



# Design and Construction of Stage AB of the Googong Water Recycling Plant (WRP)

Contract Number WRP01

## CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

DOCUMENT No. 8553-PLN-005

Rev	Date	Prepared by	Reviewed by	Approved by	Remarks
1	6/09/13	RPS Manidis Roberts			Draft CEMP issued to agencies for review.
2	18/10/13	RPS Manidis Roberts			Updated CEMP issued to DP&I for review.
3	29/11/13	RPS Manidis Roberts			Updated CEMP issued to DP&I for approval.
4	15/08/14	Cameron Newling	Steve Merange	Steve Merange	JHPL updated CEMP issued to ER for review
5	21/08/14	Cameron Newling	Steve Merange	Steve Merange	JHPL updated CEMP issued to ER for Endorsement
6	10/10/14	Alyssa Slaney	Steve Merange	Steve Merange	JHPL Updated: Figure 1, Figure 5, Table 4 and Appendix A. Issued to ER for endorsement.
7	12/12/14	Alyssa Slaney Andre Kruize	Steve Merange	Steve Merange	Added Transformer structure (section 2.1). Added JHG obj & tgts (table 3). Revised JH

					Environment Rep name (table 4), Added JHG incident reporting requirements (section 7.3). Added new Incident Reporting Flowchart (Figure 5). Soil & Water Mgt Plan amended Appex A. Pollution Incident Response Mgt Plan amended Appex O.
8	29/01/15	Andre Kruize	Steve Merange	Steve Merange	Revised Section 2 and Fig 4 to include pipeline works
9	31/3/15	Andre Kruize	Steve Merange	Steve Merange	Section 2.2 - Commissioning title removed with Hydrostatic, Dry and Wet Testing scope revised.
10	30/4/15	Andre Kruize	Steve Merange	Steve Merange	Add new contact table in Figure 5 and contact details (R Sharp) in Table 4
11	6/8/15	Simon Orchard	Steve Merange	Steve Merange	Add new Environmental manager and Superintendent
12	4/11/15	RPS Manidis Roberts	Tino Ferrero	Tino Ferrero	Add new contact table in Figure 5 and contact details (Project Manager and Environmental Manager) in Table 4
13	14/01/16	RPS Manidis Roberts	Tino Ferrero	Tino Ferrero	Add details relating to decommissioning and landscaping works

#### Distribution of controlled copies

Copy no.	Issued to	Revision
1	Googong Township Pty Ltd	<del>6.0</del> 13.0
2	Environmental Representative	<del>6.0</del> 13.0
3	Queanbeyan City Council	<del>6.0</del> 13.0
4	Department of Planning and Environment Infrastructure	<del>6.0</del> 13.0

# Contents

<b>1</b>	<b>Introduction</b>	<b>7</b>
1.1	Background	7
1.2	Construction staging	7
1.3	Purpose of this document	10
1.4	Consultation	17
1.5	Certification and approval	18
1.6	Environmental management system structure	18
1.7	Risk Management and Identification	22
1.8	Distribution	24
1.9	Revision	24
<b>2</b>	<b>Project description</b>	<b>25</b>
2.1	General features	25
2.2	Construction activities	27
2.3	Defining work areas	29
<b>3</b>	<b>Planning</b>	<b>30</b>
3.1	Legal and other requirements	30
3.2	Approvals, permits and licensing	31
3.3	Environmental aspects and impacts	31
3.4	Environmental policy	32
3.5	Objectives and targets	32
3.6	Project alterations	34
<b>4</b>	<b>Implementation and operation</b>	<b>35</b>
4.1	Roles and responsibilities	35
4.2	CEMP availability	38
<b>5</b>	<b>Competence, training and awareness</b>	<b>39</b>
5.1	Purpose	39
5.2	Site inductions	39
5.3	Toolbox talks, training and awareness	40
5.4	Pre-start meetings	40
<b>6</b>	<b>Communication and consultation</b>	<b>41</b>
6.1	Internal communication	41
6.2	Communication with government agencies	41
6.3	Stakeholder and community consultation	42
<b>7</b>	<b>Incidents and emergencies</b>	<b>44</b>
7.1	Classification of environmental incidents	44

7.2	Incident management	44
7.3	Incident reporting	45
7.4	Incident investigation	50
7.5	Emergency response	51
<b>8</b>	<b>Environmental inspections, monitoring and auditing</b>	<b>52</b>
8.1	Environmental inspections	52
8.2	Environmental monitoring	52
8.3	Non-conformity, corrective and preventative actions	52
8.4	Auditing	53
8.5	Reporting	54
<b>9</b>	<b>Documentation</b>	<b>55</b>
9.1	Environmental records	55
Appendix A	Soil and Water Management Plan	56
Appendix B	Hazards, Risk and Safety Management Plan	57
Appendix C	Traffic Management Protocol	58
Appendix D	Noise and Vibration Management Plan	59
Appendix E	Flora and Fauna Management Plan	60
Appendix F	Heritage Management Plan	61
Appendix G	Waste and Resource Management Plan	62
Appendix H	Air Quality Management Plan	63
Appendix I	Environmental Constraints Map	64
Appendix J	SEP	68
Appendix K	Risk Register	69
K.1	Introduction	69
K.2	Risk assessment results	71
Appendix L	Legal and Other Requirements Register	75
Appendix M	Environment Policy	89
Appendix N	Monthly Environmental Report (template)	92
N.1	Scope	92
N.2	Project description	92
N.3	Reporting period	92
N.4	Scope of construction activities undertaken	93
N.5	Environmental inspections	93
N.6	Environmental monitoring	93
N.7	Environmental incidents	94
N.8	Environmental non-conformances	94
N.9	Environmental audits	94

N.10	Environmental reporting against licences, approvals, permits	95
N.11	Completed construction notifications	95
N.12	Upcoming construction notifications	95
N.13	Community complaints/enquiries	96
N.14	Training	96
Appendix O	Pollution Incident Response Management Plan	97

List of tables

<b>Table 1</b>	CoA requirements for the CEMP	10
<b>Table 2</b>	SoC requirements for the CEMP	17
<b>Table 3</b>	Environmental objectives and targets	32
<b>Table 4</b>	Emergency contacts	50
<b>Table 5</b>	Risk assessment consequence definitions	70
<b>Table 6</b>	Risk assessment likelihood definitions	70
<b>Table 7</b>	Risk matrix	70
<b>Table 8</b>	Risk assessment results – before and after consideration of mitigation	71

List of figures

<b>Figure 1</b>	Stage 1 of the Googong Township IWC Project	9
<b>Figure 2</b>	Environmental Management System structure	21
<b>Figure 3</b>	JHPL Risk Management Process	22
<b>Figure 4</b>	Site layout – AB WRP and Pipeline	26
<b>Figure 5</b>	Incident reporting flowchart	48

## Acronyms and glossary

Acronym	Meaning
AMS	Activity Method Statement
BMCA	Black Mountain Construction Assurance
BWPS	Bulk water pumping station
CEMP	Construction Environmental Management Plan
CIC	Canberra Investment Corporation
CoA	Minister for Planning's Condition of Approval
DoE	Department of the Environment (Cth)
DP&I	Department of Planning and Infrastructure (NSW)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now referred to as the Department of the Environment)
EA	Environmental Assessment
EEC	Endangered Ecological Community
EP	Equivalent population
EPA	Environment Protection Agency
EPL	Environment Protection Licence
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Commonwealth Environmental Protection and Biodiversity Conservation Act 1999</i>
ER	Environmental Representative
GTPL	Googong Township Proprietary Limited
IWC	Integrated Water Cycle
JHET	John Holland Event Tracking system
JHPL	John Holland Propriety Limited
NH1A	Neighbourhood 1A
NOW	NSW Office of Water
OEH	Office of Environment and Heritage (NSW)
OEMP	Operation Environmental Management Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
QCC	Queanbeyan City Council
RMS	Roads and Maritime Services
SEP	Site Environmental Plan
SoC	Statement of Commitments
SPS	Sewage pumping station
WRP	Water recycling plant

# 1 Introduction

## 1.1 Background

---

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

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

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

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

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

## 1.2 Construction staging

---

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

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

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

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

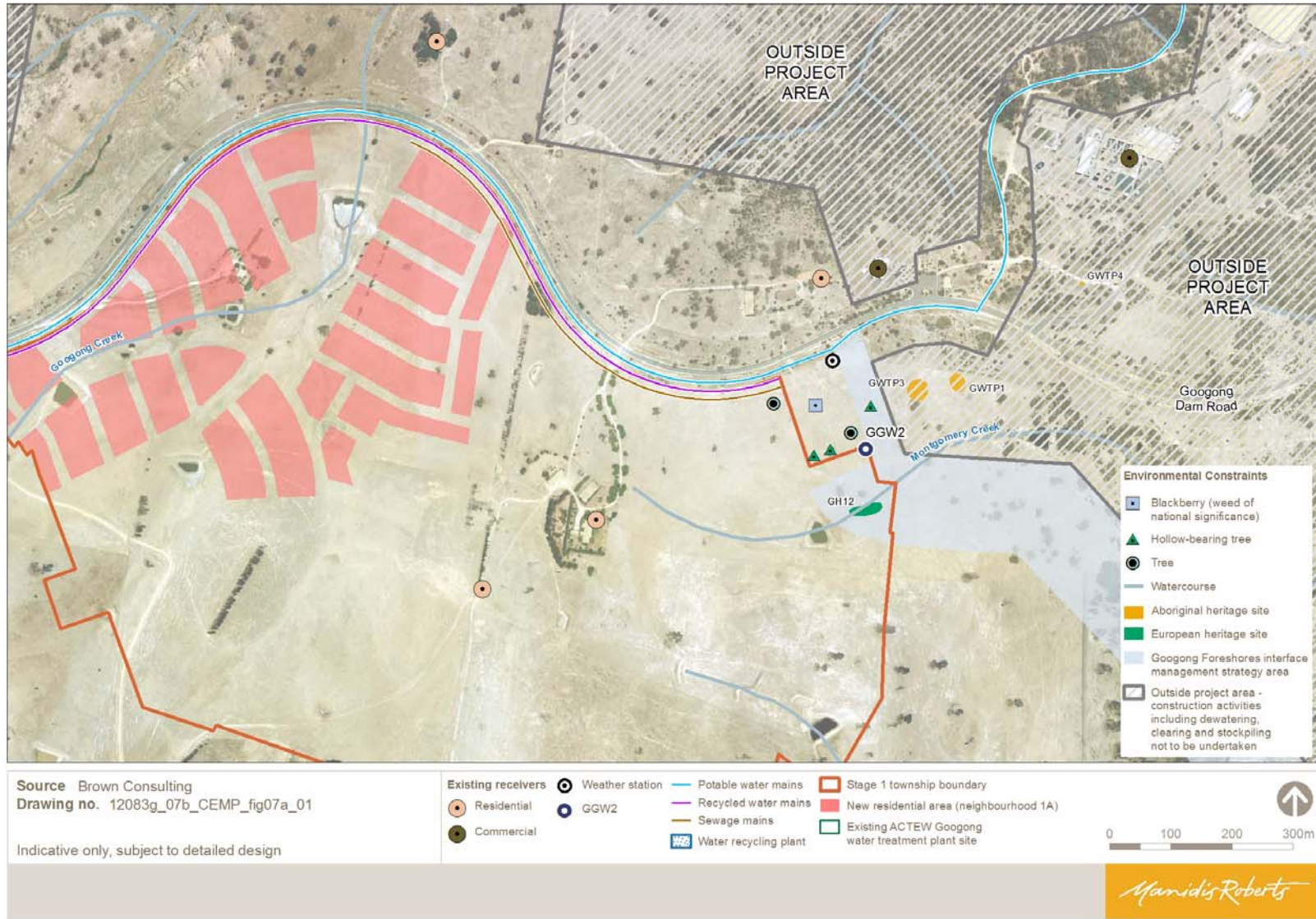
- Stage A – Network (west) and Stage A – Network (east) (underway).
- Stage AB WRP (subject of this CEMP).
- Stage B – Network (future works).

In relation to staging, CoA A6 allows GTPL to submit any strategy, plan or program required by the approval on a progressive basis, with the approval of the Director-General. In accordance with CoA 6 and the Staging Report, this CEMP has been prepared for the construction of Stage AB WRP.

Note that Stage A – Network (west) and Stage A – Network (east) have been constructed at a similar time throughout 2013, but delivered by separate contractors, and managed through separate and stage-specific CEMPs. Works are yet to begin for Stage B – Network, but a separate CEMP will be prepared prior to construction of this stage.



**Figure 1** Stage 1 of the Googong Township IWC Project



## 1.3 Purpose of this document

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

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

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

The purpose of this CEMP is to provide an approach to the management of environmental issues during construction of Stage AB WRP, and to ensure that the requirements of the CoA are met. The CEMP is the overarching document in the environmental management system that includes a number of documents and plans (refer Section 0).

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

JHPL will carry out the detailed design and construction package of Stage AB WRP and will be responsible for the ongoing review and implementation of this CEMP and related environmental documents.

This CEMP and associated documents will be made available, and are applicable, to all employees and persons involved in construction of Stage AB WRP, including relevant subcontractors.

**Table 1** CoA requirements for the CEMP

CoA No.	Requirement	Reference
A7	The Proponent shall ensure that all licences, permits and approvals are obtained and maintained as required throughout the life of the project. No condition of this approval removes the obligation of the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the project.	Section 3.2 Appendix L
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

CoA No.	Requirement	Reference
A11	<p>The detailed design and construction of the project shall be undertaken in consultation with Council and include consideration of Councils' requirements, in relation, but not limited to:</p> <ul style="list-style-type: none"> <li>(a) project staging, easements and certification,</li> <li>(b) site access, parking and servicing,</li> <li>(c) safety, security, facilities and amenities,</li> <li>(d) site and infrastructure maintenance, and</li> <li>(e) design and development specifications, including relevant Australia and Council codes, standards and specifications.</li> </ul>	<p>Section 1.4 Section 6.3</p>
A12	<p>The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Under Part 4 of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and</li> <li>• Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	<p>Section 3.1 Section 3.2 Appendix L</p>
A13	<p>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.</p>	<p>This Plan and environmental management documents identified in Section 1.6</p>
C1	<p>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.</p>	<p>Section 2.3 Appendix B</p>
C18	<p>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).</p>	<p>Section 8.1</p>
C19	<p>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:</p>	<p>This Plan</p>
	<p>(a) a description of all relevant activities to be undertaken on the site during construction, including stages of construction where relevant;</p>	<p>Section 2</p>

CoA No.	Requirement	Reference
	(b) details of measures to clearly define work areas (including access trails) using a combination of posts, fencing or markers, and suitably marked up maps, as appropriate.	Section 2.3
	(c) details of mitigation, management and rehabilitation measures specific to the site that would be implemented, including but not limited to the requirements identified in the documents referred to under condition A1;	This Plan and environmental management documents identified in Section 1.6
	(d) statutory and other obligations that the Proponent is required to fulfil during construction including all relevant approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;	Section 3.1 and 3.2 Appendix L
	(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 6.3 Complaints Management Procedure
	(k) procedures for the update of the Construction Environmental Management Plan as necessary.	Section 1.9 Section 9.1
	The CEMP shall be prepared in consultation with the relevant authorities and Councils, and submitted for the approval of the Director-General no later than one month prior to the commencement of any construction works associated with the project, or as otherwise agreed by the Director-General. Construction works shall not commence until written approval has been received from the Director-General.	Section 1.4
C20(a)	(a) a Soil and Water Management Plan to manage water quality impacts and to minimise soil erosion and the discharge of sediments and other pollutants to lands and/or waters during construction. The Plan shall be prepared in consultation with OEH and Councils and shall include, but not necessarily be limited to:	Soil and Water Management Plan (Appendix A)
	(i) detailed engineering designs for the recycled water discharge structure;	Soil and Water Management Plan (Appendix A)

CoA No.	Requirement	Reference
	(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)
	(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:	Hazards, 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;	Hazards, 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;	Hazards, 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;	Hazards, 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)

CoA No.	Requirement	Reference
	(ii) measures to verify the condition of roads used by construction vehicles prior to and following construction;	Traffic Management Protocol (Appendix C)
	(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)
	(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 (now known as DoE) 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> var. <i>tricolor</i> , Speckled Warbler <i>Chthonicola sagittata</i> and Pink-tailed Legless Lizard <i>Aprasia parapulchella</i> ), weeds and areas to be cleared. The plans shall also identify vegetation adjoining the site which contains important habitat areas and/or threatened species, populations or ecological communities;	Flora and Fauna Management Plan (Appendix 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)

CoA No.	Requirement	Reference
C20(f)	(f) a Heritage Management Plan to manage potential impacts on Aboriginal and non-Indigenous heritage items. The plan shall be prepared in consultation with OEH and include, but not necessarily be limited to:	Heritage Management Plan (Appendix F)
	(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: <ul style="list-style-type: none"> <li>• halting of works in the vicinity;</li> <li>• assessment of the significance of the item(s) and determination of appropriate mitigation measures (including when works can re-commence) by a qualified archaeologist in consultation with registered Aboriginal stakeholders;</li> <li>• assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the projects; and</li> <li>• registering of the new site/s in the OEH AHIMS register.</li> </ul>	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 re-commencing 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 7.3
E2	The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition E1 of this approval, within such period as the Director-General may require.	Section 7.4



**Table 2** SoC requirements for the CEMP

SoC No.	Requirement	Reference
C1	A construction environmental management plan (CEMP) will be developed in consultation with relevant agencies to manage the environmental issues assessed in this EA and implement the identified mitigation and management measures where required.	This Plan and environmental management documents identified in Section 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

## 1.4 Consultation

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

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

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

Consultation with relevant stakeholders and government authorities will continue throughout the construction Stage AB WRP, 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.

## 1.5 Certification and approval

---

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

The Director-General's nominee approved the Stage AB WRP CEMP on 11 December 2013.

## 1.6 Environmental management system structure

---

### **Construction Environmental Management Plan (CEMP)**

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

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

### **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 and Resources Management Plan (Appendix G).
- Air Quality Management Plan (Appendix H).
- Pollution Incident Response Management Plan (Appendix O).

### **Activity Method Statements (AMS)**

Activity Method Statements (AMS) detail specific construction methodology and environmental mitigation and management measures for an activity or area, for example, fencing or site-specific rehabilitation measures. AMS 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. More detailed is contained in Section 1.7

### **Environmental Work Method Statement (EWMS)**

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

### **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.

### **Environmental Constraints Maps**

Environmental constraints maps detail environmentally sensitive areas, including:

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

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

### **Site Environmental Plans (SEP)**

An SEP will be prepared to manage the impacts of construction on the environment at the WRP site. A map will be prepared at a scale that ensures all controls are clearly identified. The environmental control plan will include information such as:

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

- Rehabilitation measures that would be implemented.

The SEP will be developed by the Environment Manager, and is to be implemented prior to works commencing at the site. SEPs will be submitted to the Environmental Representative for approval.

The Environment Manager will maintain a register of SEP's. An example SEP is provided in **Appendix J**

### **Other project documents**

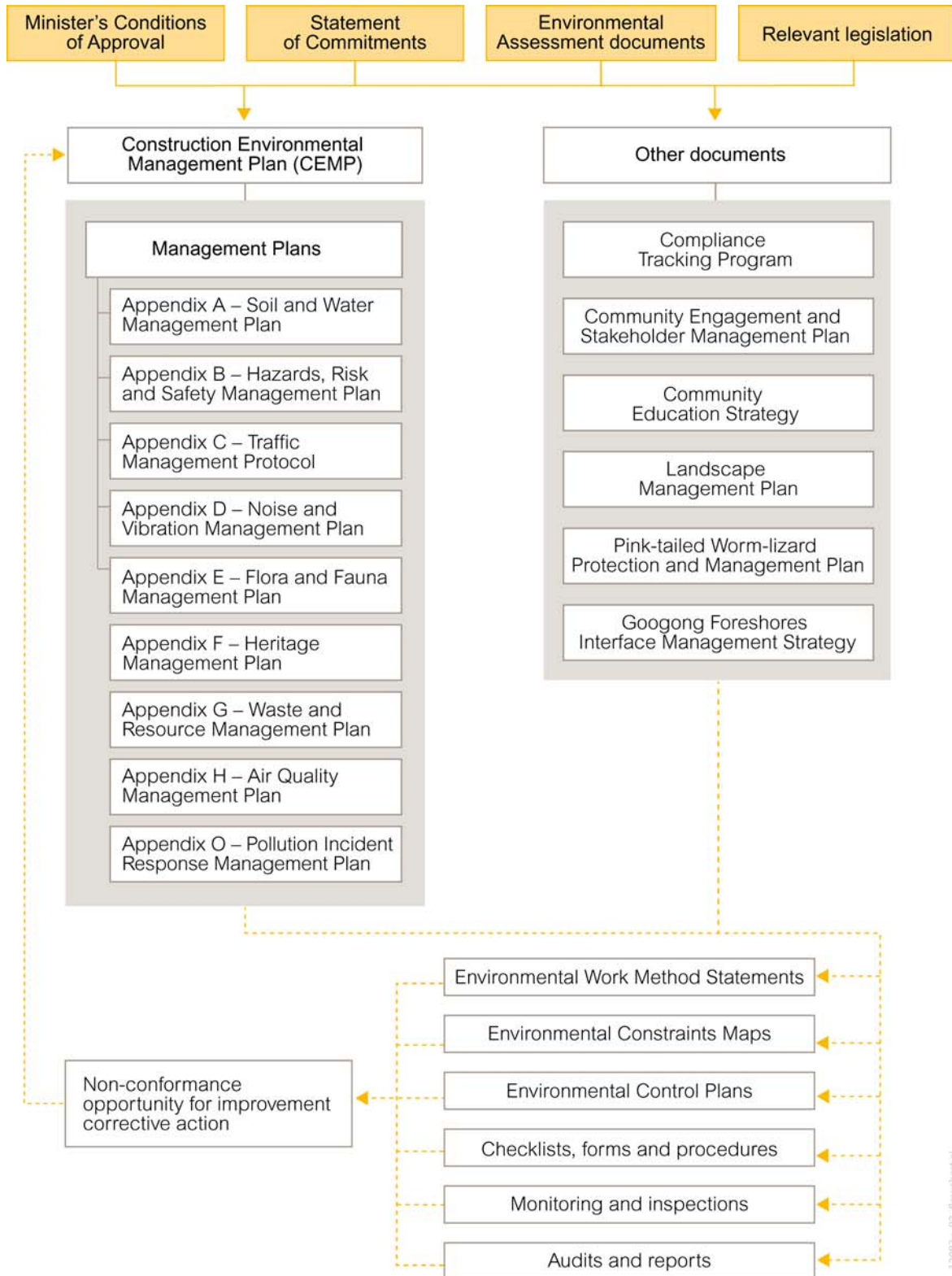
GTPL is responsible for the preparation of other project documents as required by the CoA or SoC. These include:

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

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

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

**Figure 2** Environmental Management System structure



12083v\_03\_flowchart.ai

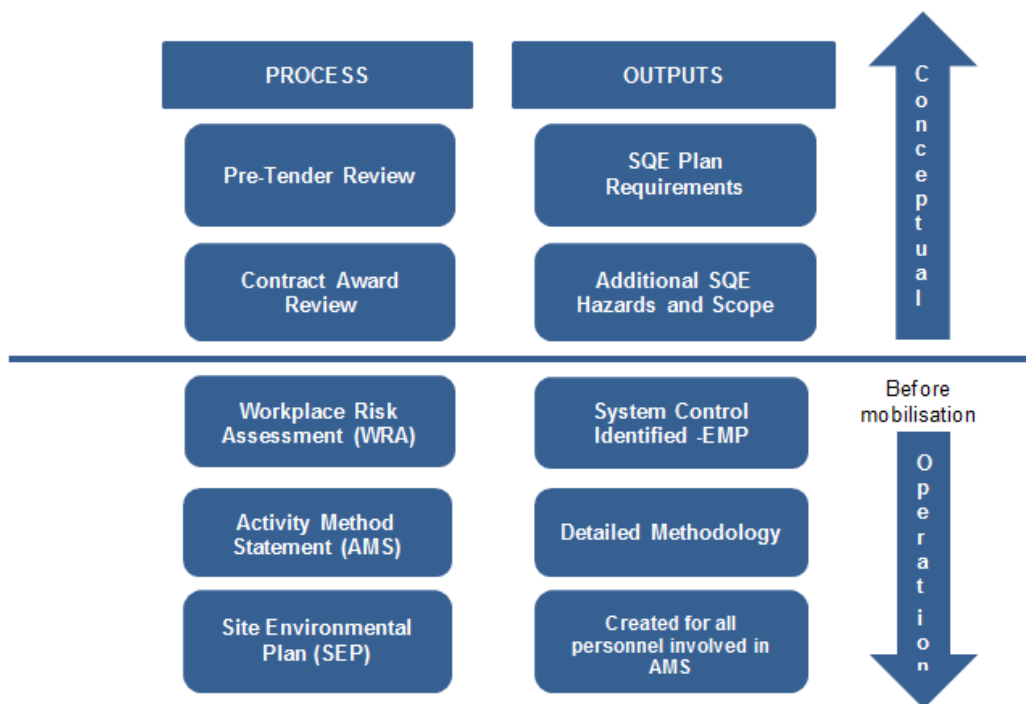
## 1.7 Risk Management and Identification

John Holland's risk management approach includes a comprehensive Safety, Quality and Environment (SQE) risk management planning process including strategic, operational, team and individual processes. John Holland is committed to effective risk management beginning before commencement of works to confirm that the works are designed and constructed within acceptable levels to personnel and the environment.

An initial risk assessment identifying environmental aspects that may result in environmental impact will be undertaken and updated as design and construction progresses. With respect to project delivery, the following diagram in Figure 3 provides a simplified representation of the three levels of project environmental management documentation that are prepared:

- i. Workplace Risk Assessment and CEMP;
- ii. Activity Method Statement and
- iii. Site Environmental Plan (as per section 1.6)

**Figure 3** JHPL Risk Management Process



### Workplace Risk Assessment (WRA)

Workplace Risk Assessments are high level risk assessments that are intended to capture:

- System, procedural and contractual requirements based on legislative and best practice requirements;
- The requirement for more detailed planning activities (i.e. Activity Method Statement) and
- The training that will be necessary to ensure works are undertaken competently.

The WRA must be initiated during the Workplace Planning Phase (e.g. prior to mobilisation). WRA reviews will take place regularly as works alter and not less than every six months. The Project Manager is required to sign off on the WRA before implementation.

The WRA must be documented using Form JHPL-2F-30-3C Workplace Risk Assessment (WRA) and will be structured such that it incorporates components of work elements throughout the life cycle of the works. All WRA activities that have an overall inherent (before) risk ranking of Medium or Higher will require the development of a formal AMS.

### **Activity Method Statement**

The Activity Method Statement is intended to be a planning process that provides;

- A detailed description and scope of each activity;
- A methodology and sequence of works required to undertake the activity;
- Plant and equipment requirements;
- Permits and approvals;
- Those tasks within each activity which require specific Task Risk Assessments (TRAs);
- Specific guidance/procedural documentation;
- Other specific risk assessments (e.g. flora & fauna issues, noise, dust controls);
- Specific physical control actions; and
- Specific training, competencies or qualifications.

Activity Method Statements are required as directed by the WRA and must cover all operational aspects of the scope of works and be fully integrated within the construction methodology. AMS documents will be prepared in the format of form JHPL-3F-3D AMS worksheet, and will:

- Identify the need for a Site Environmental Plan
- Include Sign off by the Project Manager
- Provide for Change Management review process if processes/conditions change

## 1.8 Distribution

---

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

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

Controlled copies will be distributed to:

- GTPL.
- Contractors.
- Environmental Representative.
- DP&I.

## 1.9 Revision

---

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

JHPL will coordinate the review and distribution, as appropriate, of this CEMP, management plans and other environmental documents during construction of Stage AB WRP, in consultation with GTPL.

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

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

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

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

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

The version control table at the beginning of this document identifies the current revision of this CEMP. Revised or updated documents will be distributed to controlled copy holders, as identified in Section 1.8



# 2 Project description

## 2.1 General features

---

This CEMP relates to construction and commissioning activities for Stage AB WRP which comprises the installation of a number of buildings and facilities that will eventually treat sewage and produce recycled water that will be reused in the township for non-potable use (e.g. toilet flushing and irrigation).

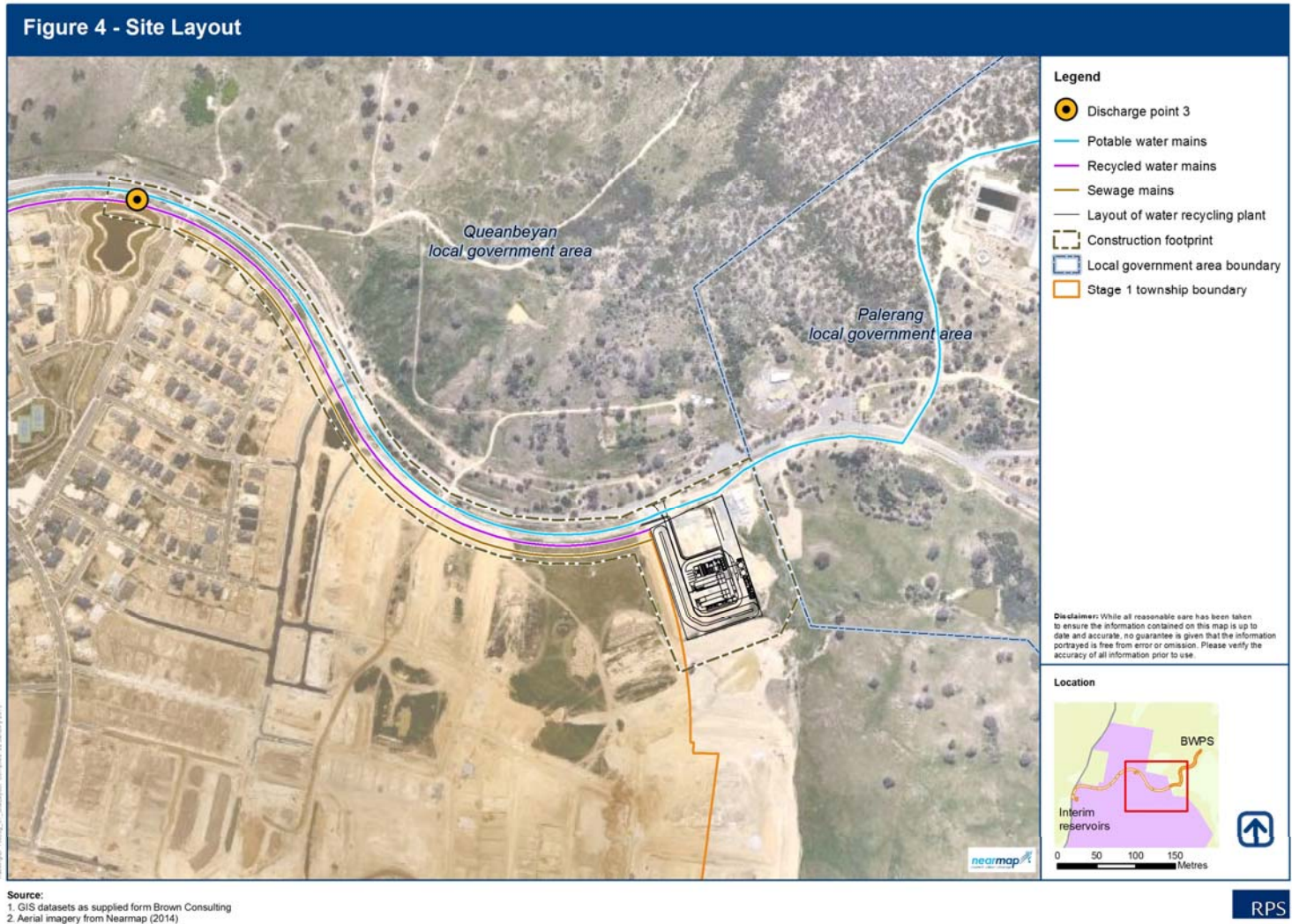
Details on the operation of the Stage AB WRP including primary, secondary and tertiary treatments is provided in Chapter 5 of the *Googong Township Water Cycle Project Environmental Assessment* and will be considered in more detail in the Operation Environment Management Plan (OEMP) to be prepared for Stage AB WRP.

This CEMP applies to works for Stage AB WRP that includes construction of the following:

- Various structures and buildings to process and treat sewage:
  - Inlet works to receive and screen sewage
  - Bioreactor tanks.
  - Digesters.
  - Membrane tanks.
  - Chemical storage and dosing area.
  - Sludge dewatering building.
  - Motor Control Centre (MCC) building.
  - Blower building.
  - Administration building.
  - Vent stack and odour control units.
  - Transformer
- Pipework and pumps to transfer sewage to the WRP, and recycled water to interim recycled water reservoir and excess recycled water to the discharge structure.
- Discharge structures to Montgomery Creek (emergency and will only be screened and de-gritted) and Googong Creek (for excess recycled water or recycled water that not does not meet quality criteria for reuse in the township).
- Berm (earth embankment) to provide visual screening installed on the western and southern boundary of the WRP (ranging from 2-7 metres in height).
- Access roads, crane pad and car parking areas.

Figure 4 provides a site layout of Stage AB WRP and Pipeline.

**Figure 4** Site layout – AB WRP and Pipeline



## 2.2 Construction activities

---

### Pre-construction activities

- Identification of the locations of existing underground services.
- Survey to finalise alignment of underground infrastructure.
- Establishment of temporary access road and temporary fencing.
- Establishment of the site compound within the construction footprint area (refer Section 0).
- Installation of temporary power, telecommunications and water supply.
- Installation of appropriate environmental management controls.

### Construction activities

Construction of the Stage AB WRP is likely to take about 6-12 months and the following sequences of activities are anticipated:

#### *Bulk earth works (completed by others)*

- Site stripping – clearing and grubbing of vegetation.
- Respreading of topsoil.
- Compact base around berm.
- Construction of compacted earthen berm.
- Excavation of overburden and rock.
- Filling and compaction of site to appropriate levels.

#### *Below ground civil works*

- Trenching and laying of pipelines.

#### *Structural works*

- Concrete structures and slabs (for the buildings listed above).
- Block work building construction.
- Structural steelwork roof.

#### *Mechanical fit-out*

- Delivery and unloading of mechanical pumps, pre-assembled units, membranes and skids.
- Installation and assembly of piping between units.
- Installation of process equipment.

#### *Electrical fit-out*

- Installation of cable trays, permanent power, site lighting and security.
- Installation of wiring to connect pumps, plant, process equipment, alarm instrumentation and other monitoring equipment.

#### *Road works*

- Delivery of road base materials and concrete.
- Lay road base materials and compact.
- Install kerbs, road seals and guardrails.

#### *Site demobilisation (aside from removal of buildings, completed by others than JHG and managed by GTPL)*

- Removal of temporary buildings and amenities.
- Securing the site to ensure the works are completed safely and do not damage the environment.
- Removal of excess spoil material from the site to the adjacent subdivision development areas to the South East.
- Decommission existing sediment control pond and associated diversion structures.
- Regrading of disturbed areas to ensure the gradients are a minimum 1:3 to allow for mowing where required.
- Importing and spreading site topsoil from adjacent subdivision stockpiles to the West and South East of the WRP site.
- Sediment & erosion control during the landscape construction and establishment activities.
- Management of the landscape and fencing sub-contractor.

#### *Landscaping (completed by others than JHG)*

- Preparation - cultivation, raking & conditioning - of the topsoil for grass seeding.
- Grass seeding of all disturbed areas and then the application of bitumen straw mulch (BSM) excluding those areas to be planted.
- Planting and mulching of the Western embankment in accordance with the LMP
- Planting and mulching of the carpark garden beds in accordance with the LMP.
- Establishment and maintenance of the completed landscape work until handover to Council.

Most likely start date is end January 2016 with an expected completion end February 2016.

### **Hydrostatic Dry and Wet Testing**

During the construction phase of Stage SP2 testing of structures and pumping systems will be conducted using potable water:

- Hydrostatic testing (use of potable water during static testing of tank integrity/leaks – discharge of treated water to environment)
- Dry testing (testing of tank/pumping systems in a dry environment – discharge of treated water to the environment).
- Wet testing (testing of tank/pumping systems with potable water – discharge of treated water to the environment).

At the completion of the wet and dry testing phases, the Stage AB WRP would be ready to receive raw sewage and enter the process proving phase (SP3). The process proving and process verification stages

involving treatment of sewage and discharge of recycled water would be addressed in the Operational Environment Management Plan (OEMP), prepared as per CoA D7 and in the operational EPL/s.

### **Construction compounds and access tracks**

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

The contractors will determine the final location of the construction compound but it will be located within the construction footprint shown in 2.1 Figure 4 and should also meet the following criteria:

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

The main construction access point will be off Googong Dam Road and Old Cooma Road shown in Figure 1. Construction vehicles will access the Stage AB WRP site directly from Googong Dam Road. Traffic volumes are estimated to be about one truck per hour for general construction activities. However for the concrete pours it is likely that at the peak of construction, 6-12 concrete trucks an hour may enter and exit the site. Further detail is provided in the Traffic Management Protocol (Appendix C).

## **2.3 Defining work areas**

---

The environmental constraints map will be used in conjunction with the SEP and AMS to help identify key risk areas and to promote ongoing communication to construction personnel during construction (refer Section 0 and 1.7).

The environmental constraints map outlines the environmentally sensitive and 'no go' areas for the site. The SEP, to be prepared, will clearly define 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 and the fencing will remain in place for the duration of construction activities. Fencing type will be determined based on the sensitivity of the area and the potential for unauthorised access, but may include chain wire fencing, para-webb fencing or flagging tape.

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

# 3 Planning

## 3.1 Legal and other requirements

---

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

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

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

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

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

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

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

The Googong Township Project was referred to the Department of the Environment (DoE) under the EPBC Act due to potential impacts on matters of national environmental significance, including migratory species, threatened species and communities. The Googong Township IWC 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 AB WRP.

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

GTPL holds Environment Protection Licence (EPL) 20188, which allows for construction and for testing activities that do not involve discharge of recycled water to the environment (ie construction, dry commissioning and wet commissioning). JHPL will adhere to and implement the conditions of EPL 20188 and report any exceedances of the EPL conditions to GTPL who will notify the EPA (also refer Section 7).

An operational EPL/s will be obtained to allow for discharge to the environment and details of operational EPL/s will be detailed in the OEMP for the Stage AB WRP (refer Appendix L for more detail). Discharge to the environment does not form part of the scope of works for this CEMP and will not be undertaken without the appropriate licence.

### **Other legal requirements**

Refer to Appendix L for a register of all legal and other requirements relevant to the construction of Stage AB WRP.

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

## **3.2 Approvals, permits and licensing**

---

Appendix L contains a register of all relevant legal and other requirements, identifying the need for any environmental approvals, permits and licenses for the construction of Stage AB WRP. The Legal and Other Requirements 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. A copy of the IWC Project Approval and all other relevant approvals will be kept on site at all times during construction of Stage AB WRP.

No condition of the IWC Project Approval removes the obligation to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 75U of the EP&A Act (although this section of the EP&A Act has been repealed, the Project Approval references this section).

## **3.3 Environmental aspects and impacts**

---

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

During the development of earlier revisions of this CEMP, an environment risk workshop was held to revise and update environmental risks identified in the EA for the IWC Project. The outcome of this risk workshop provides the basis of the Risk Register (Appendix K). The Risk Register includes a list of activities associated with the construction of Stage AB WRP, related aspects and corresponding risks before mitigation and after implementation of the measures are included in each of the environmental management plans appended to the CEMP. At contract award, JHPL conducted a WRA to further identify the environmental risks associated with the project.

The Environment Manager will review the Risk Register during construction of Stage AB WRP, as required to ensure it remains current. In particular, the environmental risk assessment will be updated:

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

An assessment of potential risk to the environment will also be undertaken as part of the development of AMS's for specific activities or works in specific areas. This would 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 and JHPL's commitment to continual improvement in environmental performance and compliance with applicable legal requirements.

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

A copy of GTPL's and JHPL's environmental policy is provided in Appendix M.

### 3.5 Objectives and targets

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

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

Environmental objectives and targets for the construction of Stage AB WRP are provided in Table 3.

**Table 3** Environmental objectives and targets [\(including JHG\)](#)

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



Objective	Target	Management tool
<u>Environmental Incident Frequency Rate (EIFR)</u> <u>Number of Class 1 &amp; 2 incidents in the period x 1,000,000 divided by the number of hours worked in the period</u>	<u>Group – 0,3</u> <u>Project – 0,0</u>	<u>Review of monthly environmental reports and incidents</u>
<u>All Environmental Incident Frequency Rate (AEIFR)</u> <u>Number of Class 1 &amp; 2 incidents in the period x 1,000,000 divided by the number of hours worked in the period</u>	<u>Group – 12</u> <u>Project - 8</u>	<u>Review of monthly environmental reports and incidents</u>
<u>Conduct Global Mandatory Requirements (GMR) Assessments</u>	<u>1 GMR self–assessment to be completed by the project every 2 months</u> <u>1 external GMR assessment to be completed by the project every 6 months</u>	<u>Assessment tool</u>
<u>Conduct regular environmental observations</u>	<u>3/week by Supervisor</u>	<u>Site diary records.</u>
<u>Prevent serious environmental incidents</u>	<u>No class 1 or 2 incidents (refer JH-APP_SQE-010-02 Environment Incident Severity Classification)</u>	
<u>Training</u>	<u>100% of project staff to complete GMR training before end of February 2015.</u>	<u>Training module.</u>

### 3.6 Project alterations

---

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

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

GTPL will determine whether the proposed alteration is consistent with the approved IWC Project. Where GTPL determines that the change is generally consistent, this CEMP would be reviewed and revised by the contractors as per the procedures outlined in Section 1.9.

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

Where GTPL determines that the proposed alteration is generally not consistent with the approved IWC Project, a modification to the approved IWC Project is required. GTPL will prepare a modification application under Section 75W of the EP&A Act, to be submitted to the Director-General DP&I for determination.

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

# 4 Implementation and operation

## 4.1 Roles and responsibilities

---

### **Environmental Representative (Independent)**

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

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

### **GTPL Assistant Project Director**

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

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

### **Black Mountain Construction Assurance (BMCA) Superintendent**

The environmental responsibilities of the BMCA Superintendent include, but are not limited to

- Administer the contract with respect to environmental requirements
- Liaise with the ER with respect to the implementation of the CEMP
- Point of contact in the event of any unexpected finds on site

### **Huon Project Manager (Site demobilisation lead)**

Huon will be the head contractor for the final clean up works. They will be involved in:

- Securing the site to ensure the works are completed safely and do not damage the environment.

- Removal of excess spoil material from the site to the adjacent subdivision development areas to the East.
- Decommission existing sediment control pond and associated diversion structures.
- Regrading of disturbed areas to ensure the gradients are a minimum 1:4 to allow for mowing where required.
- Importing and spreading site topsoil from adjacent stockpile areas to the West and East of the WRP site.
- Sediment & erosion control during the construction and establishment activities.
- Management of the landscape sub-contractor.

The environmental responsibilities of the Project 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.
- Undertake weekly inspections.
- Liaise with GTPL, the Environmental Representative and government authorities as required.
- 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.
- 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&I within seven days of receiving the recommendation. The Director-General must be satisfied with the alternate course of action.

### **Landscaping subcontractor**

- Preparation - cultivation, raking & conditioning - of the topsoil for grass seeding.
- Grass seeding of all disturbed areas and then the application of bitumen straw mulch (BSM) excluding those areas to be planted.
- Planting and mulching of the Western embankment in accordance with the LMP
- Planting and mulching of the carpark garden beds in accordance with the LMP.
- Establishment and maintenance of the completed landscape work until handover to Council.

### **JHPL Project Manager**

The environmental responsibilities of the Project 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.
- 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&I within seven days of receiving the recommendation. The Director-General must be satisfied with the alternate course of action.

### **JHPL Environment Manager**

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

- Develop, implement, monitor and update the Stage AB WRP 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 Risk Register (refer Appendix K).
- Ensure 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 L).
- Report to the Project Manager and GTPL on environmental performance and prepare a Monthly Report (refer Appendix N).
- 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 Training 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 Project Manager, Environmental Representative and the GTPL Assistant Project Director.
- Manage a Non Conformance and Environmental Incident Register and provide documentation on environmental incidents, non-conformance and corrective actions to Project Manager and the GTPL Assistant Project Director.

### **JHPL Site Supervisor**

- Conduct prestarts and task risk assessments

- Oversee site works
- Reports to the Project Manager

### **JHPL Design Manager**

The Design Manager will have responsibility for ensuring the CoA and SoC related to design of the Stage AB WRP are incorporated.

### **Wider project team (including sub-contractors)**

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

## **4.2 CEMP availability**

---

A copy of this CEMP will be held in the site office. An electronic copy of the approved CEMP will be available on the IWC Project website [[www.compliance.googong.net](http://www.compliance.googong.net)] which is managed by GTPL. Supporting documents, for example relevant EMWS and environmental control plans will be held on site.

# 5 Competence, training and awareness

## 5.1 Purpose

---

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

- A project site induction, including environmental roles and responsibilities.
- Toolbox talks.
- Pre-start meetings.
- Environmental awareness training for specific issues.

The Environment Manager will maintain a Training Register of all project site inductions and environmental training carried out. Records of attendees at toolboxes will be kept on file.

## 5.2 Site inductions

---

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

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

- Purpose and objectives of the CEMP.
- Conditions of environmental licences, permits and approvals.
- Key environmental issues and responsibilities.
- Working hours.
- Mitigation measures for the control of environmental issues.
- Boundaries for vegetation clearing, location of exclusion zones, and other environmental constraints.
- Responsibilities under the NSW *Heritage Act 1977* and NSW *National Parks and Wildlife Act 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 by the Environment Manager and kept on site.

### 5.3 Toolbox talks, training and awareness

---

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

The Environment Manager will maintain a register of environmental training. The Training Register will include a record of the topic, content, dates, name(s) and qualifications of trainers, names and signatures of personnel trained.

### 5.4 Pre-start meetings

---

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

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

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



# 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.

GTPL and JHPL will meet 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.

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

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

The Environment Manager has the responsibility to report on the ongoing environmental performance of the construction of Stage AB WRP to GTPL and the Environmental Representative. The Environment Manager will report on progress and key environmental issues through the preparation of monthly environment reports (refer Appendix N).

## 6.2 Communication with government agencies

---

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

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

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

## 6.3 Stakeholder and community consultation

---

### **Community Engagement and Stakeholder Management Plan**

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

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

#### *Community Information Plan*

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

Communication tools defined in the strategy include:

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

GTPL is responsible for implementing the Community Information Plan during construction of Stage AB WRP.

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

### *Complaints Management Procedure*

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

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

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

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

# 7 Incidents and emergencies

## 7.1 Classification of environmental incidents

---

There are two categories of environmental incidents.

### 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.

### 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

---

### Pollution Incident Response Management Plan

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

A Pollution Incident Response Management Plan (PIRMP) has been prepared and is included at Appendix O. The PIRMP must be maintained and implemented by the contractors during construction of Stage AB WRP.

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

### Category one

- If necessary, stop work in relevant area and take necessary actions or put in place suitable controls to avoid and reduce impacts of incidents to the environment or community.
- Project personnel to immediately notify the Environment Manager and/or Project Manager.

- Environment Manager or Project Manager to immediately notify the GTPL Assistant Project Director and the Environmental Representative (refer to Section 7.3).
- GTPL to immediately notify the EPA and DP&I (and others as required) for pollution incidents causing or threatening material harm (refer to Section 7.3).
- GTPL to immediately notify DP&I (and others as required) for all other Category one incidents.
- Environment Manager to complete an incident report and record in the John Holland Event Tracking (JHET) system or Huon incident register and submit an incident report to GTPL within two days.
- GTPL and JHPL/Huon to investigate incident (root cause analysis) and implement any opportunities for improvement (as soon as practical, but generally within one week) (refer Section 7.4)
- GTPL to issue copy of incident report and root cause analysis to DP&I (and others as required) for their consideration (within seven days).

### Category two

- If necessary, stop work in relevant area and take necessary actions or put in place suitable controls to avoid and reduce impacts of incidents to the environment or community.
- Project personnel to immediately notify the Environment Manager and/or Project Manager.
- Environment Manager or Project Manager to immediately notify the GTPL Assistant Project Director and the Environmental Representative (refer to Section 7.3).
- Environment Manager to complete an incident report and record in JHET or Huon incident register and submit an incident report to GTPL within two weeks.
- GTPL and contractors 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 report on Category two incidents to DP&I in the six-month construction compliance report.
- GTPL to report on category two incidents to EPA in the Annual Return.

## 7.3 Incident reporting

---

The Project Manager or Environment Manager 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 5).

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

- 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.

### **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&I.
- EPA.
- Ministry of Health.
- WorkCover.
- QCC and/or Palarang Council.
- Fire and Rescue NSW.

An environment incident report (in accordance with the reporting requirements of EPL 20188) will be prepared by JHPL 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.

### **All other Category one incident reporting**

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

An environment incident report will be prepared by JHPL or Huon 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&I, and any relevant agencies, a detailed incident report and copy of the root cause analysis investigation.

### **Category two incident reporting**

An environment incident report will be prepared by JHPL 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&I through the six-monthly construction compliance reports. They will also be reported to the EPA through the Annual Return in accordance with Condition R1 of EPL 20188.

Key contacts for environmental emergencies are provided in Table 4.

### **JHG Internal Incident Reporting**

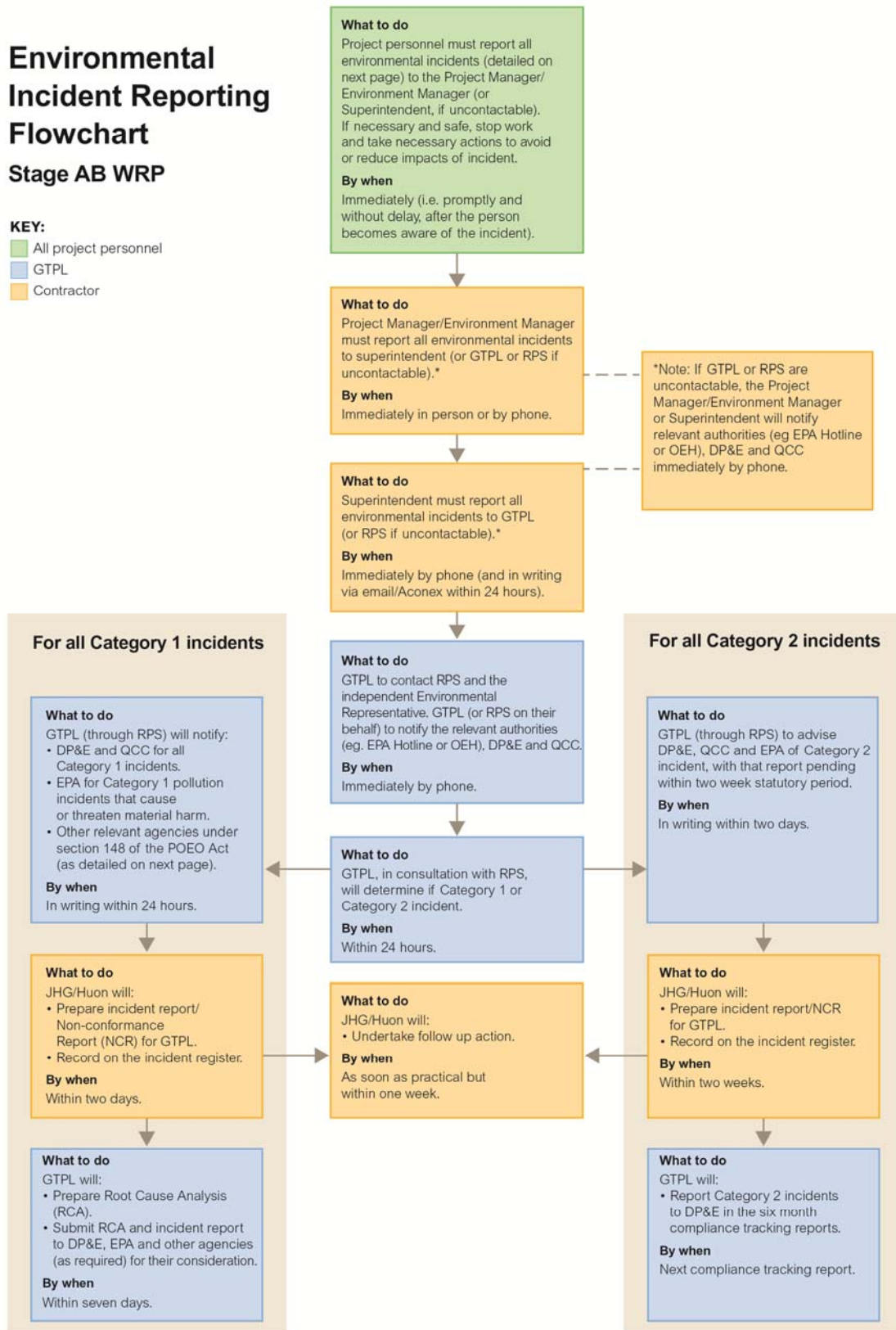
Any incident with actual or potential impacts on the biophysical environment, shall be recorded and addressed by the JHG Project Manager and JHG Environment Manager as detailed in JH-MPR-SQE-010 Incident Management procedure.

Figure 5 Incident reporting flowchart

# Environmental Incident Reporting Flowchart

## Stage AB WRP

**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
<b>HUON CONTRACTORS PTY LTD</b>		
<b>Adam Howard</b> (Project Manager)	0414 805 389	adam@huon.net.au
<b>JHG/BLACK MOUNTAIN</b>		
<b>Tino Ferrero</b> (Project Manager)	0419 368 642	tino.ferrero@jhg.com.au
<b>David Bamforth</b> (Environmental Manager)	0439 063 130	david.bamforth@jhg.com.au
<b>Geoff Gardner</b> (Superintendent)	0432 565 123	geoff.gardner@blackmtn.com.au
<b>GTPL</b>		
<b>Craig Harris</b> (Assistant Project Director)	0409 999 059	craig.harris@cicaustralia.com.au
<b>RPS</b>		
<b>Rob Salisbury</b> (Environment Advisor to GTPL)	0416 034 054	rob.salisbury@rpsgroup.com.au
<b>ECOLOGY AND HERITAGE PARTNERS</b>		
<b>Richard Sharp</b> (Environment Representative)	0457 303 596	rsharp@ehpartners.com.au

### AGENCIES

<b>DP&amp;E</b>		
<b>Lisa Mitchell</b> (Manager Water Infrastructure Projects)	(02) 9228 6284	lisa.mitchell@planning.nsw.gov.au
<b>EPA (Pollution Incidents)</b>		
<b>Julian Thompson</b> (Unit Head - South East Region)	(02) 6229 7002	julian.thompson@epa.nsw.gov.au
<b>Sharon Peters</b> (Regional Operations Officer)	(02) 6229 7002	sharon.peters@epa.nsw.gov.au
<b>EPA Hotline</b>	131 555	
<b>OEH (Heritage and Biodiversity)</b>		
<b>Jackie Taylor</b> (Archaeologist – South East)	0408 201 239	jackie.taylor@environment.nsw.gov.au
<b>Heritage Council of NSW</b> (for non-Aboriginal heritage)	(02) 9873 8500	
<b>Rod Pietsch</b> (Senior Threatened Species Officer)	(02) 6229 7114	rod.pietsch@environment.nsw.gov.au
<b>QCC</b>		
<b>QCC Duty Officer</b>	0417 499 153	

### OTHER AGENCIES

<b>NSW Rural Fire Service</b>	000
<b>Southern NSW Local Health District Public Health Unit</b>	(02) 6080 8900
<b>WorkCover NSW</b>	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.

15009v\_31

Information as of January 12, 2016

**Table 4** Emergency contacts

Emergency contact/organisation	Name	Contact details
GTPL Assistant Project Director	Craig Harris	0409 999 059
Huon Project Manager	Adam Howard	0414 805 389
JHPL Project Manager	Tino Ferrero <del>Steve Morange</del>	0419 368 642 <del>0420 395 388</del>
JHPL Environment <del>Representative</del> <u>Manager</u>	David Bamford Alyssa Slaney Simon Orchard	0439 063 130 <del>0421 063 343</del> 0419 823 694
Environmental Representative (ehpartners)	Richard Sharp	0457 303 596
BMCA Superintendent	Geoff Gardner	0432 565 123
OEH – EPA	Pollution line	131 555
OEH – EPA (South East region)	Julian Thompson	(02) 6229 7002
DP&E	Lisa Mitchell	(02) 9228 6284
NSW Health	N/A	(02) 9391 9000
Police	N/A	000 (or 112 from mobiles)
Local police	N/A	131 444
Ambulance	N/A	000 (or 112 from mobiles)
Canberra Hospital	N/A	(02) 6244 2222
NSW Rural Fire Service	N/A	000 (or 112 from mobiles)
Gas/electricity	N/A	131 909
Queanbeyan City Council	N/A	(02) 6285 6000 After hours (02) 6298 1234
ACTEW Corporation	N/A	6248 3111
WorkCover NSW	N/A	13 10 50
Telstra	N/A	132 999
ACT Territory and Municipal Services	N/A	13 22 81
WIRES	N/A	1300 194 737

## 7.4 Incident investigation

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

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

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

Where the Director-General (DP&I) provides recommendations to address the cause or impact of any incident reported to the DP&I, JHPL/Huon 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 JHET or Huon incident register, 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).

# 8 Environmental inspections, monitoring and auditing

## 8.1 Environmental inspections

---

### Weekly inspections

The Environmental Manager 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. Any action will also be given a priority.

### Environmental Representative inspections

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

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

JHPL will act on all recommendations made by the Environmental Representative as soon as practicable. Where JHPL disagrees with the recommendations of the Environmental Representative, written justification of the alternate course of action will be provided to the Director-General of DP&I within seven days of receiving the recommendation. The Director-General must be satisfied with the alternate course of action.

## 8.2 Environmental monitoring

---

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

## 8.3 Non-conformity, corrective and preventative actions

---

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

An opportunity for improvement may be identified through the review and monitoring processes that will be implemented during the construction of Stage AB WRP. 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 JHET system 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-conformances*

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-conformances*

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-conformances*

Following the investigation and reporting, the non-conformance will be recorded in JHET. Improvement opportunities will also be recorded in JHET, for example to capture any system improvements recommended as the result of an incident investigation.

#### *Review of JHET*

JHET will be reviewed regularly to ensure actions are closed out in a timely manner or as required. The system will escalate any outstanding actions to senior JHPL management that aren't closed out in the specified timeframes. 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**

---

### **Internal audits**

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

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

### **Independent external audits**

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

## **8.5 Reporting**

---

### **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 and enquiries.
- Training.

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

### **Construction compliance report**

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

# 9 Documentation

## 9.1 Environmental records

---

The Environment Manager is responsible for maintaining all environmental management records on the JHPL Lotus Notes Project Pack. Types of records include:

- Register of SEP's (Risk Register (Appendix K) and Legal and Other Requirements Register (Appendix L).
- All monitoring, inspection and compliance reports/records.
- Complaints and close out actions.
- Monthly environmental reporting (i.e. Monthly Report) and other environmental reporting as required by the contract documentation or the Compliance Tracking Program.
- Training Register and all other induction and training records.
- Correspondence with government agencies and other stakeholders.
- Community engagement and stakeholder management information.

Incidents and Non-conformances will be maintained on JHET.

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

Only the Environmental Manager 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 and Resource Management Plan

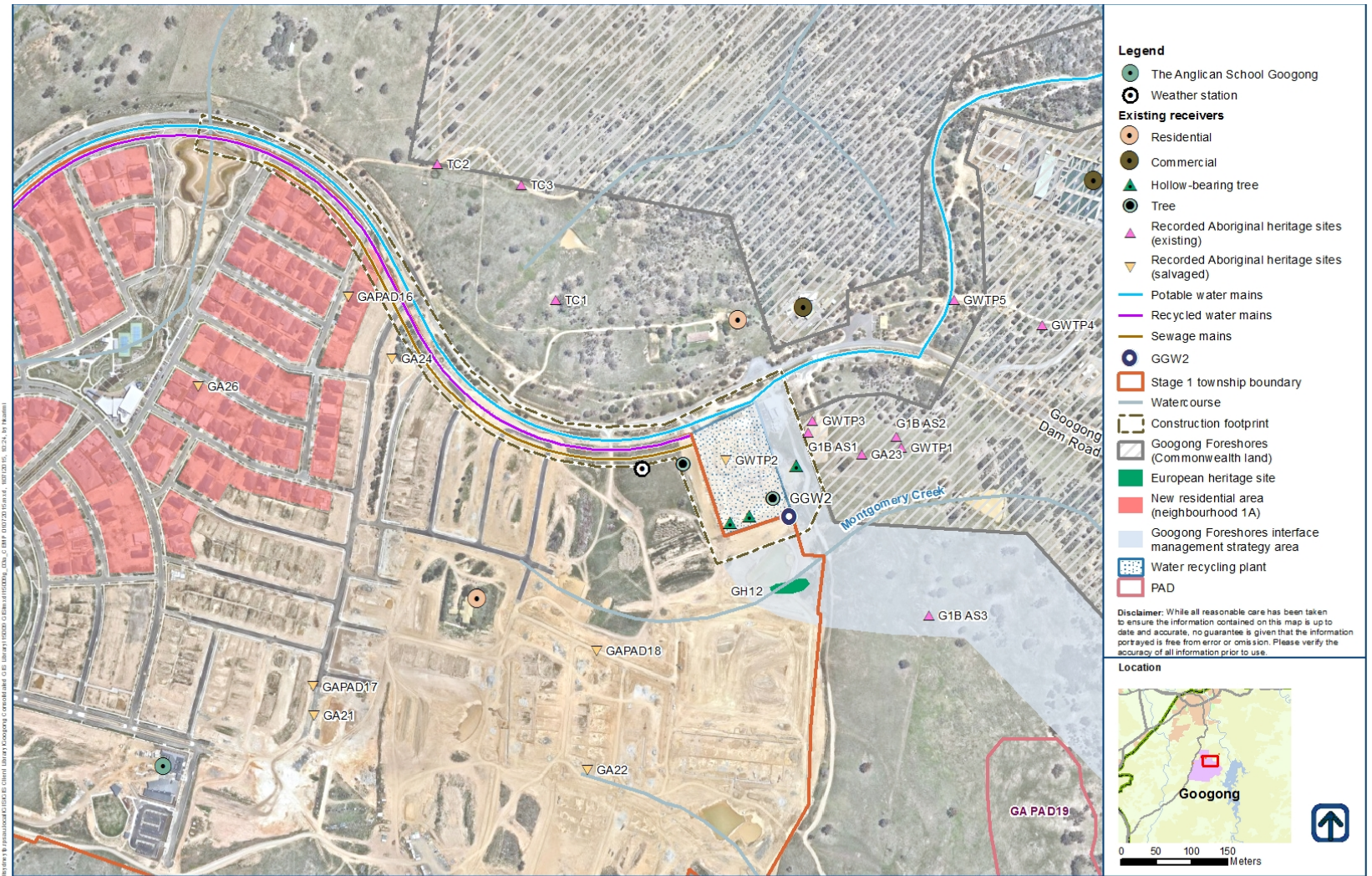
Appendix H **Air Quality Management  
Plan**

Appendix I

# Environmental Constraints Map







**Source:**  
 1. GIS datasets as supplied from Navin Officer  
 2. Aerial imagery from Nearmap (2015)



# Appendix J SEP

# Appendix K Risk Register

## K.1 Introduction

---

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

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

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

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

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

**Table 5** Risk assessment consequence definitions

Consequence level	Definition
Extreme	<ul style="list-style-type: none"> <li>• Would result in a major prosecution under relevant environmental legislation.</li> <li>• Would cause long-term and irreversible impacts.</li> </ul>
Major	<ul style="list-style-type: none"> <li>• Would result in a fine or equivalent under relevant environmental legislation.</li> <li>• Would cause medium-long-term, potentially irreversible impacts.</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>• Would result in a medium-term, reversible impact.</li> </ul>
Minor	<ul style="list-style-type: none"> <li>• Would result in short-term, reversible impact.</li> </ul>
Insignificant	<ul style="list-style-type: none"> <li>• Would not result in any perceptible impacts.</li> </ul>

The second descriptor of risk identifies the frequency of activities that may cause the impact and the probability of the impact occurring during that activity, the likelihood level is outlined in Table 6.

**Table 6** Risk assessment likelihood definitions

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

When both the descriptors of risk have been identified for each potential impact the level of risk is determined using the risk matrix in Table 7.

**Table 7** Risk matrix

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

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

## K.2 Risk assessment results

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

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

Risk	Risk rating – before mitigation			Risk rating – after mitigation		
	Likelihood	Consequence	Rating	Likelihood	Consequence	Rating
<b>Water quality and hydrology</b>						
Surface water quality impacts due to construction (dewatering, sediment runoff, chemical spills etc).	Possible	Minor	Moderate	Unlikely	Minor	Low
Unforeseen impacts upon water quality in the Googong Dam catchment.	Rare	Moderate	Low	Rare	Moderate	Low
<b>Soils</b>						
Expansive soils that exist in the area may create stability issues during construction.	Unlikely	Minor	Low	Unlikely	Minor	Low
Contamination of land or soils due to chemical spills.	Possible	Minor	Moderate	Unlikely	Minor	Low
Increased soil erosion and potential for soil erosion due to disturbance of topsoil and loss of vegetation.	Possible	Minor	Moderate	Unlikely	Minor	Low
Failure to adequately identify contaminated soils results in impacts on surrounding environment once exposed.	Unlikely	Major	Moderate	Unlikely	Minor	Low
<b>Groundwater</b>						
Interception of groundwater (without a license).	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Changes to groundwater flows due to construction activities.	Unlikely	Minor	Low	Unlikely	Minor	Low

Risk	Risk rating – before mitigation			Risk rating – after mitigation		
	Likelihood	Consequence	Rating	Likelihood	Consequence	Rating
<b>Ecology</b>						
Removal of native vegetation including endangered ecological communities in addition to that already approved.	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Impacts on threatened species (NSW/Commonwealth) in addition to that already approved.	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Native flora and fauna habitat loss in addition to that already approved.	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Failure to adequately address environmentally sensitive areas in design and construction.	Unlikely	Major	Moderate	Unlikely	Major	Moderate
Encourage further migration of weeds (noxious and environmental).	Likely	Moderate	Significant	Unlikely	Moderate	Moderate
Wildlife entrapment in trenches.	Possible	Minor	Moderate	Rare	Minor	Low
Increased vehicle/fauna interactions due to increased traffic.	Possible	Minor	Moderate	Unlikely	Minor	Low
<b>Heritage</b>						
Direct impacts on known items of significance during construction.	Unlikely	Major	Moderate	Unlikely	Moderate	Moderate
Unforeseen impacts, including discovery and impacts on sites that are of cultural heritage or recreational value.	Unlikely	Major	Moderate	Unlikely	Minor	Low
<b>Traffic and access</b>						
Road diversion and/or temporary closure of roads. Impacts to private property access.	Almost certain	Minor	Significant	Possible	Minor	Moderate



Risk	Risk rating – before mitigation			Risk rating – after mitigation		
	Likelihood	Consequence	Rating	Likelihood	Consequence	Rating
<b>Waste</b>						
Incorrect classification and / or inappropriate disposal of construction waste.	Possible	Moderate	Significant	Unlikely	Moderate	Moderate
Excessive waste from construction and general waste from construction camps.	Possible	Minor	Moderate	Unlikely	Minor	Low
Concrete waste and washout	Possible	Moderate	Significant	Unlikely	Moderate	Moderate
<b>Air quality</b>						
Greenhouse gas emissions during construction (emissions from vehicles, plant and equipment).	Almost certain	Insignificant	Significant	Almost certain	Insignificant	Significant
Plant and equipment emissions affecting local air quality.	Unlikely	Minor	Low	Unlikely	Minor	Low
Dust from earthmoving equipment activities (vegetation clearing, wind erosion from stockpiling of excavated material, etc).	Almost certain	Minor	Significant	Possible	Minor	Moderate
<b>Noise and vibration</b>						
Working outside approved hours.	Likely	Minor	Significant	Unlikely	Minor	Low
Noise and vibration impacts.	Almost certain	Minor	Significant	Possible	Minor	Moderate
<b>Hazards and risks</b>						
Safety hazards and risks as a result of construction (bushfire, personal safety and security, chemical storage).	Possible	Extreme	High	Unlikely	Extreme	Significant
<b>Visual amenity</b>						
Inadequate site rehabilitation.	Possible	Moderate	Significant	Unlikely	Moderate	Moderate
Temporary visual impacts (site compounds, works).	Possible	Insignificant	Low	Possible	Insignificant	Low

Risk	Risk rating – before mitigation			Risk rating – after mitigation		
	Likelihood	Consequence	Rating	Likelihood	Consequence	Rating
<b>Socio-economic</b>						
Impacts on recreational use at various nearby sites.	Rare	Moderate	Low	Rare	Minor	Low
<b>Community</b>						
Inadequate / late response to community complaints	Possible	Moderate	Significant	Unlikely	Moderate	Moderate
<b>Utilities and services</b>						
Impacts and interruptions to utilities and services.	Possible	Major	Significant	Unlikely	Minor	Low
<b>Incident management</b>						
Inadequate response to incident, including reporting requirements.	Possible	Major	Significant	Unlikely	Major	Moderate
<b>Legislative approvals</b>						
Carrying out activities inconsistent with conditions of Project Approval.	Likely	Major	High	Unlikely	Major	Moderate
Non-compliance with legislative requirements.	Possible	Major	Significant	Unlikely	Major	Moderate
<b>Cumulative impacts</b>						
Cumulative noise, dust, vegetation impacts as a result of Part 4 subdivision occurring concurrently.	Possible	Moderate	Significant	Unlikely	Moderate	Significant

Appendix L

# Legal and Other Requirements Register

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<b>General</b>				
<i>Environmental Planning and Assessment Act 1979 (EP&amp;A Act)</i>	All	Comply with the terms Minister for Planning's approval for the IWC Project. Obtain the Minister's approval for any project modifications that are not consistent with the Approved Project.	S75W	The IWC Project has been approved under Part 3A of the EP&A Act subject to Conditions of Approval (CoA). The construction of Stage AB WRP must comply with all CoA. Any changes not consistent with the IWC Project Approval would require additional assessment and approval from the Minister.
	BCA and Certification	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.  Notes: <ul style="list-style-type: none"> <li>• Under Part 4 of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and</li> <li>• Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	Part 4	The contractors will ensure that all new buildings and structures are constructed in accordance with the relevant requirements of the BCA and obtain the relevant construction/occupation certificates from Queanbeyan City Council (QCC).
<b>Water</b>				
<i>Water Management Act 2000 (WM Act).</i>	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence.  Do not use of water on land (unless supplied by a water utility, irrigation corporation etc. or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that a water use approval under Section 89, a water management work approval under Section 90 or an activity approval under

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	Section 91 of the WM Act is not required.  The construction of Stage AB WRP will be carried out consistent with the aims of the WM Act. No surface or groundwater will be sourced for construction use and geotechnical investigations indicate water from aquifers nominated in the Water Sharing Plan for NSW Murray Darling Basin Fractured Rock Groundwater Sources or Murrumbidgee Unregulated and Alluvial Water Sources would not be affected. As such, it is considered that a Water Access Licence under Section 56 and 60A would not be required.
<i>Water Management Act 2000</i> (WM Act)	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No surface or groundwater will be sourced for construction use and geotechnical investigations indicate water from aquifers nominated in the Water Sharing Plan for NSW Murray Darling Basin Fractured Rock Groundwater Sources or Murrumbidgee Unregulated and Alluvial Water Sources would not be affected. As such, it is considered that a Water Access Licence under Section 56 and 60A would not be required.
<i>Water Act 1912</i> (Water Act) Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i> .	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water.	S21B	The Water Act does not apply, as the Stage AB WRP site is located within a Water Sharing Plan area, and so <i>Water Management Act 2000</i> applies.
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	The Water Act does not apply, as the Stage AB WRP site is located within a Water Sharing Plan area, and so <i>Water Management Act 2000</i> applies.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of any EPA licence.	S120	<p>The construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.</p> <p>Under Section 47 of the POEO Act a Scheduled Development Environment Protection Licence is required for construction of Stage AB WRP. GTPL holds EPL 20188 for construction works.</p> <p>A new or amended licence will be needed to allow for commissioning activities (i.e. to allow discharge to environment).</p>
<i>Local Government Act 1993</i> (LG Act)	Construction and operate water and wastewater facilities	Construction and operate water and wastewater facilities.	S60 (local council operator)	QCC will not be responsible for the construction of Stage AB WRP, however as QCC will operate the plant, QCC (with support from GTPL) will seek approval from the Minister under S60 of the <i>Local Government Act 1993</i> to construct and operate water and waste water facilities.
<i>Water Industry Competition Act 2006</i> (WIC Act)	Construction and operate water and wastewater facilities	Obtain a Network operator's licence prior to construction for construction maintenance and operation of water industry infrastructure.		As QCC will operate the water and wastewater facilities, GTPL are not required to seek a Network operator's licence under the WIC Act.
<b>Noise</b>				
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.
<b>Roads</b>				
<i>Roads Act 1993</i>	Works and structures on public roads	Do not erect a structure or carry out a work in, on or over a public road, or dig up or disturb the surface of a public road, or remove or interfere with a structure, work or tree on a public road, or pump water into a public road from any land adjoining the road, or connect a road (whether public or private) to a classified road, otherwise than with the consent of the appropriate roads authority.	S138	The contractors will apply for a road occupancy permit under Section 138 for any works undertaken on public roads.  The relevant roads authority is QCC for Googong Dam Road and the RMS for Old Cooma Road.
<b>Contaminated land</b>				
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation.  It is however not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.	S142A – S142E	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.
<i>Contaminated Land Management Act 1997 (CLM Act)</i>	Reporting contamination	Notify the EPA if: <ul style="list-style-type: none"> <li>• Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water.</li> <li>• Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land.</li> <li>• Contamination meets other criteria that may be prescribed by the regulations.</li> </ul>	S60	Construction of Stage AB WRP will be carried out in accordance with the CLM Act, where relevant.  Refer to Soil and Water Management Plan for contamination reporting requirements.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<b>Biodiversity</b>				
<i>Noxious Weeds Act 1993</i>	Weed control	<p>As a private landowner, control noxious weeds on the land as required under the control category or categories specified in relation to the weeds concerned.</p> <p>Notify relevant control authority within 3 days of becoming aware (or ought reasonably to have known) that a notifiable weed (W1 weed) is on land.</p> <p>Must not scatter or cause to scatter notifiable weed material.</p>	S12 S16 S30	Construction of Stage AB WRP will be carried out in accordance with the <i>Noxious Weeds Act 1993</i> , where relevant.
<i>National Parks and Wildlife Act 1974 (NPW Act)</i>	Native fauna	Do not harm any animal that is of a threatened species population or ecological community, or its habitat except in accordance with a planning approval.	Part 8A	Construction of Stage AB WRP will be carried out in accordance with the NPW Act, where relevant.
		Do not harm critical habitat except as in accordance with a planning approval.	S98	Construction of Stage AB WRP will be carried out in accordance with the NPW Act, where relevant.
		Do not harm native fauna (other than listed unprotected fauna) except in accordance with a planning approval or licence.	S120	Construction of Stage AB WRP will be carried out in accordance with the NPW Act, where relevant.
<i>National Parks and Wildlife Act 1974 (NPW Act)</i>	Flora and native vegetation conservation	Do not pick protected native plants without a licence.	S117 S131	Construction of Stage AB WRP will be carried out in accordance with the NPW Act, where relevant.



Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<i>Native Vegetation Act 2003</i>	Flora and native vegetation conservation	Only clear native vegetation in accordance with a planning approval or property vegetation plan.	S12	<p>The IWC Project has been approved under Part 3A of the EP&amp;A Act. Section 75U states that an authorisation to clear native vegetation or State protected land referred to in section 12 of the <i>Native Vegetation Act 2003</i> is not required.</p> <p>Construction of Stage AB WRP will be carried out in a manner consistent with the aims of the Act and GTPL will consult with OEH where required, regarding clearing of native vegetation.</p>
<i>Fisheries Management Act 1994 (FM Act)</i>	Dredging and reclamation	Do not carry out dredging or reclamation work except under the authority of a permit issued by the Minister.	S201	<p>The IWC Project has been approved under Part 3A of the EP&amp;A Act. Section 75U states that a permit under section 201, 205 or 219 of the FM Act is not required.</p>
	Fish passage	Do not block fish passage without a permit	S219	<p>The IWC Project will be carried out in accordance with the <i>Fisheries Management Act 1994</i>, where relevant.</p> <p>No blockage of fish passage is expected for Stage AB WRP works.</p>
<i>Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth) (EPBC Act)</i>	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	<p>Construction of Stage AB WRP will be carried out in accordance with the EPBC Act, where relevant.</p>

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
		Comply with the terms of any EPBC Act approval for the project.		<p>The IWC Project was approved on 19 May 2011 (EPBC 2011/5829).</p> <p>The approval is subject to conditions. Relevant conditions are addressed in the CEMP and Flora and Fauna Management Plan.</p> <p>As works for Stage AB are to take place in the Googong Foreshores Interface Strategy area, a Googong Foreshores Interface Management Strategy must be prepared and approved prior to commencement of works. The measures in the Strategy must be implemented by GTPL and the contractors.</p>
<b>Waste</b>				
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	Littering	<p>Do not litter in a public place or an open private place. Do not litter from a vehicle.</p> <p>Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises.</p> <p>Do not deposit advertising material on or in vehicles.</p>	Part 5.6A	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	Waste and transportation	<p>Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence.</p> <p>A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material:</p> <ul style="list-style-type: none"> <li>• Is VENM.</li> <li>• Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas.</li> <li>• Is covered by a “general exemption”. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land.</li> </ul> <p>A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.</p>	Part 3.2 Schedule 1	<p>Due to the relatively small volume of spoil likely to be generated by the construction of Stage AB WRP, it is unlikely that a licence to dispose of waste to landfill will be required.</p> <p>Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.</p>
		Only transport waste to a facility that can lawfully accept the waste.	S143	<p>Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.</p> <p>Waste management measures are outlined in the Waste and Resource Management Plan.</p>

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the Waste and Resource Management Plan.
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the Waste and Resource Management Plan.
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant. Waste management measures are outlined in the Waste and Resource Management Plan.
<b>Heritage</b>				
<i>Heritage Act 1977</i> (Heritage Act)	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977 is not required. Construction of Stage AB WRP will be carried out in consistent with the aims of the Heritage Act.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	The IWC Project has been approved under Part 3A of the EP&A Act. Section 75U states that an approval under Part 4, or an excavation permit under Section 139 of the Heritage Act is not required.  Construction of Stage AB WRP will be carried out in a manner consistent with the aims of the Heritage Act.
		Notify the Heritage Council on discovery of a relic	S146	Under Section 146 of the Heritage Act the Heritage Council may need to be notified should a 'relic' be found which has not been previously identified in the EA. This requirement is not removed by the Part 3A approval.  Reporting requirements are outlined in the Heritage Management Plan.
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	Construction of Stage AB WRP will be carried out in accordance with the NPW Act, where relevant.
		Notify the OEH and DP&I immediately of the location or discovery of all new or unrecorded Aboriginal objects.	S89A	Construction of Stage AB WRP will be carried out in accordance with the NPW Act, where relevant.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Sustainability, Environment, Water, Population and Communities.	S20	Construction of Stage AB WRP will be carried out in accordance with the <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> , where relevant.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	Construction of Stage AB WRP will comply with the provisions of any declaration in relation to a significant Aboriginal area or object.
<b>General</b>				
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	Harming the environment	Do not risk harming the environment by wilfully or negligently: <ul style="list-style-type: none"> <li>• disposing of waste unlawfully.</li> <li>• causing any substance to leak, spill or otherwise escape (whether or not from a container); or</li> <li>• emitting an ozone depleting substance</li> </ul>	S115 S116 S117	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.
	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant.
	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Construction of Stage AB WRP will be carried out in accordance with the POEO Act, where relevant. Notification instructions are provided in Section 7.3 and the PIRMP (Appendix O).
	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA.	S47 S48	Construction of Stage AB WRP will be carried out in accordance with the POEO Act and the relevant EPLs, where relevant.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<i>Environmentally Hazardous Chemicals Act 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.  Codes of practice for the Storage and Handling of Corrosive substances is required.		Construction of Stage AB WRP will be carried out in accordance with the <i>Environmentally Hazardous Chemicals Act 1985</i> , where relevant.  Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan.
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Construction of Stage AB WRP will be carried out in accordance with the <i>Dangerous Goods (Road and Rail Transport) Act 2008</i> , where relevant.  Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan.
<i>Pesticides Act 1999</i>	Hazards and risks	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Construction of Stage AB WRP will be carried out in accordance with the <i>Pesticides Act 1999</i> , where relevant.  Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan.

Act	Activity / aspect	Requirement	Reference	Applicability to the construction of Stage AB WRP
<i>State Emergency and Rescue Management Act 1989</i>	Hazards and risks	Manage risks in emergency and/or maintenance situations at key infrastructure (in this case bush fire, flood or similar natural disaster) (SoC R2)		Construction of Stage AB WRP will be carried out in accordance with the <i>State Emergency and Rescue Management Act 1989</i> where relevant in relation to emergency preparedness and response.  Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan
<i>Rural Fires Act 1997 and the Rural Fires Regulation 2002</i>	Hazards and risks	Manage risks in emergency and/or maintenance situations at key infrastructure (in this case bush fire, flood or similar natural disaster)		Construction of Stage AB WRP will be carried out in accordance with the <i>Rural Fires Act 1997</i> where relevant – in relation to emergency situation management.  Measures to manage hazards are outlined in the Hazard Risk and Safety Management Plan
<i>National Greenhouse and Energy Reporting Act 2007 and Regulations 2008</i>	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	The <i>National Greenhouse and Energy Reporting Act 2007</i> (the NGER Act) is a unified framework for the reporting of greenhouse gas emissions (GHGs) and energy use for significant corporation emitters of greater than 50kt CO <sub>2</sub> -e and energy consumption of 200Tj.  GTPPL is not required to report under the NGER Act as they do not meet the required threshold.



# Appendix M Environment Policy

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

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

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

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

# POLICY



## Environmental

### Our commitment

John Holland is committed to caring for the environment and minimising impacts in all our operations.

### Our approach

John Holland will undertake its business in a manner which recognises the importance of environmental sustainability and protection.

### Environmental Policy in practice

- Comply with all applicable laws, regulations and statutory obligations
- Manage environmental aspects in accordance with customer requirements, policies and procedures
- Promote a culture of shared responsibility for environmental outcomes within our business
- Improve our energy, water and resource use efficiency, and take all reasonable and practicable steps to prevent pollution, reduce waste and other adverse environmental effects
- Improve knowledge, awareness and skills of our employees related to environmental and sustainability requirements and practices
- Measure our environmental performance and communicate it to our employees and other stakeholders
- Continually improve our Environmental Management System
- Fully and transparently investigate environmental incidents to identify all causal factors, and actions taken to prevent recurrence
- Engage with our business partners, the communities we work within and other stakeholders on environmental sustainability and protection.

**Glenn Palin**

Group Managing Director | John Holland Group Pty Ltd

March 2013

We provide engineering and infrastructure solutions with skill and passion that benefit our customers, our people, our communities and our shareholders.



*Powered by People*



# Appendix N Monthly Environmental Report (template)

## N.1 Scope

---

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

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

## N.2 Project description

---

*(Provide description of Stage AB construction works that are included in the contractors scope ie. early works or other WRP works and describe)*

## N.3 Reporting period

---

Period starting	Period ending	Was CEMP updated during reporting period? (Y/N)	Current CEMP revision no.

## N.4 Scope of construction activities undertaken

Provide details on specific construction activities undertaken during the reporting period.

Area	Key activities

## N.5 Environmental inspections

Provide details on environmental inspections undertaken during the reporting period.

Inspection type (Weekly inspection or ER inspection)	Date	Key identified issues	Actions taken (identify any actions taken or further action required)

## N.6 Environmental monitoring

Provide details of any environmental monitoring undertaken during the reporting period.

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

### Discussion of environmental monitoring results

-

## N.7 Environmental incidents

List all environmental incidents that occurred during the reporting period. Note a detailed Environmental Incident Report must be provided to GTPL within two days (Category 1 incidents) or two weeks (Category 2 incidents). Also refer to the Environmental Incident Reporting Flowchart for details on how to report an incident.

Incident type (Cat 1 or Cat 2) and location	Date	Summary of incident	Date report provided to GTPL	Outstanding actions

## N.8 Environmental non-conformances

Identify any other non-conformances that occurred or were identified during the reporting period (eg. failure to issue notification letters two weeks prior). Note. Environmental incidents listed above are excluded from this section.

Details of non-conformance	Date	Status (closed or open)	Actions taken (identify any actions taken or further action required)

## N.9 Environmental audits

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

Audit type (internal or external)	Date	Undertaken by	Description	No. of non-conformances (detail in N.8 above)

## N.10 Environmental reporting against licences, approvals, permits

Provide details on any other reporting undertaken during the period eg relating to the Part 3A IWC Project Approval, and list any other statutory licences or permits obtained (eg Section 138 Certificate, Construction Certificate).

Licence, approval or permit details	Date	Description

## N.11 Completed construction notifications

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

Notification type	Date sent	Sent to	Description
<i>Eg Letter</i>		<i>Eg. Sent to sensitive receivers (list addresses) and QCC</i>	<i>Eg. Letter issued to notify of blasting activities scheduled for [date].</i>

## N.12 Upcoming construction notifications

Provide details of planned construction notifications for the upcoming reporting period eg relating to Condition of Approval A14 and outlined in the Community Information Plan. Note that all notifications must be reviewed by GTPL prior to issue.

Notification type	Date to be sent by	To be sent to	Description
<i>Eg Letter</i>	<i>Eg. At least two weeks prior</i>	<i>Eg. Sensitive receivers and QCC</i>	<i>Eg. Letter informing of planned blasting activities to occur on [date].</i>

## N.13 Community complaints/enquiries

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

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

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

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

Complaint made by	Date	Issue raised	Actions taken

## N.14 Training

Training type (eg. induction, toolbox talk)	Date	Topics covered	No of staff trained



Appendix O

# Pollution Incident Response Management Plan