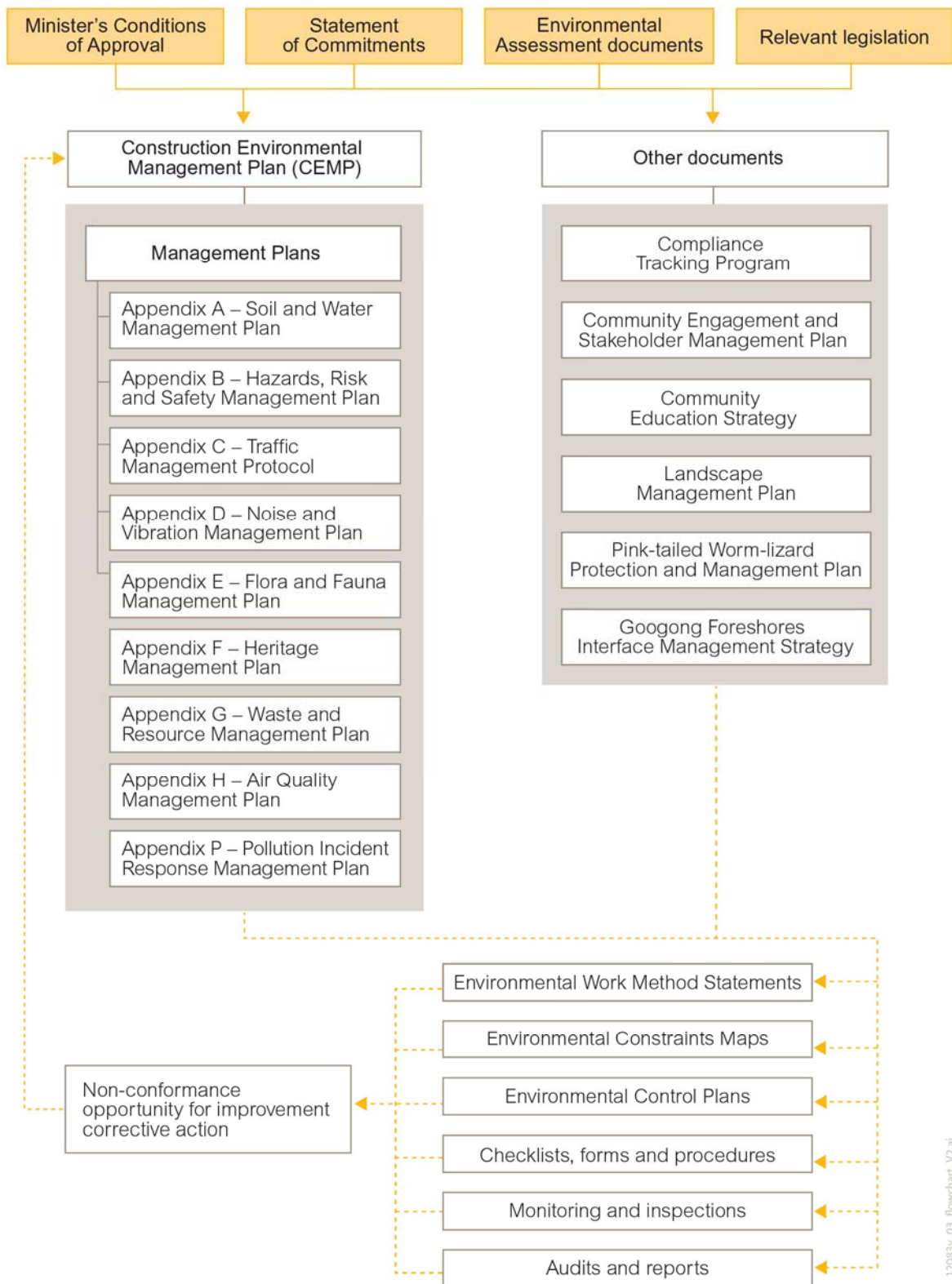
These include:

- Community Engagement and Stakeholder Management Plan (SoC CS1).
- Community Information Plan (CoA A14).
- Compliance Tracking Program (CoA A18).

While these documents have been developed to address the wider Googong Township water cycle project – Stage 1, where relevant, the contractor will comply with these overarching project documents.

Figure 1.2 shows the structure of the environmental management system and its relationship to other project documents.

Figure 1.2 Environmental Management System structure



12083v_03_flowchart_V2.ai

1.6 Distribution

This CEMP will be made available to all personnel and sub-contractors. An electronic copy can be found on the Project website.

The document is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained by the Quality Manager at the Project office.

Registered copies will be distributed to:

- GTPL.
- Project Manager (contractor).
- **Superintendent.**
- Independent Environmental Representative.
- ~~Construction Manager (contractor).~~
- ~~Environmental Manager (contractor).~~

1.7 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. This includes the document review process described in Section 9.1. The Environment Manager will coordinate the review and distribution, as appropriate, of this CEMP, management plans and other environmental documents. The procedure 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.

A register will identify the current revision of particular documents. During the Project, the environmental documents will be stored at the main site compound.

The contractor is responsible for the revision of this CEMP when required. 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 to DP&E for approval.

Revised documents will be distributed to controlled copy holders, as identified in Section 1.6.

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

CEMP – See appendix Q regarding procedures & checklists

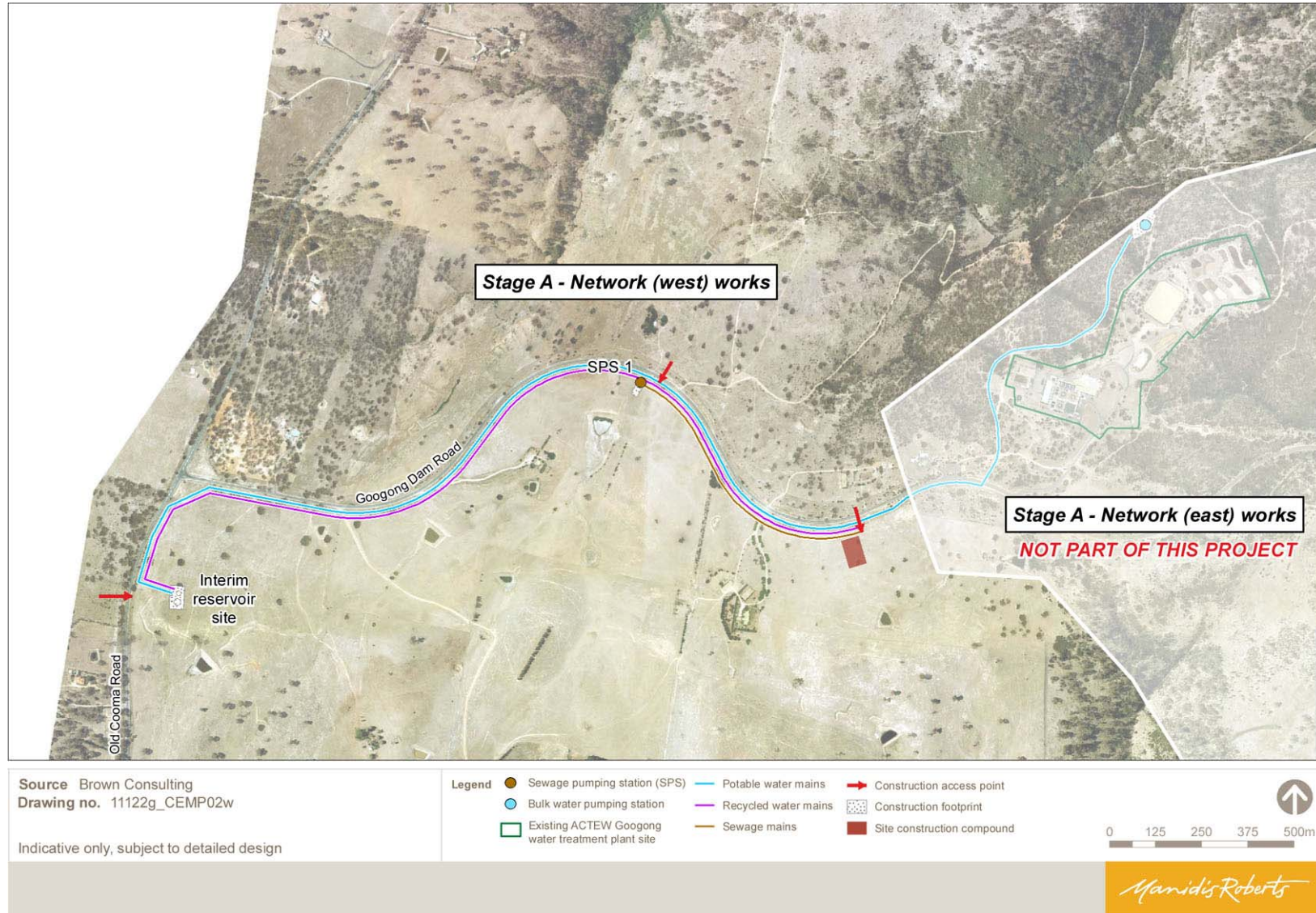
2 Project description

2.1 General features

Stage A – Network (west) will include the construction of the following:

- Reservoirs. There will be two interim reservoirs (one for potable water and one for recycled water), located on the one site on a small hill near the intersection of Old Cooma Road and Googong Dam Road. **This component of Stage A – Network (west) has been constructed.**
- **Supply, installation, testing and commissioning of new potable water booster facility**
- A pumping station for sewage (SPS1). It will be located within the northern part of the proposed Googong township, adjacent to Googong Dam Road. **This component of Stage A – Network (west) has been constructed.**
- **Install of a new sewer vent stack and to decommission the Interim Sewer Service system at SPS 1.**
- Mains pipework. This includes rising mains for sewage, recycled water and potable water; and distribution mains connecting the interim recycled water and potable water reservoirs to the edge of the initial subdivision stages of the proposed Googong township. **This component of Stage A – Network (west) has been constructed.**
- Figure 2.1 provides a site layout of the Project. The Project will tie into Stage A – Network (east) works as identified in Figure 2.1.

Figure 2.1 Site layout



2.2 Construction activities

2.2.1 Pre-construction activities

- Installation of appropriate environmental management controls.
- Guideline ACT plans to have one main site compound to support construction of the project next to the ACTEW treatment plant. And at the interim reservoir site for the construction of the potable water booster pump facility will only include temporary toilets, parking facilities
- ~~Identification of the locations of existing underground services.~~
- ~~Survey to finalise alignment of underground infrastructure.~~
- Site establishment within the existing interim reservoir site for the construction of the potable water booster pump facility, including temporary toilets, parking facilities and staff amenities.

2.2.2 Construction activities

- ~~Trenching and laying of pipelines.~~
- ~~Construction of the interim reservoirs, pumping station and associated infrastructure (such as access roads, connection to utilities, fencing etc.).~~
- Construction of the potable water booster pumps at the interim reservoir site (including installation, testing and commissioning).

Trenching for pipelines

Typically the following sequences of activities are anticipated:

- ~~Erection of temporary fencing and installation of temporary gates to define the construction corridor.~~
- ~~Construction of alternative property access, where required by agreement with the affected landowners.~~
- ~~Installation of environmental control measures including erosion and sediment control.~~
- ~~Clearing of existing vegetation.~~
- ~~Removal and stockpiling of topsoil.~~
- ~~Construction of a level bench for pipe laying. This may involve cut and fill construction and rock surfacing.~~
- ~~Trench excavation, installation of pipe, placement and compaction of material. Note that all excavations will be backfilled or temporarily covered at the end of each work day.~~
- ~~Reinstatement of final ground levels, replacement of topsoil, restoration and removal of temporary works such as fences, gates, erosion and sediment controls.~~

Construction of the interim reservoirs and pumping station

Typically the following sequences of activities are anticipated:

- ~~Clearing of existing vegetation.~~
- ~~Removal and stockpiling of topsoil.~~
- ~~Establishment of construction compound and fencing.~~

- ~~Formation of the access roads. This will involve excavation to grade as required, and importation and placement of appropriate fill for the road.~~
- ~~Bulk excavation to create a level platform area for the structure. This may include excavation in rock material. Based on current geotechnical information and design, blasting would not be required.~~
- ~~Formation of a hardstand area. A crushed granular material hardstand area may be required around each structure for maintenance vehicles.~~
- ~~Construction of the structural components, including placement of steel reinforcement and structural concrete. Some construction will take place in situ and other items may be pre-cast (such as the SPS).~~
- ~~Construction of all recycled water, drainage and chemical dosing pipework (inlet/outlet pipes and access holes) and overflow structures.~~
- ~~Mechanical and electrical fit-out.~~

Construction of the potable water booster pumps at the interim reservoir site (including installation, testing and commissioning)

Typically the following sequences of activities are anticipated:

- All necessary surveys to confirm the location and dimensions of existing assets and necessary earthworks at the interim reservoirs site.
- All earthworks, the installation of foundations and concrete slabs for the location and support of the booster facility and its associated plant and equipment within the interim reservoir site.
- All suction and discharge pipe work to and from the booster facility including flexible couplings, dismantling joints, valves supports and all other fittings necessary for the safe operation and maintenance of the booster facility.
- Connection of all pipe work and valves upstream and downstream of the booster facility.
- Flow management of potable reservoir flows during the construction, testing and commissioning stages of this activity.
- Connection of the power supply feeder cable and all associated conduit from existing power supply to the potable water booster facility.
- Connection of alarm and fault indicator cables and all associated conduit from the existing control panel to the potable water booster facility.
- Telemetry end to end testing of alarms and signals.
- Training for operations and maintenance personnel
- Install of a new sewer vent stack and to decommission the Interim Sewer Service system at SPS 1.

2.2.3 Construction compounds and access tracks

One or more temporary site compounds will be required to support construction of the Project. 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.

An indicative construction site compound location is provided in Figure 2.1. The contractor will determine the final location of the construction compound(s). The location of compounds will be determined by 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.

The likely main construction access points off Googong Dam Road and Old Cooma Road are shown in Figure 2.1. Construction vehicles would access the Project directly from Googong Dam Road. Access points would be limited to sites where they:

- Will not require the removal of vegetation (beyond that already required by the Project).
- Will not impact on heritage (beyond that already required by the Project).
- Will not unreasonably affect the amenity of adjacent land users.

Further detail is provided in the Traffic Management Protocol (Appendix C).

2.3 Defining work areas

Environmental constraints maps will be used in conjunction with environmental control plans and EWMS to help identify key risk areas and to promote ongoing communication to construction personnel during the Project (refer Section 0).

Environmental constraints maps will outline the environmentally sensitive and 'no go' areas for the Project. For each discreet site, environmental control plans will be prepared at a scale that clearly defines work areas, including access tracks. Refer to Section 0 for further detail.

Areas that are to be protected during construction will be fenced with exclusion fencing. 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 E).

3 Planning

3.1 Legal and other requirements

A register of legal and other requirements for the Project is contained in 9.1Appendix M. This register will be reviewed at regular intervals 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*

Stage 1 of the Googong township water cycle project was approved by the Planning Assessment Commission of NSW under Part 3A of the EP&A Act, on 24 November 2011. The ultimate development of water cycle infrastructure for the Googong township water cycle project (including Stage 1) was also approved on 24 November 2011 under a Concept Approval.

Construction of Stage 1 of the Googong township water cycle project will take place in three sub-stages. The Project comprises the western portion of the Stage A –Network scope of works and will be the first package of works to be delivered under this Project Approval (refer to Section 1.1 for details on staging).

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 Project. 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 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 water cycle project was referred to the DSEWPaC under the EPBC Act due to potential impacts on matters of national environmental significance, including migratory species, threatened species and communities. The Googong Township water cycle 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 A – Network (west).

3.1.3 Other legal requirements

Refer to 9.1Appendix M for a register of all legal and other requirements relevant to the Project.

Environmental legislation relevant to each environmental management plan is also referenced in that plan.

3.2 Approvals, permits and licensing

A number of approvals, permits and licenses will be obtained for the Project. 9.1 Appendix M contains a register of all relevant legal and other requirements, identifying the need for any environmental approvals, permits and licenses. The register will be maintained by the 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. It is likely that construction and occupation certificates (as per CoA A12) may be required for this stage of works.

In accordance with CoA A7, all necessary licences, permits and approvals required for the Project will be obtained and maintained as required throughout the life of the Project. A copy of the Project Approval and all other relevant approvals will be kept on site at all times during construction of the Project.

No condition of the 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.

3.3 Environmental aspects and impacts

In order to assess the potential environmental impacts of an activity, the Project 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 identify environmental risks. The outcome of this risk workshop provides the basis of the risk register (Appendix L). The risk register includes a list of activities associated with the Project, related aspects and corresponding risks. Measures to minimise the identified environmental risks are also provided.

The risk register will be reviewed during construction as required, for example to assess the risk of new activities, or where an environmental incident has occurred.

The environmental risk assessment will be reviewed regularly to ensure the risk registers remains current. During construction, 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 describes GTPL's commitment to continual improvement in environmental performance and compliance with applicable legal requirements. The contract documentation requires that the contractor delivering this Project also have an environment policy.

The GTPL and contractor environmental policy will be displayed on the Project website and at the site office, and communicated to staff and other interested parties via inductions and ongoing awareness programs.

A copy of the GTPL environmental policy is provided in 9.1Appendix N.

3.5 Objectives and targets

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

The targets are incorporated into relevant environmental management plans.

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

Environmental objectives and targets for the Project are provided in Table 3.1.

Table 3.1 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 learnt 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 Project may result from detailed design refinement or changes identified during the construction period.

The GTPL Assistant Project Director is responsible for ensuring that all Project refinements are assessed for consistency against the Concept and Project Approval. During construction any design changes or changes in scope of works will be communicated to the GTPL Assistant Project Director and Environment Manager. The GTPL Assistant Project Director, with support from the Environment Manager, 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 project. Where GTPL determines that the change is generally consistent, this CEMP would be reviewed and revised as outlined in Section 1.6. A copy of the consistency assessment will be provided to the Environmental Representative and the DP&E for information, prior to the commencement of substantial works associated with the proposed alteration.

Project alterations and the outcome of any consistency assessment or modification will be tracked through the Compliance Tracking Program.

Where GTPL determines that the proposed alteration is generally not consistent with the approved project, a modification to the approved 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 for determination.

GTPL is responsible for documenting minor changes that are consistent with the approved 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 DP&E.

4 Implementation and operation

4.1 Roles and responsibilities

4.1.1 Environmental Representative (Independent)

The responsibilities for the Environment 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.

4.1.2 GTPL Assistant Project Director

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

- Review any environmental management plans and related documents prepared for the Project.
- Ensure all Project alterations are assessed for consistency against the approved project.
- Monitor the environmental performance of the Project in relation to GTPL requirements.

4.1.3 Project Manager (Contractor)

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

- ~~• Ensure all works comply with relevant regulatory and 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.~~
- ~~• Ensure that all personnel receive appropriate induction training, including details of the environmental obligations.~~
- ~~• Ensure that complaints are investigated to achieve effective resolution.~~
- ~~• Stop work immediately if an unacceptable impact on the environment is likely to occur.~~

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

4.1.4 Construction Manager Project engineer (Contractor)

The contractor will appoint a Construction Manager Project Engineer (or other title as applicable) to oversee the delivery of Stage A Network (west). The environmental responsibilities of the Construction Manager 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 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&EI within seven days of receiving the recommendation. The Director-General must be satisfied with the alternate course of action.

~~]The environmental responsibilities of the Construction Manager include, but are not limited to:~~

- ~~Plan construction works in a manner that avoids or minimises impact to environment.~~
- ~~Ensure the requirements of this CEMP are fully implemented.~~
- ~~Ensure all Project personnel attend an induction prior to commencing works.~~
- ~~Liaise with GTPL, the Environmental Representative and government authorities as required.~~
- ~~Stop activities where there is an actual or immediate risk of harm to the environment.~~

4.1.5 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 Environment Manager.~~
- ~~• 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 Construction Manager or Environment Manager.~~

4.1.6 Environment Manager project Engineer (Contractor)

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

- Develop, implement, monitor and update the Stage A Network (west) 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 I and Appendix J).
- Maintain and update the Environment risk register (refer Appendix L).
- 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 M).
- Report to Construction Manager and GTPL on environmental performance and prepare a Monthly report (refer Appendix O).
- 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, 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 and the GTPL Assistant Project Director.

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

- ~~• Overall responsibility for the implementation of environmental management on the Project.~~
- ~~• Development, implementation, monitoring and updating of the CEMP and management plans.~~

- ~~Report to Project Manager on the environmental performance.~~
- ~~Ensure environmental compliance.~~
- ~~Obtain and update all environmental licences, approvals and permits as required.~~
- ~~Lead liaison with the Environmental Representative and approval authorities.~~
- ~~Oversee site monitoring, inspections and audits.~~
- ~~Manage environmental constraints maps, develop environmental control plans and provide input into EWMS where required.~~
- ~~Develop and facilitate induction, toolbox talks and other training programs relating to environmental requirements for all site personnel.~~
- ~~Notify GTPL and relevant authorities in the event of an environmental incident.~~
- ~~Manage environmental incidents, non-conformance and corrective actions.~~
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Construction Manager or Superintendent.

4.1.7 Project/Site Engineers (Contractor)

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

- ~~Provide input into the preparation of environmental documents as required.~~
- ~~Ensure that the works are carried out in accordance with the requirements of the CEMP.~~
- ~~Identify resources required for implementation of the CEMP.~~
- ~~Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Environment Manager.~~
- ~~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 Manager, Construction Manager, Superintendent or Environment Manager.

4.1.8 Foreman (Contractor)

The environmental responsibilities of the foreman include (but are not limited to) the following:

- Undertake any environmental duties as allocated by the Superintendent or engineer.
- Control field works and implement/maintain effective environmental controls.
- Ensure site activities comply with EWMS and relevant records are kept.
- Ensure all workers are inducted prior to commencement of works.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Construction Manager, Superintendent or Environment Manager.

4.1.9 Design Manager (Contractor)

The contractor will appoint the Project Engineer who will have responsibility for ensuring the CoA and SoC related to design of the Stage A Network (west) are incorporated.

4.1.10 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 Project/site induction program.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent or Foreman.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Construction Manager, Superintendent or Environment Manager.

4.2 CEMP availability

A copy of this CEMP will be held in the site office. An electronic copy of the CEMP will be available on the Project website [www.compliance.googong.net]. Support documents, for example relevant EMWS and environmental control plans will be held on site.

5 Competence, training and awareness

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 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.

A register of all project site inductions and environmental training carried out will be maintained. Records of attendees at EWMS toolboxes will be kept on file.

5.1 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 1979*, 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 and kept on site.

5.2 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 EWMSs, 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).

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.

A register of environmental training will be maintained. The register will include a record of the topic, content, dates, name(s) and qualifications of trainers, names and signatures of personnel trained.

5.3 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. Pre-start topics, dates delivered and a register of attendees will be recorded.

6 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.

~~The environment team will meet~~ 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 ~~The Project~~ 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 5.2.

The Project Engineer 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 has the responsibility to report on the ongoing environmental performance of the construction of Stage A Network (west) to GTPL and the Environmental Representative. The Project Engineer will report on progress and key environmental issues through the preparation of monthly environment reports (Appendix O).

6.1 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&EI, EPA or any other relevant agencies of environmental incidents. The GTPL Assistant Project Director will also report on the progress of Stage A Network (west) construction through the preparation of a compliance tracking report every six months that will be issued to DP&E.

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

~~The Environment Manager will be the main point of contact regarding specific environmental issues. The Environment Manager has the responsibility to report on the ongoing environmental performance of the Project to GTPL, the Environmental Representative and the EPA. The Environment Manager will report regularly to GTPL on progress and key environmental issues through monthly environment reports.~~

6.2 Stakeholder and community consultation

6.2.1 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 project progresses.

6.2.2 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. The plan identifies opportunities for providing information and consulting with the community during the construction phase of the 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.

The Community Information Plan will be submitted to DP&E for approval prior to the commencement of construction. GTPL will be responsible for implementing the Community Information Plan during construction of the Project.

6.2.3 Complaints and enquiries procedure

The Complaints and Enquiries Procedure, an appendix to the Community Information Plan 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 should be directed all complaints and enquiries to the 1800 community information line, email, postal address or refer complaints to the GTPL Assistant Project Director.

The Complaints and Enquiries 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 and the Community Information Plan.

7 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 NSW *Protection of the Environment Operations Act 1997* (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

~~The incident management response will be as follows.~~

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 as Appendix P. The PIRMP must be maintained and implemented by the contractor during construction of Stage A Network (west).~~

~~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 project engineer Environment Manager, and/or Construction Manager or Project Manager.~~
- ~~project engineer Environment Manager, and/or Construction Manager or Project Manager~~ to immediately notify the GTPL Assistant Project Director and the Environment Representative (refer to Section 7.4).
- ~~GTPL to immediately notify the EPA and DP&E (and others as required) for pollution incidents causing or threatening material harm (refer to Section 7.4).~~
- ~~GTPL to immediately notify DP&E (and others as required) for all other category one incidents.~~
- ~~Environment Manager project engineer to complete an incident report form and record in the Incident Register (to be developed and managed by the contractor) and submit 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 7.4).~~
- ~~GTPL to issue copy of incident report and root cause analysis to DP&E (and others as required) for their consideration (within seven days).~~

7.2.3 Category two

- ~~If necessary, stop work in the immediate relevant area of the incident and take necessary actions or put in place suitable controls to avoid and reduce impacts of the incident to the environment or community.~~
- ~~Project personnel to immediately notify the project engineer Environment Manager and/or Construction Manager.~~
- ~~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 in the six-month construction compliance report.~~
- ~~GTPL to report on category two incidents to EPA in the Annual Return.~~
- ~~Notify the Environment Manager, Construction Manager or Project Manager.~~
- ~~Notify GTPL and the Environment Representative (refer to Section 7.4).~~
- ~~Complete an incident report form and record in the Incident Register (to be developed and managed by the contractor).~~
- ~~Investigate incident (root cause analysis) and implement any opportunities for improvement (refer Section 7.4).~~

All Project 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 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.
- 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&EI 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&EI, 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&EI 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 7.1.

Category one incident reporting – notification under the POEO Act

~~The EPA will be notified of any environmental incidents or pollution incidents on or around the Project site via the EPA Environment Line (telephone 131 555) in accordance with Section 147 POEO Act. Pollution incidents causing or threatening material harm to the environment must be notified. 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.~~

~~The EPA will be notified of a pollution incident immediately, that is promptly and without delay, after Project personnel become aware of the incident.~~

~~*All environmental incident reporting*~~

~~GTPL and the Environment Representative will be verbally notified of any environment incidents immediately and in writing within 24 hours of any incident occurring.~~

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

~~For category one incidents, GTPL will notify the Director General DP&EI and any relevant agencies as soon as practicable after GTPL becomes aware of the incident. Within seven days of the incident occurring GTPL will provide the Director General DP&EI and any relevant agencies a detailed report of the incident.~~

~~Category two incidents will be reported to DP&EI through the six monthly construction compliance reports.~~

~~GTPL and the Project team will maintain all records relating to environmental incidents.~~

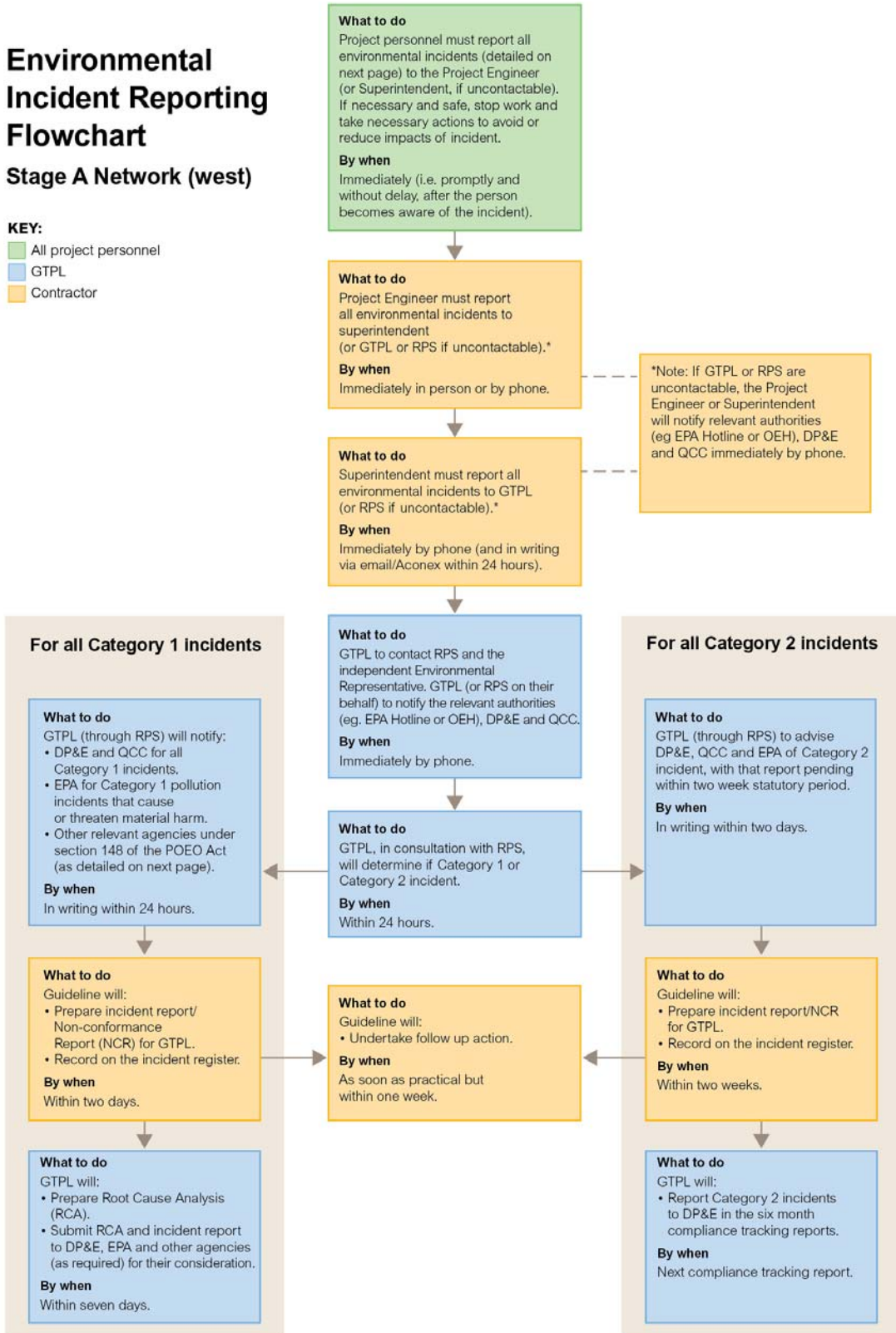
~~Key contacts for environmental emergencies are provided in 0.~~

Figure 7.1 Environmental Incident Reporting Flowchart

Environmental Incident Reporting Flowchart

Stage A Network (west)

- KEY:**
- All project personnel
 - GTPL
 - Contractor



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

PROJECT TEAM

Name	Phone	Email
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:

- for all incidents
 - EPA
 - QCC
- 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 7.1 Emergency contacts

Emergency contact/organisation	Name	Contact details
GTPL Assistant Project Director	Craig Harris	0409 999 059
Project Engineer (Guideline)	Michael Fields	0412 916 835
Superintendent (Black Mountain)	Chris Daly	0459 223 958
Independent Environmental Representative (Ecology and Heritage Partners)	Richard Sharp	0457 303 596
OEH - EPA	Pollution line	131 555
OEH – (South East region)	Julian Thompson	(02) 6229 7002
DP&E I	Swati Sharma-Lisa Mitchell	9228 6224 (02) 9228 6284
	Belinda Scott	(02) 9391 9000
Police	N/A	000
Local police	N/A	131 444
Ambulance	N/A	000 (or 112 for mobiles)
Canberra Hospital	N/A	(02) 6244 2222
Queanbeyan Hospital	N/A	(02) 6298 9211
NSW Rural Fire Service	N/A	000
Gas/electricity	N/A	131 909
Queanbeyan City Council	N/A	(02) 6285 6000 After hours (02) 6298 1234
ACTEW Corporation	N/A	(02) 6248 311
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 be adopted to assist the Project 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 ~~Environment Manager~~ Project Engineer after every Category One incident. The ~~Environment Manager~~ Project Engineer will ensure that any additional measures arising from the incident investigation are incorporated into the relevant plans.

Where the Director-General (DP&E) provides recommendations to address the cause or impact of any incident reported to the DP&E, the Project 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 B) 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 (eg fire extinguishers, spill kits, etc.). Spill management will be undertaken in accordance with the Hazards, Risk and Safety Management Plan (Appendix B) and the Soil and Water Management Plan (Appendix A).

Guideline ACT will implement emergency procedure as per WHSMP.

8 Environmental inspections, monitoring and auditing

8.1 Environmental inspections

8.1.1 Weekly inspections

The Environmental Manager (or delegate) 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.

8.1.2 Environmental Representative inspections

As per CoA C17 an Environmental Representative will undertake regular inspections of the Project work site. 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 DP&E within 7 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 M. 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 Project. 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.

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.

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.

Recording non-conformance

Following the investigation and reporting, a summary of the non-conformance must be recorded in a non-conformance register. 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.

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 Project. The purpose of auditing is to verify compliance with:

- This CEMP and management plans.
- Approval requirements (CoAs, SoCs).
- Any relevant legal and other requirements (eg 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 (~~alternate six-monthly timeframe to the internal audit schedule~~) 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 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.
- 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 O.

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 ~~Assistant Project Director~~ for distribution to the Environmental Representative and the Director-General (DP&E). In order to prepare the periodic compliance reports the Project will be required to provide all relevant information as requested by the GTPL Assistant Project Director.

9 Documentation

9.1 Environmental records

The **Project Engineer** 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 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, - Environmental Manager or delegate** has the authority to change any of the environmental management documentation.

Appendix A

Soil and water management plan

Appendix B

Hazards, risk and safety management plan

Appendix C **Traffic management
protocol**

Appendix D **Noise and vibration
management plan**

Appendix E

Flora and fauna management plan

Appendix F

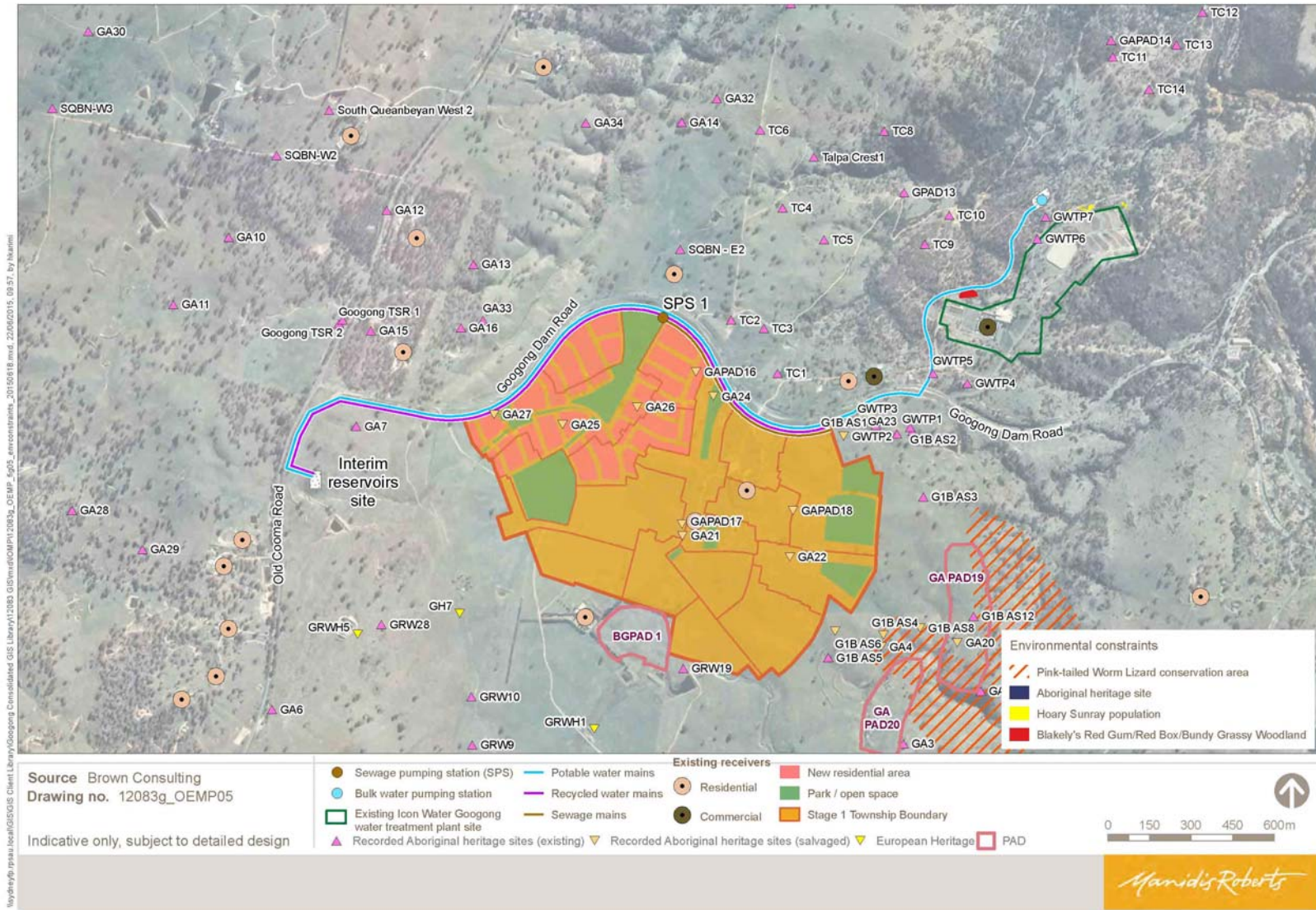
Heritage management plan

Appendix G **Waste management
plan**

Appendix H **Air quality management
plan**

Appendix I

Environmental constraints maps



Appendix J **Environmental control
plan register**

To be populated/managed by contractor

Appendix K

Example environmental control plan

Appendix L Risk register

Appendix M **Legal and other requirements**

Appendix N Environment policy

Appendix O **Monthly report
(template)**

Appendix P

Pollution Incident Response Management Plan

Appendix Q

Guideline ACT procedures and checklists