Construction Environment Management Plan

JHG-NGCC-PLN-ENV-003

New Grafton Correctional Centre

Rev	Date	Prepared by Name & Signature	Reviewed by Name & Signature	Approved by Name & Signature	Remarks
A	15/09/2016	A Harrington	J Braham		Draft Plan
B	07/04/2017	M Turner	P Cassel		Update for Stage 1 approval.
C	May 2017	M Turner			Draft for Stage 2 EIS exhibition

Copy Holder Details		
Name	Position	Copy No
		1
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1 REVISIONS AND DISTRIBUTION

1.1 REVISIONS

Draft versions of this document shall be identified as Revision A, B, C etc. Upon approval (generally for Construction) this shall be changed to a sequential number commencing at Revision 0. Revision numbers shall continue at Rev. 1, 2 etc.

1.2 DISTRIBUTION LIST

Client	Infrastructure NSW on behalf of the Department of Justice
Project Director	To be confirmed upon approval of Stage 2.
HSEQ Manager	To be confirmed upon approval of Stage 2.
Operations Environment Manager (OEM)	To be confirmed upon approval of Stage 2.
Project Environmental Representative	To be confirmed upon approval of Stage 2.
Community Liaison Manager	To be confirmed upon approval of Stage 2.

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2 DEFINITIONS AND ABBREVIATIONS

2.1 DEFINITIONS AND ABBREVIATIONS TABLE

Definitions and abbreviations to be applied to the New Grafton Correctional Centre are listed below.

Table 1: Definitions and Abbreviations

Term/Abbreviation	Definition
AMS	Activity Method Statement – a planning process to determine detailed methodology, which breaks down and analyses individual WRA work elements. Also referred to in the industry as Work Method Statement (WMS).
AS/NZS	Australian Standard/New Zealand Standard
ASS	Acid Sulphate Soil
Client	Infrastructure NSW
Client's Representative	The person appointed by the Client to perform the duties of the "Superintendent" as defined in the contract
CoA	Conditions of Approval (SSD_7413, Concept Proposal and Stage 1 Works)
Consultant	The party engaged to perform the design, preparation of detailed 'For Construction' documentation and necessary certification to meet contractual requirements.
D&C	Design and Construct
ECP	Environmental Control Plan – defines management measures for a specific environmental aspect
EMP	Environmental Management Plan – this document
EMS	John Holland's Environmental Management System
Environment	The Project's surroundings, including air, water, land, flora, fauna, humans and their interaction
Environmental Aspect	An element of the Project that has potential to cause environmental impacts
Environmental Impact	A change to the environment, positive or negative, caused by environmental aspects
EPBC Act	Environmental Protection and Biodiversity Conservation Act (Commonwealth) - legislation to protect and manage matters of national environmental significance
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
IMS	Integrated Management System
ITP	Inspection and Test Plan – defines the steps to be taken to check and verify an activity or product
JH	John Holland
NGER	National Greenhouse and Energy Reporting
O&M	Operations and Maintenance

Term/Abbreviation	Definition
OEM	Operations Environment Manager
WH&S	Workplace Health and Safety
PASS	Potential Acid Sulphate Soil
PER	Project Environmental Representative
PM	Project Manager
PMP	Project Management Plan
PP	Process Procedure – A work instruction, which details the technical/engineering/safety/quality/environmental methodology for a particular activity
SEP	Site Environmental Plan – site level document providing map or spatial representation of the site identifying location of specific environmental controls and sensitive areas, and detailing practical environmental management methods
SQE	Safety, Quality and Environment
Subcontractor	Any company, body or person who is contracted to John Holland for the purpose of supplying plant and/or services
System Element	The administrative activities that need to be implemented and controlled to ensure that the product or service meets environmental requirements
The Project	New Grafton Correctional Centre (NGCC)
TMP	Traffic Management Plan
TRA	Task Risk Assessment – Specific risk assessment based on day-to-day tasks, facilitated by supervision and involving consultation with workforce before task is undertaken. Signed off by all people undertaking the task.
WRA	Workplace Risk Assessment – High-level strategic risk assessment conducted on workplace and broken down into work components for the purpose of identifying system, training and legislative requirements, and identifying the need for further detailed planning and risk assessment activities. The WRA also fulfils the function of an aspects and impacts register.

3 INTRODUCTION

3.1 PURPOSE AND APPLICATION

3.1.1 ENVIRONMENTAL MANAGEMENT PLAN

This Environmental Management Plan (EMP) for the New Grafton Correctional Centre (NGCC) describes the John Holland system for managing and minimising the environmental impacts of its activities, meeting its legislative and contractual obligations and providing a means of continually improving environmental performance.

This EMP provides a 'road map' for the implementation of the Project Environmental Management System (EMS), including plans, procedures and forms. It provides direction for the documents required to address Environmental Management for the Project. This EMP is for use by all Project personnel and subcontractors during the Project. The EMP has been developed for the Concept and Stage 1 Project in accordance with the requirements of ISO 14001 and the John Holland Environmental Management System. It incorporates the requirements of the Conditions of Approval (CoA) (SSD_7413) including:

- Legislative and contractual requirements and other environmental obligations
- Approval conditions
- John Holland Environmental Policy objectives
- Objectives and measurable targets associated with the potential environmental impacts of the Project
- Processes and procedures that John Holland will adopt to identify, manage and control the environmental aspects and impacts (using a risk management approach)
- Provision of adequate resources and allocation of responsibilities for ensuring the effective implementation of this EMP
- Methods for maintaining records and requirements for reporting
- Process for monitoring and reviewing the environmental management performance of the Project to drive continual improvement.

This EMP will be revised on an as needs basis to incorporate all relevant contractual information and obligations. The EMP will also be updated in response to any future approvals such as SSI 17_8368 (Stage 2 – Design, Construction and Operation).

3.2 ENVIRONMENT AND HERITAGE POLICY

Reference Doc No.	Reference Title
JHG-POL-GEN-002	John Holland Group Environment Policy

The Project will operate in accordance with the John Holland Environment & Heritage Policy as shown in Appendix 1. The policy is reviewed and endorsed on an annual basis by the Managing Director to ensure its ongoing suitability and effectiveness. The Project's commitment to the Environmental Policy will be demonstrated by:

- Communication of the policy through inductions, notice board displays and project meetings
- Provision of adequate resources and assign responsibilities to implement and maintain the EMS
- Achievement of Project Targets/Objectives and regular reviews to manage their suitability and effectiveness
- Provision of the Environmental Policy on public request.

4 PROJECT SCOPE

Reference Doc No.	Reference Title
JH-MPR-PMA-001	Project Launch

The New Grafton Correctional Centre (NGCC) is a State Significant Development (SSD) approved by Minister for Planning.

The Project will deliver a new correctional centre at Grafton that will be a major multifunctional regional corrective services complex servicing the northern part of NSW. It will provide reman, reception and placement functions for specified offender cohorts. The Project includes a correctional centre of 1,700 beds comprising the following:

- A maximum security section of 1,300 beds that will include:
  - 1,000 beds for male inmates and
  - 300 beds for female inmates.
- A minimum security section that will consist of 400 beds for residential male inmates.

The Project is subject to a staged development application (DA) process, which will be assessed and determined in the following manner:

- Stage 1 - Concept proposal and Stage 1 Works
- Stage 2 – Design, Construction and Operation of the new facility

4.1.1 Concept and Stage 1 Works

Key components of the Concept and Stage 1 Works Approval

- Vegetation clearance and biodiversity management activities;
- Bulk excavation and site establishment works;
- Demolition of the existing house and sheds;
- Construction of access roads including fire access roads to the extent required to conduct Stage 1 works;
- Construction of auxiliary facilities such as construction compound, construction staff parking facilities, batch and pre-cast facilities and stockpile sites;
- Temporary provision of water, power and communication services within the site to the extent required by Stage 1 works; and
- Landscaping.

4.1.2 Stage 2 Works

Relates to the detailed design, construction, commissioning and operation of the NGCC.

- The preparation of a Stage 2 Environmental Impact Statement (EIS);
- Obtain all approvals necessary to undertake the Project, other than the Stage 1 planning approvals; and
- Comply with, carry out and fulfil the conditions and requirements of all approvals.

Following receipt of any conditions of approval for future Stage 2 works, the CEMP will be updated with any additional requirements or amendments related to the works.

4.2 RECEIVING ENVIRONMENT

The Project will be located approximately 12.5km southeast of Grafton and 3km northeast of the Clarence Valley Regional Airport within the Clarence Valley LGA. The site area is 195 hectares and historically been used for cattle grazing. The land is zoned RU2 Rural Landscape under the Clarence Valley Local Environmental Plan (LEP) 2011. Much of the native vegetation on the site has been completely cleared or the native understorey removed for grazing.

Avenue Road will be the primary access road with a bitumen surface and is a single carriageway. Established native trees and grasses line the road between the bitumen and the timber and barbed wire fence that defines the boundary of the Project Site. The highest point on the site is at the southern boundary at approximately 35m AHD. The low point of the site is on the western boundary where the land continues to fall towards a permanent watercourse and subsequently drains into Deep Creek. There are no rivers or streams that traverse the Site. The land gently undulates throughout the Site, but prominent ridges occur through the north to a high point on adjoining land and to the southwest where the land continues to climb to over 70m AHD.

There are scattered small patches of remnant vegetation, the most extensive being on the western boundary, contiguous with similar vegetation on properties to the south and west. These areas were identified as providing habitat for listed threatened flora and fauna species. In addition, small areas of vegetation were present on the site that are consistent with the endangered ecological community (EEC) freshwater wetlands of the NSW north coast and Sydney basin region listed under the NSW *Threatened Species Conservation Act 1995* (TSC Act). Three Plant Community Types (PCT) are also located on the Site and serve to provide habitat for EECs that dwell on the Site .Further to this, the Site has high fauna richness, with eight (8) of these species being identified as threatened under the TSC Act.

There are neighbouring dwellings to the north and south of the site. The dwellings to the north are located approximately 50m and 250m from the site boundary, with the furthest dwelling occupying an elevated position with distinct views across the Site. Similarly, the house to the south of the Site is located approximately 350m of the site boundary and sits at a high point offering district views to the north, across the Site.

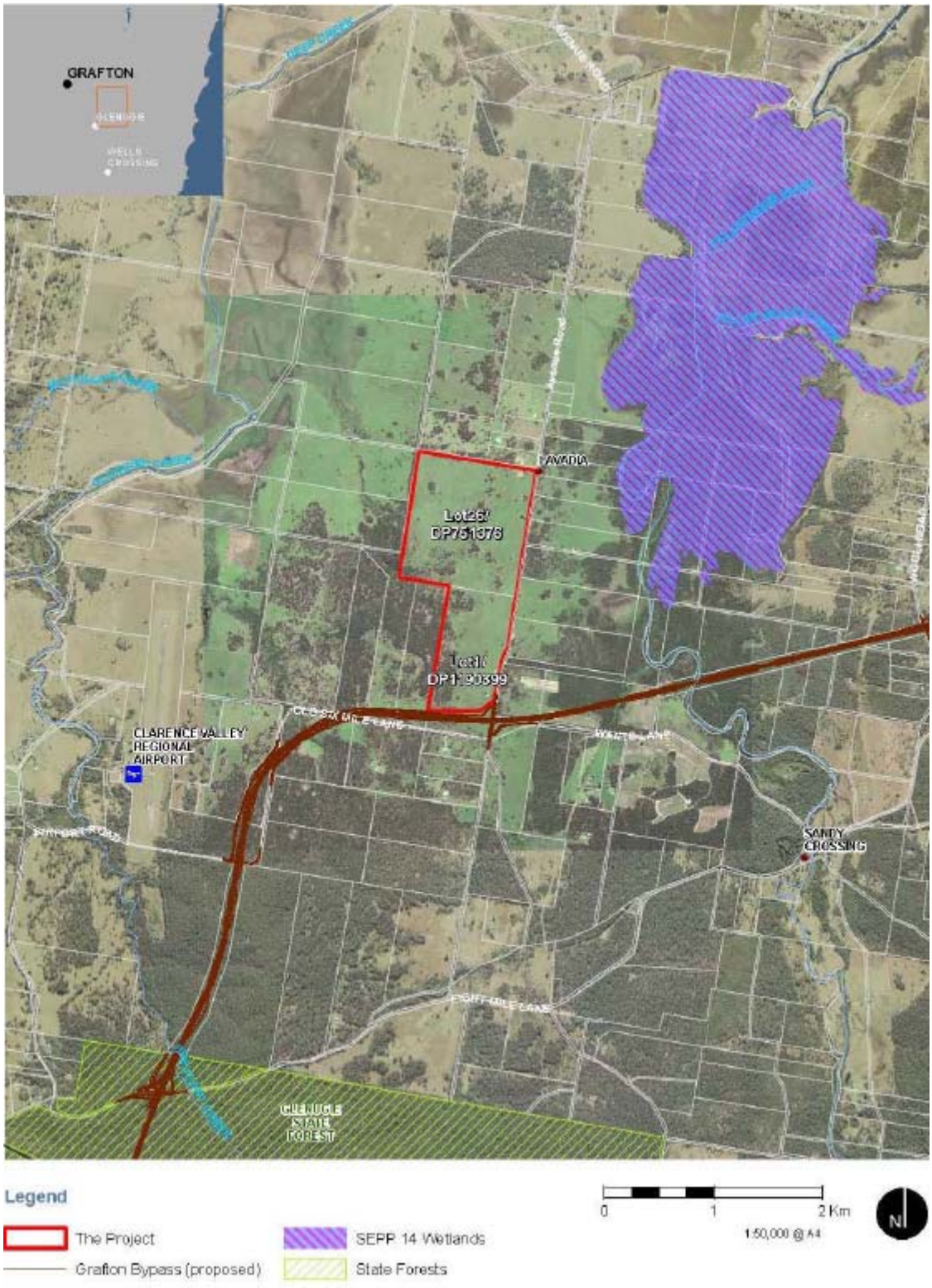

Figure 1: Site Locality (Source Concept and Stage 1 EIS Section 3.0)

4.3 APPROACH

John Holland is committed to undertaking business in a manner that recognises the importance of environmental protection and sustainability through managing the risks and realising the opportunities presented through our operations.

Our vision is to achieve environmental excellence through:

- Shared responsibility for self-regulation and continual improvement
- Understanding and accepting environmental accountability and responsibility
- Ensuring effective communication of information for improved performance.

4.4 ENVIRONMENTAL RISK AND OPPORTUNITY

Reference Doc No.	Reference Title
JH-MPR-PMA-002	Planning and Programming
JH-MPR-ENV-001	Environment Planning
JH-MPR-SQE-006	Managing SQE Risks

Prior to the commencement of works, the Project will identify environmental risks and opportunities, in order to limit, manage and improve the impact of works.

Overall risks to the project are managed through the SQE Risk Management Process outlined in Section 8. Additional risks and opportunities may be identified during the Project and this EMP should be updated to reflect these changes. As defined in JH-MPR-SQE-006 Managing SQE Risks procedure, a risk may have a positive or negative impact. For the purpose of this EMP they have been classed as Risks (negative impact) and Opportunities (positive impact).

Environmental risks and opportunities of particular importance to this Project are located in Table 2 below. Environmental Risks and Opportunities are further developed as the Project evolves and management of these risks are further defined in Environmental Control Plans (ECP's).

Table 2: Environmental Risks and Opportunities

Aspect	Risk	Opportunity
Approvals / Licenses / Permits	• Failure to obtain or incorrect application of relevant approvals, licenses and/or permits, impacting commencement of works and potentially limiting allowable scope of works, including but not limited to: o Stage 2 DA Application o Environmental Protection Licence o Water access licence	• Engage suitably qualified consultants to provide advice and support on appropriate application processes • Undertake proactive consultation with relevant authorities regarding approval, licence, permit and application processes and requirements.
Aboriginal Heritage	• There is a risk of unexpected finds of Aboriginal heritage items.	• Develop an unexpected finds procedure and incorporate into site induction.

Aspect	Risk	Opportunity
	• Failure to undertake required salvage operations by a qualified archaeologist, prior to commencement of works • There is a risk that identified Aboriginal heritage items are damaged or not recorded appropriately during salvage activities.	• Engage suitably qualified consultant to undertake heritage investigations, monitor excavation works and remove items as required • Exclusion zones are to be erected around Aboriginal archaeological sites that are not directly impacted by construction works to avoid incidental damage. • Implement Aboriginal Cultural Heritage Management Plan IA101200-02 (Jacobs 2017)
Amenity impacts to neighbouring properties, including traffic, noise & air quality	• There is a risk that site traffic could create issues with other road users • There is a risk that site noise and vibration will impact neighbouring properties • There is a risk that the generation of dust from the site will impact neighbouring properties.	• Undertake noise monitoring prior to, during and following construction activities during operations, at the nearest sensitive receiver to ensure determine if further noise attenuation techniques are required • Delivery and loading/unloading of materials will, where appropriate, occur as far as possible from sensitive receivers, throughout all phases of the development. • Implement Traffic Management Plan JHG-NGCC-PLN-TMP-017 • All traffic control devices installed to be in accordance with the NSW RMS Traffic Control Worksite Manual • Implement Construction Noise & Vibration Management Plan 6100-3.1R (Day Design 2017) • Implement Air Quality & Visual Amenity Environmental Control Plan JHG-NGCC-PLN-AQMP-018
Surface Waters	• Failure to prevent pollution of surface waters due to Stage 1 and Stage 2 works.	• Engage a qualified soil conservationist to attend site prior to and throughout construction to provide 3rd party confirmation of compliance with specified erosions and sediment controls.

Aspect	Risk	Opportunity
		• Ensure all site specific plans and controls incorporate 'Blue Book': Managing Urban Stormwater – Soils & Construction, Vol 1 and 2 (Landcom, 2004). • Implement Soil & Water Environmental Control Plan JHG-NGCC-PLN-SWMP-020
Waste management	• There is a risk that waste handling, storage and disposal in not managed correctly in accordance with relevant legislation	• Take every opportunity to reduce, recycle and reuse to minimise waste to landfill • Setup waste management station with clearly marked bins for separation • Engage reputable waste contractor to manage waste disposal • Sustainable outcome achieved by diverting large volumes of spoil from landfill through a site retention and reuse approach. • Implement Waste Environmental Control Plan JHG-NGCC-PLN-WMP-019
Biodiversity	• Over-clearing of the site, resulting in potential injury or damage to flora species and injury or death to fauna species • Failure to observe exclusion / protection zones • Failure to implement Biodiversity Offset Strategy (including inability to obtain relevant offset credits to comply with the strategy).	• Implement and communicate exclusion / protection zones • Clearing of vegetation and grassy areas to be undertaken only where required. • Implement Flora and Fauna Management Plan JH-NGCC-PLN-FFECP-023 • Implement Biodiversity Offset Strategy, ensure a sufficient number of the correct credits are obtained.
Sustainability	• Failure to implement ESD requirements specified in the contract.	• Implement ESD requirements specified in Client specifications, as far as practicable • Identify local suppliers • Where possible, purchase from FSC or PEFC accredited timber suppliers • Where possible, source low embodied energy materials for use in construction.

4.5 OBJECTIVES AND TARGETS

Reference Doc No.	Reference Title
JH-MPR-ENV-001	Environmental Planning
JH-MPR-PMA-001	Project Launch
JH-MPR-PMA-002	Planning & Programming

The project is committed to maintaining a high level of performance in environmental compliance and diligence. Project objectives and targets have been developed to establish performance expectations for the project to be measured on projects. The objectives and targets are defined in Table 3 and in element specific Environment Control Plans.

John Holland Group has committed to the following Performance Targets:

Table 3: Project Objectives and Targets

Objective	Targets
Conduct regular Environmental Inspections	Weekly– completion of environmental inspection checklist
Environment Incident Frequency Rate (EIFR)	John Holland Target – < 0.2
Conduct regular Environmental Observations	Daily – supervisors to maintain site diary detailing any necessary environmental observations
Conduct Global Mandatory Requirement (GMR) Assessments	Conduct GMR Self Assessments within John Holland Event Tracker (JHET) focused on the key elements that relate to the risk profile of the project 1 complete GMR self-assessment completed by the project each month 1 external GMR Assessment completed every 3 months
Prevent serious Environmental Incidents	Zero Class 1 or 2 incidents (refer to JH-APP-SQE-010-02 "Environmental Incident Severity Classifications)
Complete the project with no statutory environmental infringements, prosecutions or breach of conditions of approval	No infringements No prosecutions No breaches of conditions of approval
Conduct operations in accordance with Community and Regulatory expectations	No substantiated community complaints relating to works outside of approval No breaches of conditions of approval
Site HSE Walks	100% of Site HSE Walks attended by a Project Management team member/per schedule. Safety Walk Schedule would typically be for a quarterly basis comprising of 4 HSE Walks per month for the site. Project Management team members would rotate responsibility to attend these.
Training	100% of Workers/subcontractors that have completed GMR awareness via site induction 100% of HSE staff completed PER training

Objective	Targets
Complete Resource Use Initiatives	100% of Resource Use Plan initiatives completed on the project
Sustainability	The project shall follow all design, procurement, construction and operational measures identified within the ESD requirements in the EIS for Stage 2.

5 ENVIRONMENTAL MANAGEMENT IMPLEMENTATION

5.1 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

Reference Doc No.	Reference Title
JH-MAN-ENV-001	Environment Management Manual
JH-MPR-SQE-003	Review & Continual Improvement

This EMP has been developed within the framework of John Hollands's third party certified ISO 14001 certified EMS, as described in the John Holland Environmental Management Manual. The EMS provides for ongoing continual improvement of environmental performance through a cycle of planning, monitoring, and reviewing as described in Figure 1.

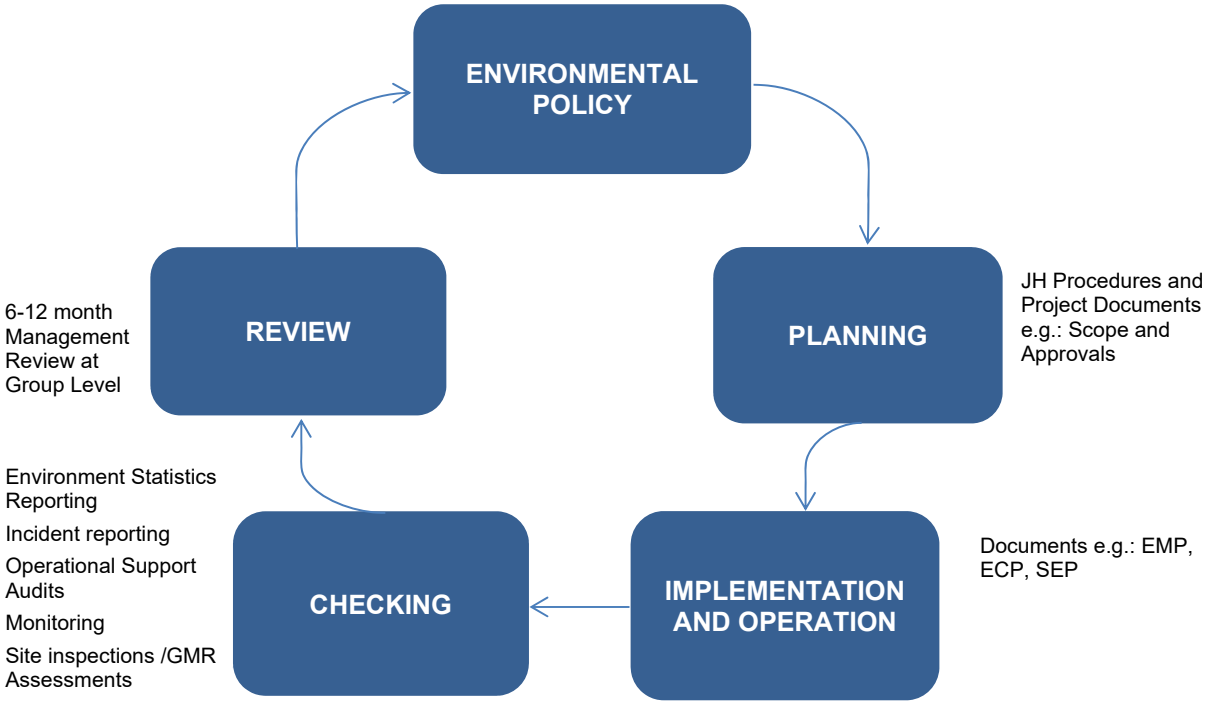

Figure 1: The review and continual improvement cycle

Figure 1 outlines the review and continual improvement cycle enabling the ongoing improvement of Environmental Management. The Environment Management System Review is undertaken in accordance with JH-MPR-SQE-002 Monitoring and Review procedure. EMS Reviews are carried out within three months of project commencement and six monthly after that. Records of such reviews are documented as minutes and maintained by the Project Manager.

The John Holland EMS is part of a broader project management structure, linking to the Project Delivery Cycle and Integrated Management System (IMS). The IMS Matrix located in Appendix 8 illustrates this link, and describes how this addresses the requirement of ISO 14001.

5.2 LEGISLATIVE AND CLIENT REQUIREMENTS

The applicable statutory requirements set by Federal, State and Local governments, as well as the Client are described in Table 4 below.

Table 4: Description of Level 1 Federal, State, Local and Client Requirements

Requirement	Description
Notice of Determination – Approval *Stage 1 – Concept Proposal and Stage 1 works only.* *Stage 2 – Detailed design, construction, commissioning and operation*	• State Significant Development application: o Stage 1 – Conditions of Approval (SSD_7413) o Stage 2 – SSD 17_8368 (subject to approval)
Legislative and Regulatory Requirements	• Federal: o EPBC Act approval – not required o Waste Avoidance and Resource Recovery (WARR) Act 2002. o National Greenhouse & Energy Reporting (NGER) Act 2007 • State: o *Environmental Planning and Assessment Act 1979 (EP&A Act)* and its regulations. o State Environmental Planning Policy (State & Regional Development 2005) (SRD SEPP) – deemed to be Stage Significant Development (SSD) due to capital investment >$30M. o *Protection of the Environment Operations Act 1997 (POEO Act)* and its Regulations – Environmental Protection License shall be required for the following activities, should limits/volumes specified in Schedule 1 of the Act, be exceeded for either Stage: o *(Cement or Lime Works (cement or lime handling*): More than 30,000 but no more than 100,000 tonnes o *(13) Concrete Works*: More than 13,000 but not more than 25,000 cubic metres o *(16) Crushing, grinding or* separating: More than 30,000 but not more than 100,000 tonnes o *Water Management Act 2000* – Groundwater Extraction License required for construction activities which result in interception (and removal) of groundwater (Aquifer Interference Policy); and a Water Access Licence required for bore water use. o *Heritage Act 1977* – OEH notification under section 146 of the Act should there be an unexpected archaeological find. o *Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004)* • Local: o *Clarence Valley Local Environmental Plan (LEP) 2011*

5.3 NEW GRAFTON CORRECTIONAL CENTRE CEMP

The CEMP provides a 'roadmap' that links the relevant Legislative and Client requirements to the Project's EMS and describes the document structure that is used to manage and address the environmental requirements of the Project.

The CEMP will be stored in the Project Pack, ensuring document control and access to documents for all Project personnel. Level 2 documents will be stored in the Lotus Notes Project Pack, ensuring document control and access to documents for all Project personnel.

Table 5: Description of EMS contents

Document description	Location
CEMP	This document
Environment and Heritage Policy	Appendix 1
Obligations, Approvals and Licences Register	Appendix 2
Environmental Audit Schedule	Appendix 3
Functional Organisation Chart for Project Delivery	Appendix 4
Environmental Management Plans	Appendix 5
Environmental Toolbox Meeting Schedule	Appendix 6
Environmental, Inspection, Monitoring & Reporting Program	Appendix 7
Integrated Management System Procedure	Appendix 8

5.4 ENVIRONMENTAL MANAGEMENT PLANS

Environment Management Plans (EMPs) manage specific environmental aspects and include a specific environmental plans or strategies determined by the Federal, State, Local and Client requirements.

ECPs and other plans and strategies will be stored in the Project Pack, ensuring document control and access to documents for all Project personnel.

A summary of the documents for the Project is outlined in Table 6.

Table 6: Description of Environment Management Plans and Sub Plans

Level 3 document type	Description
(Aspect-specific) ECPs Aboriginal Cultural Heritage Management Plan IA101200-02 (Jacobs 2017) Construction Noise & Vibration Management Plan (CNVMP) 6100-3.1R Air Quality Management Plan JHG-NGCC-PLN-AQMP-018 Soil & Water Environment Control Plan JHG-NGCC-PLN-SWMP-020 Waste Environmental Control Plan JHG-NGCC-PLN-WECP-021 Flora and Fauna Management Plan	• Defines objectives and targets • Identifies relevant statutory references • Defines the operational controls and responsibilities • Defines management measures, procedures, monitoring and reporting requirements, and responsibilities for the relevant issue or aspect • Addresses all environmental aspects relevant to project name

Level 3 document type	Description
JHG-NGCC-PLN-FFECP-023	
Community Liaison Plan JHG-NGCC-PLN-CLP-013	• Provides overview and identification of local community/stakeholders • Describes engagement strategy • Identifies potential project issues/impacts and key messages used in communicating with the community/stakeholders • Provides overview of communication tools and techniques to be used in delivery of information
Traffic Management Plan JHG-NGCC-PLN-TMP-017	• Provides details regarding dedicated vehicle and pedestrian routes • Identifies controls measure to be put in place to separate pedestrian and plant interaction
Workplace Emergency Response Plan JHG-NGCC-PLN-ERP-024 Includes but is not limited to procedures addressing the following scenarios: • Major spills • Extreme weather and storms • Fire and chemical hazards	• Addresses all categories of safety and environmental emergencies • Includes communication and coordination protocols with emergency services and other relevant authorities. Communication with external and internal stakeholders during an emergency is also described in the Emergency Response Plan

5.5 IMPLEMENTATION DOCUMENTS

Reference Doc No.	Reference Title
JH-FRM-ENV-001-04	Site Environment Plan Template

Implementation documents listed in Table 7 (below) are tools used to implement environmental requirements at the site level.

Implementation documents are prepared to satisfy the requirements of, and are informed by, the Environmental Control Plans and Appendices.

Implementation documents will be stored in the Project Pack, ensuring document control and access to documents for all Project personnel.

Table 7: Description of Implementation Documents

Level 4 document type	Description
Site specific Site Environmental Plans (SEP)	▪ Comprise of a table of written controls (including responsibility) and a map or diagram of the location/area identifying environmentally sensitive areas, hazards, and required controls. ▪ Detail practical environmental management methods to be implemented at specific work sites. ▪ Are used at the site level and displayed in the site office

Level 4 document type	Description
	▪ All areas of the Project will be covered by an SEP
Project specific Procedures: ▪ Spill Response ▪ Noise Monitoring ▪ Dewatering ▪ Unexpected Finds Procedure (Contamination) ▪ Unexpected Finds Procedure (Other, including archaeological finds)	▪ Informs how to conduct environmentally related tasks (including responsibility and frequency) ▪ e.g. environmental monitoring
Forms and checklists: ▪ Environmental Inspection Checklist ▪ Dewatering Checklist / Permit	▪ Used for ensuring water quality objectives are met and dewatering method is approved by JH PER prior to discharge ▪ Used for documenting, reviewing and evaluating the status and effectiveness of environmental controls at a work site ▪ Document improvements and changes to the site conditions
Incident Reporting	▪ For any incident which has the potential to cause an impact on the environment: ▪ An incident report will be completed (JH-MPR-SQE-010 - Incident Management and Investigation) ▪ The incident will be input to JHET Management System (JHET) ▪ The incident report will be forwarded to the PER ▪ Notification of relevant stakeholders ▪ The incident will be reported in monthly management reports
Actions register	▪ JHET will be used to track actions raised, managed and closed out ▪ Consolidates actions identified in incident reports, inspections, audits, etc.
Posters, Alerts etc.	▪ Communication of requirements ▪ Lessons learned
Induction Presentations	▪ Outlines key aspects for the project, incident notification requirements and project staff responsibilities
Training Sessions/Toolboxes	▪ Aspect specific focused on work activities being conducted at the time.
Non Conformance Reports	▪ Used by the projects to identify areas of non-conformance at project level

Level 4 document type	Description
	▪ Used to record any environmental controls or measures that do not conform to the requirements specified in Level 1, 2 and 3 documentation

5.6 DOCUMENT CONTROL AND RECORDS MANAGEMENT

Reference Doc No.	Reference Title
JH-MPR-QUA-005	Project Documentation & Control
JH-FRM-ENV-001-04	Site Environment Plan Template
JH-MPR-BUA-018	Records Management

All Project documentation (including documentation discussed above as well as documents and records discussed in the following sections) will be managed in accordance with the JH Procedure JH-MPR-QUA-005 'Project Documentation and Control'.

At practical completion the environmental records will be archived as per JH-MPR-BUA-018 'Management of Records & Files' and retained for 7 years (as required by JH-MPR-BUA-003 'Archiving of Records') or longer where specified by the Contract.

6 OPERATIONAL CONTROL

6.1 ENVIRONMENTAL RISK MANAGEMENT

Reference Doc No.	Reference Title
JH-MPR-SQE-006	Managing SQE Risks

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. High level risks identified during pre-contract award risk assessments identify using a risk management hierarchy the best approach to project planning and managing the environmental risks and opportunities.

John Holland is committed to effective risk management beginning before commencement of works and well before employees are mobilised to a project. All identified risks are incorporated into normal planning activities and are specifically designed to address risk management throughout the life cycle of works by following the steps in the JH-MPR-SQE-006 Managing SQE Risks procedure.

With respect to project delivery, Figure 2 provides a simplified representation of the levels of project environmental management documentation that are prepared post-contract award:

(i) Workplace Risk Assessment (WRA)

- All system, procedural and contractual requirements based on legislation and best practice are considered in planning and executing the work related to contract or project
- Environmental Risk Assessment and mitigation strategies are considered on a project wide basis
- More detailed planning activities required for the project are identified (i.e. AMS)

(ii) Activity Method Statement (AMS)

- Links environmental risks to the activity schedule
- Includes system and procedure requirements
- Development of Environment Control Plans (ECP) for the project
- Identifies the Site Environment Plan (SEP) requirements for the project

(iii) Site Environment Plan (SEP)

- A visual communication tool that illustrates the location of the environmentally sensitive areas to be protected and the environmental controls to be installed prior to and during works. It is the implementation plan for environmental controls

(iv) (iv)Task Risk Assessment (TRA)

- Task Risk Assessment (specific task based risk assessment which is facilitated by supervision and involves consultation of workers before the activity is undertaken). TRAs are also referred to in industry as Job Safety Analysis (JSA), Job Safety and Environmental Analysis (JSEA), Job Hazard Analysis (JHA), and Safe Work Method Statements (SWMS) amongst others
- The Site Environment Plan should be used to inform the preparation of the TRA

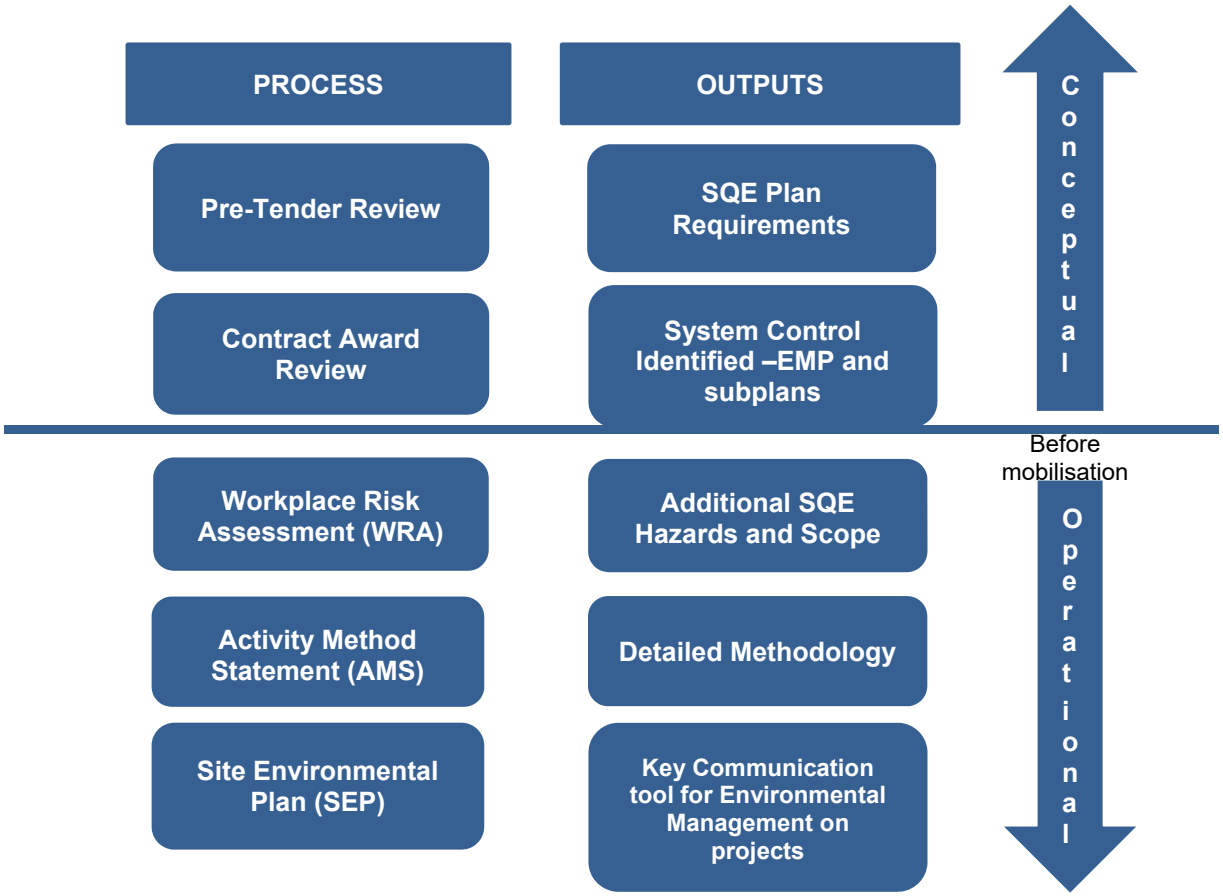

Figure 1: Environmental Management System outputs from the SQE Risk Assessment Process

This CEMP has been prepared as part of the WRA, incorporating risks identified during the conceptual review process. Further, more detailed environmental control requirements are identified in the AMS and SEP's which are prepared as fieldwork progresses and specific site conditions are encountered and documented.

Change management processes enables environmental impacts associated with any variation in the scope of the permanent or temporary works to be captured and managed effectively. As the SQE process documents are updated, the outcomes of the SQE review should be incorporated into the EMP. This may be conducted in a scheduled review or as Project scope or environmental aspects alter (physical, regulatory, commercial or technical).

It should be noted that these SQE documents are live documents which will be reviewed and reassessed continually as the project progresses.

6.2 COMMUNICATION

Reference Doc No.	Reference Title
JH-MPR-SQE-001	Site Induction
JH-MPR-PMA-009	Site Meetings

6.2.1 INTERNAL COMMUNICATION

Effective and well planned communication is critical to the success of a project. Similarly, effective and well planned communication of environmental matters is critical to successfully integrating and delivering

the environmental requirements of a project, and contributing to project success. Internal communication will take place via the forums listed in Table 8 below:

Table 8: Internal Communication

Method	Frequency	Participants	Records
Toolbox meetings	Once a fortnight or more frequently as required	Relevant project personnel as required	Project Pack
Construction Meeting	Once a fortnight or more frequently as required	Site Engineers, Supervisors, PER	Minutes
Environment Team Meeting	As required	PER	Minutes
Workplace pre-start/restart meetings	Daily	All staff and supervisors	Minutes
Subcontractor Meetings	Once a fortnight or more frequently as required	Relevant project personnel, as required	Minutes
Client Meetings	Once a month or more frequently as required	Project Manager PER	Minutes

6.2.2 EXTERNAL COMMUNICATION

The Project is committed to open and effective communication with our external stakeholders and the Client. These stakeholders may include but are not limited to the list in Table 9.

Table 9: External Communication

External stakeholders	
Infrastructure NSW (Client)	Ongoing throughout the project
NSW Department of Planning & Environment (consent authority)	Where required (in conjunction with consultation with the Client)
Clarence Valley Council (LGA)	Where required (in conjunction with consultation with the Client)
NSW Environment Protection Authority	Where required (in conjunction with consultation with the Client)
Office of Environment & Heritage	Where required (in conjunction with consultation with the Client)
Neighbours and other (i.e. RMS, RFS, etc)	Where required (in conjunction with consultation with the Client)

6.3 MANAGEMENT OF COMPLAINTS AND INCIDENTS

6.3.1 COMPLAINTS

Reference Doc No.	Reference Title
JH-MPR-CCM-001	Internal and External Communication
JH-FRM-SQE-010-02	Incident Notification and Investigation Report
JH-MPR-SQE-007	Non-Conformance and Corrective Action

Complaints may be received from various sources within the community or from other stakeholders. These include community groups, clients, interested parties, sensitive receivers etc. A verified complaint may advise of practices, activities or processes which do not conform to environmental system requirements.

On receipt of a complaint, the PER shall record the necessary details and investigate the details of the complaint as per the Internal and External Communication procedure JH-MPR-CCM-001. If it is confirmed, the PER will complete JH-FRM-SQE-010-02 Incident Notification and Investigation Report if an impact has occurred or a JH-MPR-SQE-007 Non-conformance Report shall be raised within the John Holland Event Management System (JHET) and directed to the respective staff member for action.

Upon completion of corrective action the staff member shall document the action taken and return the document to the PER. The PER shall verify that the corrective action taken is suitable and effective. Upon satisfactory verification, the PER shall ensure that an appropriate response is provided to the originator of the complaint.

If the complaint is not confirmed, the PER shall contact the originator of the complaint to determine the course of action to resolve the issue.

6.3.2 INCIDENTS

Reference Doc No.	Reference Title
JH-MPR-SQE-010	Incident Management

Any incident with actual or potential impacts on the biophysical environment (such as a spillage of chemicals) shall be recorded and addressed by the PER as detailed in JH-MPR-SQE-010 Incident Management and Investigation.

All incidents will be investigated as soon as possible after the event and communication made with the client and regulatory agencies if required. In addition, the Operations Environment Manager will be notified of all environmental events within 12 hours. If the event has the potential to or causes material harm to the environment, then there may be a requirement to notify the Environmental Protection Agency (EPA). The OEM will assist with any notifications to the EPA.

The Project Manager shall establish an investigation team to investigate all environmental incidents. Completion of corrective actions identified through the investigation shall be verified as completed via follow up checks by the PER and signed off as completed in the investigation report. On completion of all corrective actions, the Project Manager shall sign off the incident report as completed and closed.

Incidents will be addressed in consultation with the Client (or their representative) where required.

7 ROLES AND RESPONSIBILITIES

Reference Doc No.	Reference Title
JH-MPR-HRT-003	Recruitment & Resource Planning
JH-MAN-ENV-001	Environment Management Manual

Environmental management is the responsibility of all individuals and organisations involved with the Project. Personnel and subcontractors will be made aware of environmental issues for the Project and their responsibilities through training and awareness methods detailed in Section 10 below.

The roles and responsibilities of personnel specifically responsible for implementation of this EMP are summarised in Table 10 below. The PER is appointed by the PM to implement this EMP. Further detail is contained in employee Position Descriptions. The PER shall be granted authority by the Project Manager to stop a particular task or activity in circumstances where environmental controls have not been implemented to prevent harm to the environment, or environmental controls have been shown to be ineffective or inadequate. In such circumstances the PER shall prescribe corrective action that shall be implemented before work recommences.

It should be noted that detailed roles and responsibilities for specific environmental operational controls are set out in ECP's.

Table 10: Roles and Responsibilities

Role	Responsibilities
Project Manager (PM)	▪ Review, authorise and ensure implementation of the EMP ▪ Assign environmental responsibilities to project personnel, nominating alternates in the absence of a site based environmental professional. ▪ Ensure appropriate environmental training is identified in a Training Needs Analysis and training is provided to project personnel where required ▪ Monitor environmental performance to ensure compatibility and continued effectiveness with the policy and objectives ▪ Participate in the review of the Project Environmental Management System
Project Environmental Representative (PER)	▪ Ensure correct and ongoing implementation of EMP ▪ Liaise with project staff for ongoing monitoring and maintenance of environmental controls ▪ Ensure reporting of incidents and practices that are non-conforming ▪ Conduct and report regular inspections, monitoring and reporting ▪ Ensure actions relating to environmental non-conformances, incidents and/or inspections are actioned and closed out in a timely manner ▪ Actively participate in and facilitate SQE Risk Management workshops ▪ Assist with updating of EMP as required

Role	Responsibilities
	▪ Prepare Project monthly environmental reports ▪ Liaise with client environmental representative ▪ Manage and track compliance with all environmental approvals, licences, and permits relating to the project
Project Engineer	▪ Ensure environmental controls are established prior to commencement of construction activities ▪ Ensure PERs participate in the preparation of SQE Risk Management documentation ▪ Identify and report environmental non-conformance ▪ Ensure and verify that corrective action is taken when required for non-conforming work
Supervisor/Superintendent/ Foreman	▪ Ensure that EMP requirements are communicated to all personnel under his/her control ▪ Be aware of all approval/contractual conditions relating to his/her area of work ▪ Perform surveillance and monitoring of environmental controls to ensure that they are established and maintained with requirements ▪ Ensure rectifications of environmental controls are carried out as required
ALL	▪ Ensure that all care is taken to avoid activities outside of approval conditions ▪ No disposal of any materials into a receiving environment without prior approval ▪ Comply with any and all project approval and environmental management conditions

The Functional Organisation Chart for Project Delivery included in Appendix 4 of this plan describes the organisational structure for environmental management in relation to project delivery. This includes the external support and guidance provided by the HSE Manager and Operations Environment Manager (OEM), and interaction with environment and other senior management functions in the John Holland Group.

8 TRAINING AND AWARENESS

Reference Doc No.	Reference Title
JH-MPR-HRT-020	Learning & Development
JH-MPR-SQE-001	Site Induction

The PER will develop a Training Matrix for the project based on the environment risk assessment of the project and will incorporate the John Holland GMRs, incident and emergency response and key project risks as a minimum. Environmental training and awareness will be provided through the methods detailed in Table 11.

Table 11: Training and awareness methods

Training/Awareness Method	Description
Inductions	▪ All project personnel will undergo a Site Induction prior to commencement on site which will be carried out in accordance with procedure JH-MPR-SQE-001 'Site Inductions' Inductions will include but are not limited to: o Purpose, objectives and key issues of the EMP o Specific environmental aspects as detailed in ECPs and other plans or strategies o Incident Response o Conditions of environmental licences, permits and approvals o Emergency response procedures and reporting processes for environmental incidents o Responsibilities and key contacts ▪ Induction records will be maintained to confirm that all relevant personnel have been appropriately inducted ▪ Inductions will be regularly reviewed and updated as required e.g. when significant changes occur on-site or within the environmental management framework of the project
Pre start meetings	▪ Pre start meetings will be undertaken at the beginning of each day (before work commences) ▪ Pre start meetings will be attended by an environmental representative whenever possible ▪ Specific environmental issues relevant to the day's work (e.g. working hours) will be raised and discussed at these meetings as required
Toolbox meetings	▪ Environmental awareness training will be provided to the workforce (including sub-contractors) via Toolbox meetings
Global Mandatory Requirements (GMR)	▪ GMR training to be completed by all new employees to John Holland and can also be used for subcontractor induction and training
HSE Behaviours	▪ We all play an important part in ensuring that everyone returns home safely every day and that we continue to care for our environment. This is why we are committed to a set of everyday behaviours that are expected of us and people we work with to drive better HSE outcomes

Training/Awareness Method	Description
Project Environment Representative (PER) Training	▪ Any personnel that will assume the role of PER are required to complete the PER training course within three months
Internal and Specialised Training	▪ Operational and Strategic SQE Risk Management ▪ Risk Based Investigation (RBI) ▪ Erosion and Sediment Control ▪ Noise and Air ▪ Preventing Erosion & Sedimentation ▪ Preventing Contamination of Land ▪ Flora & Fauna ▪ Heritage ▪ Air Quality ▪ Noise, Vibration & Light ▪ Waste & Recycling
SQE Alerts	▪ To be posted on notice boards as released from Group and/or Regional support services

8.1 GLOBAL MANDATORY REQUIREMENTS

Reference Doc No.	Reference Title
JHG-STD-WHS-09	Site Environment Management
JHG-STD-WHS-10	Clearing, Water Management & Earthworks
JHG-STD-WHS-11	Resources, Recycling and Waste Management

The Global Mandatory Requirements (GMRs) outline the control strategies and minimum standards for managing, and where possible, eliminating the key risks we are exposed to across our business.

These standards will assist the business to:

- Minimise the impact of our activities on the environment and communities
- Reduce our use of natural resources and energy, and the generation of waste
- Be a reliable and trustworthy partner to our customers, dedicated to providing environmentally sustainable solutions throughout our diverse business.

With a wide variety of environmental legislation and regulations across our operations, as well as the unique needs of each workplace, it can be a challenge to identify and comply with all environmental requirements. The new GMRs set environmental standards that can be applied across John Holland to ensure a consistent approach to environmental management. The three environmental GMR's and their intents are outlined below:

GMR 9: SITE ENVIRONMENT MANAGEMENT

Intent: To prepare the work area, protect the surrounding environment and minimise impacts to the community

GMR 10: CLEARING, WATER MANAGEMENT AND EARTHWORKS

Intent: To ensure the environment is protected during earthworks and clearing activities

GMR 11: RESOURCES, RECYCLING AND WASTE MANAGEMENT

Intent: To manage resources efficiently, prevent pollution and minimise waste

8.2 HEALTH, SAFETY AND ENVIRONMENT (HSE) BEHAVIOURAL FRAMEWORK

Presented as four core themes; ‘Standards’, ‘Communication’; ‘Risk management’ and ‘Involvement’; our HSE behaviours describe a set of everyday behaviours that are expected of all employees and people we work with to drive better HSE outcomes. These themes are the key elements of a culture that displays strong HSE performance. The HSE Behavioural Framework integrates on-site planning and management of environmental aspects with our approaches to health and safety. This extends to the way we manage subcontractors, carry out regular inspections, deal with incidents and identify lessons learned and improvement opportunities.

The HSE Behaviours are a set of behaviours that, if displayed consistently, will support strong safety and environment performance at a workplace. The HSE Behaviours are outlined in a simple framework below that is easy to understand.

Theme	Everyone	Supervisors	Managers
Standards	Follow rules	Ensure compliance	Set high standards
Communications	Speak up	Encourage the team	Communicate openly
Risk management	Be mindful	Promote risk awareness	Confront risk
Involvement	Get Involved	Involve the team	Involve others

Represented in the framework above are twelve cells that identify HSE behaviour expectations set out across three employee groups noted as Everyone, Supervisors and Managers, and the four themes. Each cell is interdependent of each other and is supported by a set of behaviours that are expected of people and a set of behaviours that are considered undesirable.

Below is an example of the guidance that sits behind one of the behaviours:

Everyone's HSE Behaviours *(including Supervisors and Managers)*
To improve our HSE performance

	I will...		*I will not...*	
Follow rules STANDARDS	EP1.1	Learn the standards, rules and procedures that apply to me in my job	EN1.4	Ignore rules and procedures
	EP1.2	Follow rules and use the right procedure for the job	EN1.5	Disregard the consequences of not following a rule or procedure
	EP1.3	Identify impractical rules and procedures, and suggest improvements promptly	EN1.6	Rush or take short cuts to get the job done
			EN1.7	Fail to seek approval or advice if the plan changes or deviates

As part of the EMP, the HSE behaviours can be incorporated within:

- **Inductions & Training –** to communicate the expected HSE Behaviours to staff, subcontractors and workforce
- **Toolbox & Pre Starts –** to communicate expected HSE Behaviours to workplace members as they relate to a specific task or change in hazards/risks
- **Audits and reviews –** to identify a workplace's strengths.

In addition this project will have a HSE Behavioural Plan that will provide the framework for incorporating the desired behaviours though all levels of project delivery.

9 MONITORING AND REPORTING

Reference Doc No.	Reference Title
JH-MPR-SQE-004	Inspection, Testing and Surveillance
JH-MPR-ENV-002	Resource Use Reporting
JH-MPR-SQE-009	Performance Statistics – Safety, Quality Environment
JH-FRM-PAE-001-02	Plant and Equipment Register
JH-APP-ENV-002-01	Clean Energy Future Scheme & NGER Guideline
JH-APP-ENV-002-02	PCR Resource Use Reporting Guideline

The Project's environmental performance will be tracked through monitoring and reporting as detailed in Table 12 below.

Table 12: Monitoring and reporting

Monitoring/Reporting Aspect	Details
Inspection	▪ The PER, along with other project personnel (Site Manager, Foreman) will perform environmental inspections during all phases of construction ▪ Inspection will be carried out in accordance with the JH procedure JH-MPR-SQE-004 'Inspection, Testing and Surveillance' ▪ Inspection checklists and any corrective actions identified will be recorded in the Lotus Notes Project Pack and/or JHET
Monitoring	▪ The PER will perform environmental monitoring during all phases of construction (or when applicable according to the activity being conducted) ▪ Monitoring will be carried out in accordance with the JH procedure JH-MPR-SQE-004 'Inspection, Testing and Surveillance' ▪ Details of what monitoring is required is included in the relevant ECPs ▪ Project Procedures will be prepared as necessary to specify how monitoring is to be undertaken, including responsibility and frequency ▪ Monitoring results and any corrective actions identified will be recorded in the Lotus Notes Project Pack and/or JHET ▪ Water, Waste Management and National Greenhouse and Energy Reporting related information will be collected in accordance with procedure JH-APP-ENV-002-01 Clean Energy Future Scheme & NGER Guideline ▪ Guidance for NGER Reporting can be found in JH-APP-ENV-002-01 Clean Energy Future Scheme & NGER Guideline

Monitoring/Reporting Aspect	Details
	▪ Guideline for utilising the finance system PCR to collate Environment Data can be found in JH-APP-ENV-002-02 PCR Resource Use Reporting Guideline
Calibration of monitoring equipment	▪ Monitoring equipment will be calibrated in accordance with JH procedure JH-FRM-PAE-001-02 Plant and Equipment Register ▪ Monitoring equipment will be calibrated prior to use ▪ Any equipment identified as having doubtful accuracy or precision will be removed from use and recalibrated ▪ Where any monitoring equipment is found to be out of calibration, the validity of the previous monitoring results will be assessed and documented. ▪ Calibration of monitoring equipment will be recorded in Lotus Notes Project Pack and Equipment register as per the Monitoring and Testing Equipment procedure JH-APP-QUA-010-02
Reporting	▪ The following information will be loaded into Lotus Notes Project Pack or JHET for inclusion in the Project Monthly Report, in accordance with JH-MPR-SQE-009 Performance Statistics – Safety, Quality Environment o Inspections o Non-compliance reports o Incidents (recorded in JHET) o Waste, water use data o Complaints/Compliments o Innovations and achievements o Training and Awareness delivery o Status of environmental aspects related to the Project o Fuel and energy use information will be reported in accordance with procedure JH-MPR-ENV-002 Resource Use Reporting ▪ This information will also be provided to the Client [if requested] ▪ All John Holland Environmental Data is available at all times for review on the John Holland Report Centre ▪ Guide on using the systems is available at Environmental Data Cubes Guidance
Non-conformance and Incident Management	▪ Non-conformance Reports will be raised, tracked and closed out in accordance with JH-MPR-SQE-007 Non-conformance & Corrective Action procedure in JHET ▪ Incident Reports will be raised, tracked and closed out in accordance with JH-MPR-SQE-010 Incident Management procedure in JHET

10 AUDITING

Reference Doc No.	Reference Title
JH-MPR-SQE-002	Auditing
JH-MPR-SQE-007	Non Conformance & Corrective Action
JH-MPR-SQE-002	Monitoring and Review
JH-MPR-WHS-006	Workplace Hazard Identification and Inspection

The following environmental audits of the Project, listed in Table 13, may be undertaken. Results of all audits will be distributed to the relevant personnel, including any corrective/preventative actions required to be undertaken.

Table 13: Auditing

Audit Type	Details
Project Audits	▪ Audits of subcontractors, suppliers etc. carried out by Project personnel in accordance with JH-MPR-QUA-003- Expediting and Inspection of Subcontractor Works procedure ▪ Audits will be undertaken in accordance with the JH procedure JH-MPR-SQE-002 Monitoring and Review ▪ Audits will be undertaken to verify compliance with Project requirements, this EMP and the EMS
JH Internal Audits	▪ Audits of the Project carried out by John Holland auditors external to the Project (Operations Support Staff) ▪ Audits will be undertaken in accordance with the JH procedure JH-MPR-SQE-002 Monitoring and Review ▪ Audits will be undertaken to verify compliance with Project requirements, this EMP and the EMS ▪ Audit outcome reports will be forwarded to the relevant General Manager, Operations Manager and Project Manager
3rd Party Audits	▪ Audits of the Project carried out by the Client or Client's Representative to verify compliance with Project requirements, this EMP and the EMS ▪ Audits of the Project carried out by Certification organisations to verify compliance with conditions of accreditation ▪ Inspections and audits conducted by Regulators to verify compliance with conditions of approval and/or environmental legislation

Internal audits shall be conducted on the project initially within 12 weeks and six-monthly thereafter. Results of the audit shall be documented in JHET and brought to the attention of the personnel having responsibility for the area audited and reported to the relevant manager. For any deficiencies or non-compliances found, corrective action shall be initiated using the 'Non-conformance Report' or detailed as an 'Observation' or an 'Opportunity' in the Audit Report.

11 PROJECT COMPLETION

Reference Doc No.	Reference Title
JH-MPR-PMA-016	Project Completion

Following commissioning and prior to demobilisation from site, the PER shall identify the environmental issues associated with the finalisation of works. If the PER is released from the Project, the Project Manager will nominate project personnel to complete project closure requirements.

In particular, the following completion practices shall be performed:

- Environmental approval/licence closeout
- Subcontractor Assessment
- Lessons learned
- NGER Project Assessment closeout
- Complete project completion report JH-MPR-PMA-016- Project Completion.

12 APPENDICES

APPENDIX 1 – ENVIRONMENT AND HERITAGE POLICY

POLICY

Environment & Heritage

Our commitment

John Holland values the natural environment and cultural heritage, and is committed to minimising adverse impacts and enhancing outcomes.

Our approach

John Holland addresses its commitment to environmental sustainability and heritage conservation through the consistent implementation of an effective Environmental Management System.

Environment & Heritage Policy in practice

- Comply with relevant legal obligations, standards, customer requirements, and any obligations that John Holland has adopted voluntarily
- Integrate environment and heritage considerations into business planning, strategy development and operational delivery
- Continually improve the Environmental Management System to enhance performance.
- Maintain third party certification of the Environmental Management System to ISO 14001 as independent verification of implementation and effectiveness
- Establish environment and heritage objectives and targets, and communicate performance regularly to engage our employees and other stakeholders
- Continually improve operational resource use efficiency and take all reasonable and practicable steps to prevent adverse environmental impacts, including pollution
- Promote a culture of shared responsibility for environment and heritage outcomes.
- Enhance the awareness, knowledge and skills of employees, contractors and suppliers in relation to environment and heritage requirements and practices
- Drive organisational learning by investigating significant environment and heritage incidents, and communicating action taken or required to prevent recurrence
- Work with business partners, the local community, regulators and other stakeholders to understand their perspective and achieve improved environment and heritage outcomes

Joe Barr

Chief Executive Officer | John Holland Group Pty Ltd

December 2016

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 2 – OBLIGATIONS APPROVALS AND LICENCES REGISTER

Table 14 below provides a summary of the specific requirements for the Project. This includes any approvals or licences required to be obtained. This register will be updated as required.

Table 14: Obligations, Approvals and Licences Register

Environmental Aspect	Obligations/ Approvals/ Licences Required	Source	Relevance to Project	Relevant Authority	Responsibility	Status/Timing
CONDITIONS OF APPROVAL - (D/ -)						
	To be updated to include Stage 2 conditions of approval should approval be granted.					
ENVIRONMENTAL PROTECTION LICENCE – (EPL -)						
	To be updated should EPL be issued for Stage 2 works.					

*To be completed prior to commencement of works.

APPENDIX 3 – FUNCTIONAL ORGANISATIONAL CHART FOR PROJECT DELIVERY

Delivery Phase Organisational Structure

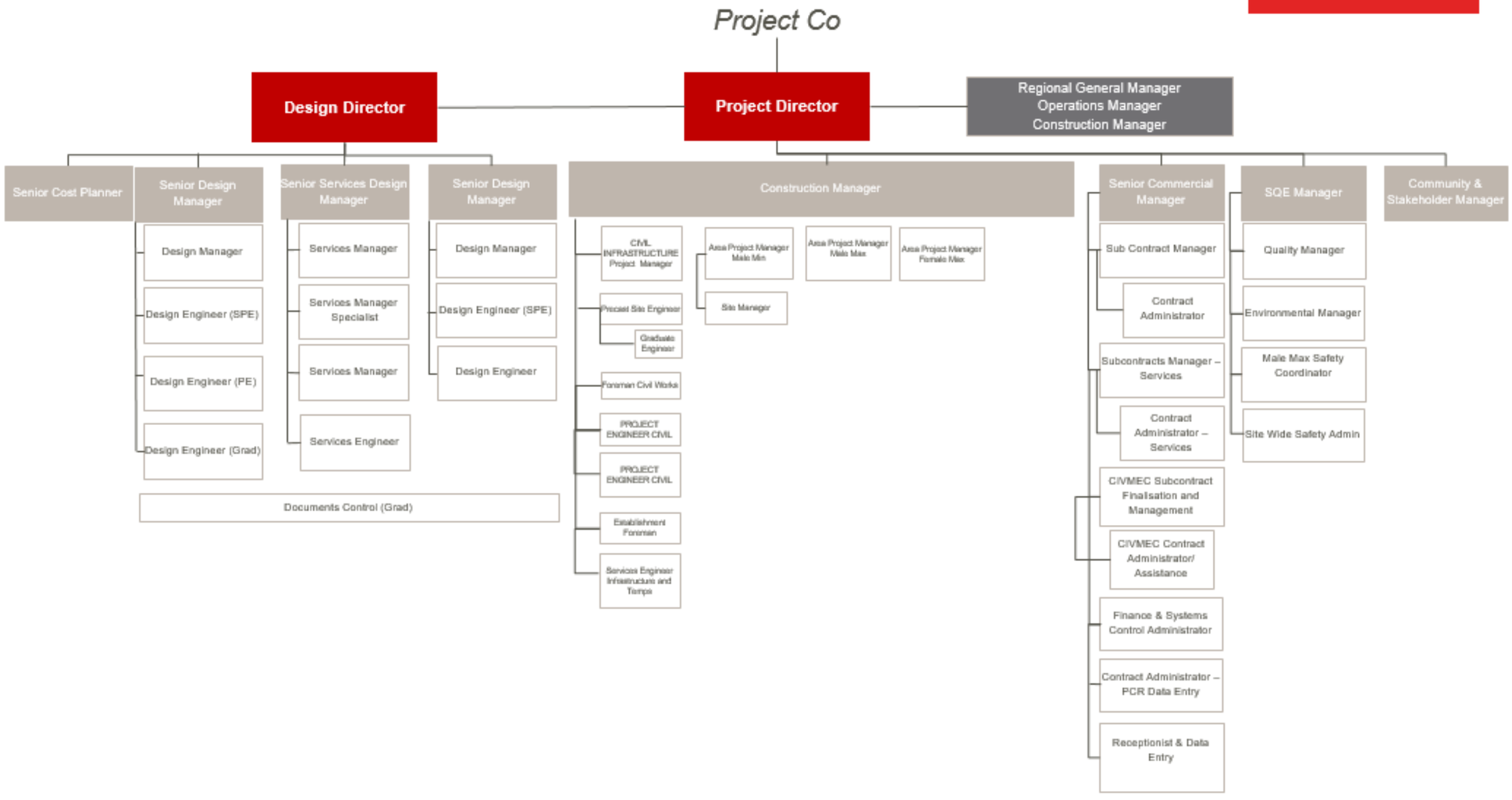

Figure 2: Functional organisation chart

APPENDIX 4 – ENVIRONMENTAL MANAGEMENT PLANS

- Aboriginal Cultural Heritage Management Plan
  IA101200-02 (Jacobs 2017)
- Construction Noise & Vibration Management Plan (CNVMP)
  6100-3.1R (Day Design 2017)
- Air Quality & Environmental Control Plan
  JH-NGCC-PLN-AQMP-018
- Soil & Water Environment Control Plan
  JH-NGCC-PLN-SWMP-020
- Waste Environmental Control Plan
  JH-NGCC-PLN-WMP-021
- Flora and Fauna Management Plan
  JH-NGCC-PLN-FFMP-019

APPENDIX 5 – ENVIRONMENTAL TOOLBOX AND PRESTART MEETING SCHEDULE

Table 15: Toolbox/Pre-Start Meeting Proposed Schedule

Topic	Timing
Unexpected Finds (heritage, contamination etc.)	1 week from commencement of works
Hazardous substances	3 weeks from commencement of works
Working hours and noise management	5 weeks from commencement of works
Rainfall and runoff management	5 week from commencement of works
Air Quality	7 weeks from commencement of works
Mud on roads	7 weeks from commencement of works
Waste management	9 weeks from commencement of works

APPENDIX 6 – MONITORING AND REPORTING

Table 16: Monitoring

Monitoring				
Method	**Management Plan**	**Frequency**	**Participants**	**Records**
Site inspections	JH-NGCC-PLN-ENV-001	Weekly and as required	PER	Checklist (JHG-ENV-CHK-001)
		Daily or as required	Site Manager/ Supervisor	Site diary
Water monitoring	JH-NGCC-PLN-SWMP-020	As required	PER	Monitoring Register
Noise monitoring	6100-3.1R (Day Design 2017)	As required	PER	Monitoring Register
Monthly Report	All ECP'S	Monthly	PER	Report

Table 17: Calibration

Calibration of Monitoring Equipment	
Equipment Type	**Frequency**
Water quality meter	As specified by the equipment manufacturer
Noise level meter	As specified by the equipment manufacturer

Table 18: Reporting

Reporting			
Type	Recipient	Frequency	Inclusions
Project Monthly Report	Internal	Monthly	Fuel, electricity, water usage and waste generated by the project Environmental innovations and initiatives Complaints, infringements and penalties incurred Environmental incidents Non conformances Project progress

APPENDIX 7 – INTEGRATED MANAGEMENT SYSTEM PROCEDURES

Table 20 below describes the framework of how JH addresses the requirements of ISO 14001. Note that in addition to ISO14001, the procedures referenced also address the requirements of AS/NZS4801, 4292 and AS/NZSISO9001

Table 19: Matrix of Management Procedures

AS/NZS ISO 14001:2004: System Element Heading		IMS Reference	Integrated Management System Procedure
4.2	Environment Policy	JHG-POL-GEN-002	John Holland's Environment Policy
4.3	Global Mandatory Requirements	JHG-STD-WHS-09	Site Environment Management
		JHG-STD-WHS-10	Clearing, Water Management & Earthworks
		JHG-STD-WHS-11	Resources, Recycling and Waste Management
4.3	Planning	JH-MPR-ENV-001	Environment Planning
4.3.1	Environment aspects	JH-MPR-PMA-001	Project Launch
4.3.2	Legal and other requirements	JH-MPR-PMA-002	Planning & Programming
4.3.3	Objectives, targets and programme(s)	JH-MPR-WHS-001	OHS&R Planning
		JH-MPR-BUA-004	Administrating the Integrated Management System
4.4	Implementation and operation	JH-MPR-PMA-005	Letting of Consultants/Subcontracts/Supply Packages
4.4.1	Resources, roles, responsibility and authority	JH-MPR-PMA-006	Administration of Consultants/Subcontract/Supply Packages
4.6	Management review	JH-MPR-PMA-017	Standard Contract Agreements
		JH-APP-PMA-005-06	Evaluation Visits to Subcontractors/Suppliers
		JH-MPR-QUA-003	Inspection of Subcontracted Works
		JH-MPR-QUA-004	Performance Rating of Subcontractors
		JH-MPR-HRT-003	Resource Planning
		JH-MPR-SQE-006	Managing Safety, Quality & Environment Risks
4.4.2	Competence, training and awareness	JH-MPR-HRT-020	Learning & Development
		JH-MPR-SQE-001	Site Induction
4.4.3	Communication	JH-MPR-CCM-001	Internal & External Communication
4.4.4	Documentation	JH-MAN-ENV-001	Environment Management Manual

AS/NZS ISO 14001:2004: System Element Heading		IMS Reference	Integrated Management System Procedure
		JH-MPR-SQE-006	Managing Safety, Quality & Environment Risks
4.4.5	Control of documents	JH-MPR-QUA-005 JH-APP-QUA-005-06 JH-MPR-BUA-004	Project Documentation & Control Project Generated Drawing & Sketches. Administrating the Integrated Management System
4.4.6	Operational control	JH-MPR-QUA-010 JH-MPR-BUA-017 JH-MPR-HRT-002 JH-MPR-SQE-008 JH-MPR-BUA-009 JH-MPR-PAE-001	Process Control Information Technology Employee Relations Medical Services Administration of Motor Vehicles Plant & Equipment
4.4.7	Emergency Preparedness and Response	JH-MPR-SQE-006 JH-MPR-PMA-008 JH-MPR-CCM-001 JH-MPR-SQE-010 JH-MPR-RCC-006	Managing Safety, Quality & Environment Risks Emergency Evacuation and Response Internal & External Communication Incident Management Crisis Management
4.5 **4.5.1**	Checking Monitoring and measurement	JH-MPR-SQE-004 JH-MPR-WHS-006 JH-MPR-QUA-010 JH-MPR-QUA-011 JH-MPR-PMA-016 JH-MPR-ENV-002	Inspection, Testing & Surveillance Workplace Hazard Identification & Inspection Process Control Commissioning of Works Project Completion Resource Use Reporting
4.5.2 **4.5.3** **4.6**	Evaluation of compliance Non-conformity, corrective action and preventative action Management review	JH-MPR-SQE-007 JH-MPR-SQE-010 JH-MPR-SQE-009	Non-conformance & Corrective Action Incident Management Performance Statistics – Safety, Quality and Environment
4.5.4	Control of Records	JH-MPR-BUA-018	Records Management
4.5.5	Internal Audit	JH-MPR-SQE-002	Monitoring & Review

APPENDIX 8 – EMP AUDIT SCHEDULE MATRIX

The project will conduct audits for their workplace utilising JH-FRM-SQE-002-02 'System Audit Report Template (Environment)'.

Project Scope related elements will be audited within 3 months of mobilisation and then once more during the project life cycle.

Environmental Management Implementation & Operation Control elements will be audited in line with construction program, the environmental importance of the activity concerned and the results of previous audits.

Corrective actions identified during audits shall be entered into JHET, Closed Off and Followed Up as required.

Table to be compiled once start-up date is known

Audit Element	J	F	M	A	M	J	J	A	S	O	N	D
Environmental System Documentation Requirements	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
Policies / Certificates		X										
Key Risks / Permits / Approvals		X							X			
Performance Indicators		X							X			
MANAGEMENT RESPONSIBILITY	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
Project Organisational Chart		X										
Position Description		X										
Limits of Authority		X										
RESOURCES	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
Resources		X										X

Audit Element	J	F	M	A	M	J	J	A	S	O	N	D
Training		X										
Site Induction		X										
AUDITS	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle											
Internal / External Audit Plan		X								X		
Audits Conducted		X								X		
Additional Audits		X										
Audit Action Items			X							X		
REPORTING	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
Monthly Reports		X				X				X		
Environmental Reports		X				X				X		
Site Diaries		X				X				X		
DOCUMENTATION & RECORDS MANAGEMENT	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
IMS Procedures & Forms		X								X		
Standards, Codes & Specifications		X								X		
Process Procedures / Work Instructions		X								X		
IT Systems / Lotus Notes Project Packs		X								X		
Filing System		X								X		

Audit Element	J	F	M	A	M	J	J	A	S	O	N	D
PLANNING	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
Environmental Planning		X										
Environmental Controls		X						X				
COMMUNICATION & INTERFACE	These elements are to be audited within 3 months of mobilisation and then once more during the project life cycle.											
Site & Pre-Start Meetings		X								X		
Correspondence Management		X								X		
EXECUTION / IMPLEMENTATION	These elements are to be audited on the Environmental importance of the activity concerned and the results of previous audits.											
Project Environmental Requirements		X								X		
Environmental Obligations		X								X		
Environment & Design		X								X		
Environment & Procurement		X								X		
Environment & Subcontractors		X								X		
Materials Control		X								X		
Plant & Equipment		X								X		
Monitoring & Control		X								X		
Complaints		X								X		
Project Management Meetings		X								X		
Emergency Response		X								X		

Audit Element	J	F	M	A	M	J	J	A	S	O	N	D
Environmental Issues		Z								X		
ENVIRONMENTAL CONTROL PLANS	These elements are to be audited on the Environmental importance of the activity concerned and the results of previous audits.											
Hazardous Substances ECP		X								X		
Noise / Vibration ECP		X								X		
Dust / Air Quality ECP		X								X		
Erosion & Sediment ECP		X								X		
Waste ECP		X								X		
Community ECP		X								X		
Cultural Heritage ECP		X								X		
Water Quality ECP		X								X		
Flora & Fauna ECP		X								X		
Weed Management ECP		X								X		
Visual Amenity ECP		X								X		
Contaminated Land ECP		X								X		

Audit elements as specified in JH-FRM-SQE-002-02 ‘System Audit Report Template (Environment)'