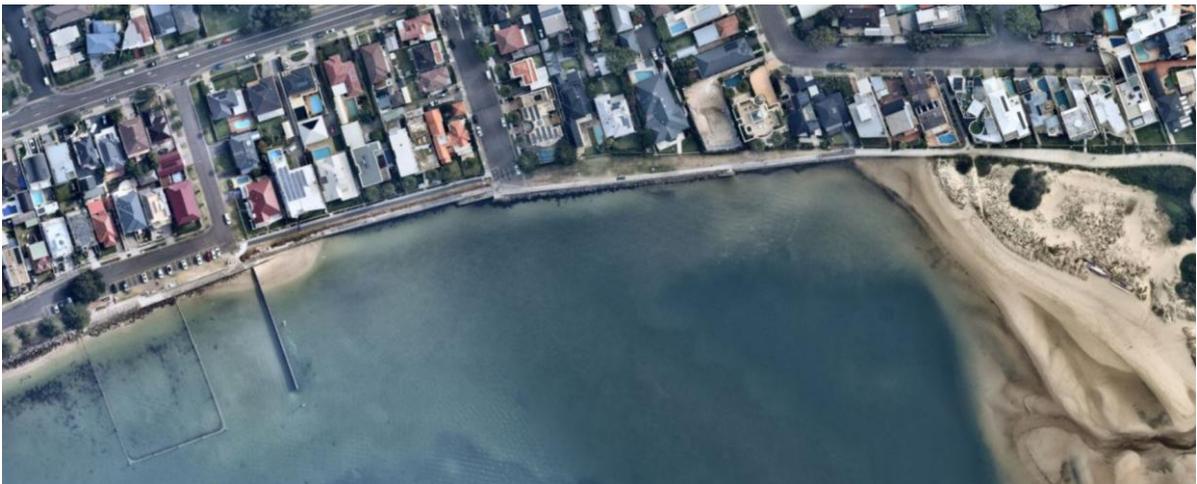




REMEDICATION
INFRASTRUCTURE
ROADWORKS
BULK EARTHWORKS
ENVIRONMENTAL
LANDSCAPING

Project Environmental Management Plan (EMP)



Project Sandringham Seawall and Cycleway Restoration
Site Address Vanston Parade
Client Bayside Council
Contract no. SF23/1498
Date 18/07/2023

ABN [REDACTED]
Address [REDACTED]
Phone [REDACTED]
Web [REDACTED]
Email [REDACTED]

Document issue register

Revision #	Issue date	Update summary	Prepared/ Revised by	Reviewed By	Approved by
0	18/07/2023	Issued for review	[REDACTED]	[REDACTED]	[REDACTED]
1	24/07/2023	Amended as per Client comments	[REDACTED]	[REDACTED]	[REDACTED]
2	25/07/2023	Amended as per DPIE comments	[REDACTED]	[REDACTED]	[REDACTED]

Distribution

Controlled Copy No.	Issue Holder	Company/Position	Revision	Issue Date
1	[REDACTED]	FCC – Project Manager	0	18/07/2023
1	[REDACTED]	FCC – Project Manager	1	24/07/2023
1	[REDACTED]	FCC – Project Manager	2	25/07/2023

Authority

Ford Civil's Chief Operating Officer has authorised [REDACTED] as a Project Manager and allocated overall project delivery responsibility for the project to [REDACTED].

This Project Environmental Management Plan has been prepared for use to manage applicable statutory and regulatory requirements as well as contractual and organisational requirements for the project.

The issue and revision of this Management plan is made under the authority of the Project Manager. This document and its effectiveness will be reviewed and evaluated during project monthly review meetings.

Function	Name	Position	Signature	Date
Prepared by	[REDACTED]	Project Design Manager	[REDACTED]	25/07/2023
Reviewed by	[REDACTED]	Project Engineer	[REDACTED]	25/07/2023
Approved by	[REDACTED]	Project Manager	[REDACTED]	25/07/2023

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1 Introduction

1.1 About Ford Civil

Ford Civil offers a full range of civil construction services from site remediation to road works, demolition and commercial landscaping. Our emphasis is on safety the environment and quality, and values open partnerships and clear communication with our clients. The Ford Civil team strives to exceed client expectations and augment our reputation for excellence by delivering even the most complex and challenging projects on schedule and to budget.

Ford Civil is a financially sound company, with long-term stability, coupled with our insurance policies, licenses and fully implemented safety, environmental and quality management systems.

Ford Civil Head office is located at



1.2 About Ford Civil Management Systems

Ford Civil has certified management systems. The scope of the management systems includes Project Management, Supervision & Construction of Civil Engineering Works, including Structural Works, Road Construction, Bridge Construction, Earthworks, Demolition, Marine Works, Environmental and Remediation Works and Landscaping. Certification was first achieved in 2008.

Ford Civil currently holds the following certifications:

- ISO 14001:2015 Environmental Management System
- ISO 9001:2015 Quality Management System
- ISO 45001:2018 Occupational Health and Safety Management System

The Environmental Policy supports the environmental management system. All employees will be made aware of this policy and are required to actively work towards achieving its objectives in their specific areas of responsibilities.

The Environmental management system is periodically reviewed at the corporate and project levels. Modifications and improvements resulting from reviews are integrated into the management system and communicated to promote consistent, best practice standards and continual improvement.

Ford Civil management system includes other project plans including but not limited to:

- Quality Management Plan
- WHS Management Plan
- Emergency Management Plan

1.2.1 Certifying Body

Company: QMS Certification Services
Auditor: As nominated by QMS Certification Services
Website: <https://www.qms.com.au/>
Phone: 
Address: 

1.3 Purpose and Scope of the Project Environmental Management Plan (EMP)

Ford Civil has developed this Environmental Management Plan for implementation during the construction/delivery of this project. The main purpose of the EMP is to describe Ford Civil's environmental management system and associated procedures for this project that will guide, manage, and control the environmental aspects of the design and construction aspects of delivery of this project and ensure that all project activities are carried out in a manner that minimises environmental impacts, conform to the relevant regulations, codes and specifications.

The EMP sets the overall context for Ford Civil works. It describes Ford Civil's system for environmental management, and includes policy, objectives, legislation, responsibilities, auditing and document control.

The management system for this project has been developed based on company policies, procedures and in consultation with senior management and employees.

The purpose of this plan is to outline how Ford Civil will:

- deliver this project;
- describe how construction will be managed;
- comply with legislation;
- comply with client requirements;
- comply with requirements of the Ford Civil Directors;
- Meet the requirements of the accredited Ford Civil Safety, Quality and Environmental Management Systems.

This plan has been prepared in accordance with:

- AS/NZS ISO 14001:2016 Environmental Management Systems
- Contract specification
- Relevant environmental legislation, regulations, industrial standards and guidelines

This plan will be accessible to site personnel at all times and will be used to induct all personnel who will be working on site.

The EMP and associated processes are to be used as a reference guide for all Ford Civil site personnel and will also be applicable to Ford Civil subcontractors during the term of the project.

The EMP provides the framework to manage the environmental issues that may arise throughout the life of this project. The EMP;

- Includes all safeguards required of Ford Civil in regards to Client's Environment Strategy;
- Defines the environmental policy for the project and Ford Civil and summarises the legislative and regulatory obligations applicable to the project;
- Provides a framework for Ford Civil to monitor, audit, report on, review and improve;
- Includes procedures for investigating and resolving non-conformances, and initiating corrective and preventative measures.

This plan will be reviewed every 3 months (review may not lead to revision - this review will be carried out by HSEQ Manager) or when it is required to ensure that it is current and reflects the current project activities and risks. This document will be revised to reflect any adjustments due to the following:

- Changes to standards;
- Changes to Project Risk Register;
- Management System changes;
- Conditions on site differ significantly;

- Work processes differ significantly;
- following a significant incident;
- an internal or external audit finding requiring that the plan is updated.

Based on the duration of the project and client requirements an internal inspection will be carried every month in alignment with the start date on site. In addition, an internal audit may be conducted as per Ford Civil internal audit schedule. The inspection/audit outcomes will be presented to the site staff, Project Manager and Senior Management. The client representative may participate in internal audits or inspections if so desire.

This document is a live document and is developed through the life of the project to ensure all stakeholders and compliance regulations are met. This plan may be updated by site personnel with hand written notes. These hand marked up changes are required to be communicated via a toolbox.

This plan will be made available to all stakeholders (employees, subcontractors, labour hire etc.) upon request and a hard copy will be held on site in the project office.

1.4 Development of Project Environmental Management Plan (EMP)

The purpose of this Plan is to ensure that Ford Civil carry out all project activities in a manner that minimises environmental impacts, conform to the relevant regulations, codes and specifications.

This EMP describes how the corporate environmental policy, objectives and targets are implemented to ensure that our corporate, customer and legislative requirements are recognised and that consistent and uniform control of the requirements is adequately maintained.

The key stages in the project environmental management process include:

- Identification of Ford Civil objectives and targets;
- Undertake risk assessments;
- Client review / approval of EMP;
- Ford Civil to Client consultation;
- Site implementation;
- Monitoring, reporting, reviewing and improving.

This EMP includes provision for:

- Identification of significant environmental aspects and the handling of them;
- the prompt detection of discrepancies and for the timely and effective corrective action;
- Identifying environmental non-conformances and follow up of corrective action implementation to ensure correct standards are applied throughout the project.

The structure of the organisation and management for this project is identified and makes clear the reporting relationships, the responsibility of each position and the authority exercised by that position.

This EMP includes the provision of evidence that conformity to the Client brief and environmental requirements has been achieved through the generation of this documentation following implementation of the planned inspection and testing process. This EMP also covers the identification of non-conformance including the corrective actions and controls to achieve compliance with specified requirements.

This EMP requires that all environmental records be completed by personnel with the experience and judgment necessary to make objective decisions regarding the compliance of the work.

To provide confidence in the accuracy and reliability of this EMP's Records, these will be reviewed during the project delivery period to ensure that they accurately reflect the environmental status of the project.

Project Environmental Management Plan



This EMP is to be applied to all facets of the works on the project carried out by Ford Civil.

A Project Environmental Management Plan is to be developed before commencement of work. This document lays out how the project environmental requirements will be executed, monitored, and controlled.

It's the Project Manager's main responsibility to execute the Project Environmental Management Plan successfully. This document to be approved and signed off by the Project Manager.

2 Project integration plan

2.1 Project details

Project details	
Project	Sandringham Seawall and Cycleway Restoration
Contract No	SF23/1498
Location	Vanston Parade, Sandringham
Start Date	August 2023 The start and completion dates are dependent on the issuing of the contract and approval of documentation
Completion Date	December 2023 <i>Excluding any unseen delays, variations or weather events that would impact on the works</i>
Scope of Works	Sandringham Seawall and Cycleway Restoration
Client details	
<input checked="" type="checkbox"/> Principal	
<input type="checkbox"/> Principal Contractor	
Client Project Manager	[REDACTED]
Contact number	[REDACTED]
Client Address	[REDACTED]
Superintendent	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Company	Bayside Council
Contact number	[REDACTED]
Contractor details	
Business Name	Ford Civil Contracting Pty Ltd
ABN	[REDACTED]
Physical Address	[REDACTED]
Postal Address	[REDACTED]
Project Manager	[REDACTED]
Contact number	[REDACTED]
Electrical Supervisor	-
Contact number	-
Civil Supervisor	[REDACTED]
Contact number	[REDACTED]
Safety Rep/First Aider	[REDACTED]
Contact number	[REDACTED]
Rehab Co-ordinator	[REDACTED]
Contact number	[REDACTED]

2.1.1 Principal

The Principal for this project is Ford Civil.

2.1.2 Project Description / Scope of work

The Sandringham Seawall and Cycleway Restoration will construct a 345m long and 5m wide rip rap rock apron to support the existing concrete seawall and prevent further beach erosion. The project will also deliver new shared path and landscape areas, enhancing the overall environment for the residents and the Bayside community.

The scope of work on this project includes:

Seawall Riprap Restoration

- Excavation to base of seawall and installation of geofabric
- Placement of sandstone riprap
- Reinstatement of the voids behind the existing seawall

Cycleway Restoration

- Demolition of existing pavements
- Removal of existing vegetation including some garden beds in front of houses (unless otherwise decided with homeowners)
- Minor earthworks including cut/fill to new level and pavement box out
- Construction of new concrete shared path
- Installation of new street lighting
- Landscaping



Figure 1: Construction Work Overview

2.1.3 Project reference documents

- Sandringham Seawall and Cycleway Restoration – Contract No. SF23/1498
- Review of Environmental Factors – Royal Haskoning DHV March 2023
- Marine Survey - Sea Dragon Diving Co - August 2020
- Sandringham Seawall Remediation Options and Geo-technical Investigations - Public Works Advisory - Report Number ISR20095 - June 2020
- Sandringham Seawall Stability - Royal Haskoning DHV - December 2022
- Contract Drawings
- Shop drawings

2.1.4 Site amenities and emergency equipment

The project office and associated sheds are located on site. These includes crib huts, site amenities (toilets and change room), and a project office. The site office along with relocatable sheds will be utilised to provide office space along with separate sheds that will accommodate lunch, change rooms and bathroom facilities etc. The size and type off facilities will be scalable as the work demands change.

The site compound is fenced and a site layout plan showing the emergency evacuation and emergency equipment locations will be displayed on site.

2.1.5 Plant and equipment on site

- 14T excavator
- 10T dump truck
- Rollers
- Tipper trucks incl. bogies
- Small compaction equipment incl. plate compactors & jumping jacks
- Pumps
- Generators

2.1.6 Contractors on site

- Hope Diving Services Australia
- Coates hire
- Green & White
- EES Electrical

Project Environmental Management Plan

2.1.7 Site emergency evacuation map



2.1.8 Emergency contact details

Service		Phone Number
Project team		
Client Project Manager	██████	██████
Superintendent	-	-
Project Manager	██████	██████
Electrical Supervisor	-	-
Civil Supervisor	██████	██████
Safety Rep	██████	██████
First Aider(S)	██████	██████
Emergency Services		
Emergency	<i>Fire/Ambulance/Police</i>	000
Storms / Floods	<i>S.E.S.</i>	132 500
Environmental Emergency	<i>Environmental Protection Agency</i>	131 555
Water	<i>Sydney Water Emergency Service</i>	132 090
Telecommunications	<i>Telstra Emergency Service</i>	132 203
Electricity	<i>Ausgrid</i>	4951 0899
Gas Authority	<i>Jemena Gas South</i>	1300 880 906
Explosives	<i>Dept of Mines & Energy</i>	
	<i>After Hours</i>	
Poisons	<i>Poisons Information Centre</i>	131 126
Work Health and Safety	<i>SafeWork NSW</i>	
	<i>All Enquiries</i>	13 10 50
	<i>After Hours</i>	13 10 50
Pollution	<i>Environmental Protection Agency</i>	13 15 55
Animal emergency	<i>RSPCA Animal Ambulance</i>	
	<i>Domestic Animals</i>	
	<i>Native Animals</i>	1300 094 737
Local services		
Local Council	<i>Bayside Council</i>	1300 581 299
Local Police Station	<i>St George Police Station</i>	8566 7499
Local Hospital	<i>St George Hospital</i>	9113 1111
Local Medical Centre	<i>IMMEX Botany Rd</i>	9319 5999

2.2 Interested parties

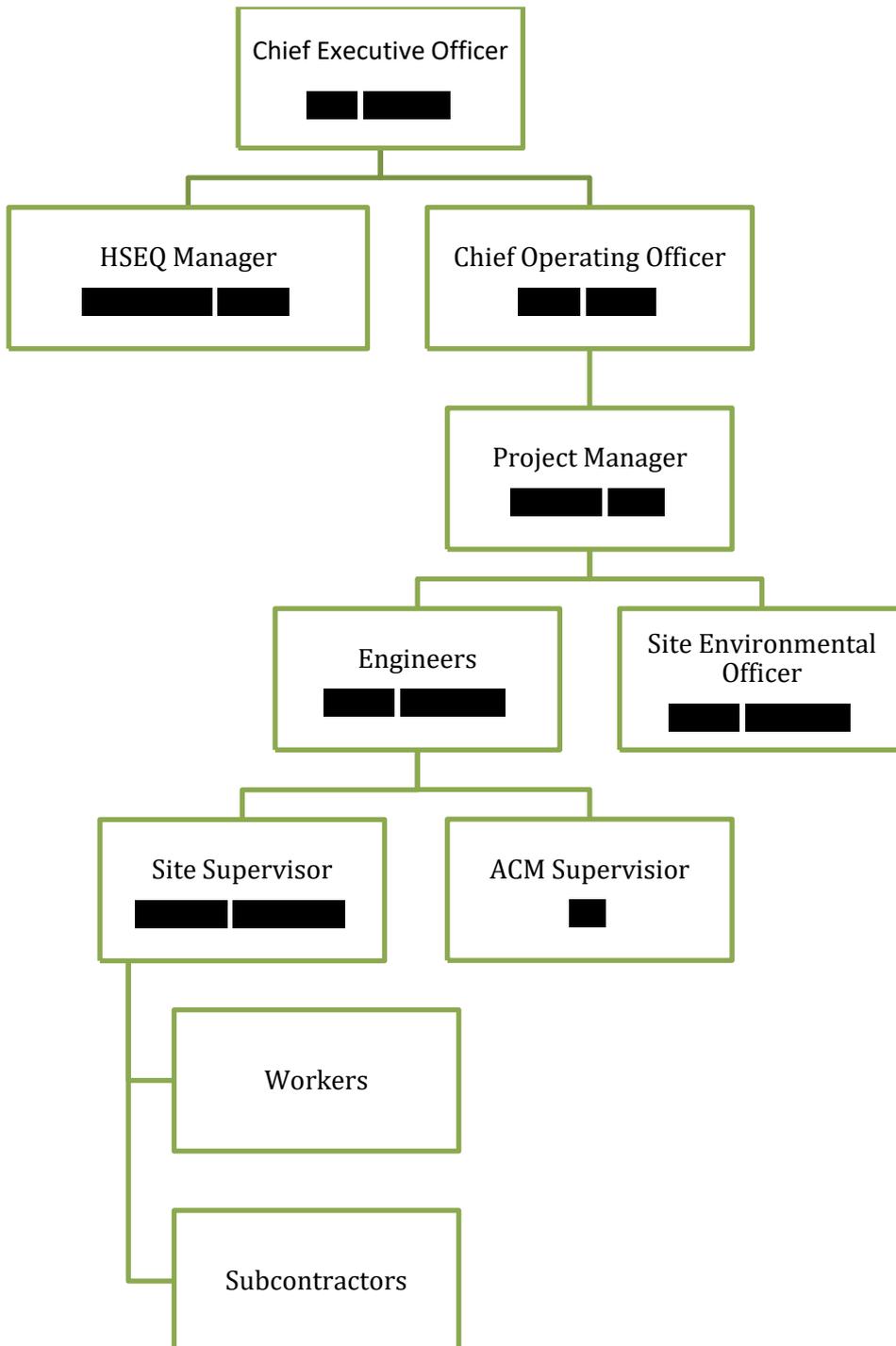
Relevant stakeholders and interested parties that will be involved with the Project and its outcomes are listed below:

- Bayside Council
- Department of Primary Industries (Fisheries)
- Commercial/Retail Stores
- Sandringham Foreshore Residents
- Visiting Members of the Public.

The external stakeholders have been identified by the client who have issued the notifications about work on this project refer to the Client communications register. Records of any stakeholder notifications are filed by the Site Engineer.

Note: Stakeholders also include the general public and adjoining properties.

2.3 Project organisation structure



2.4 Roles, responsibilities and authorities

2.4.1 Chief Executive Officer

The **Chief Executive Officer** will:

- a) allocate adequate time and resources (human, financial, and technical) for the Environmental program to be established at all sites;
- b) review significant incidents and near misses and their investigations;
- c) review environmental performance of senior management;
- d) advise project management to achieve the highest standard of environmental performance on the project;
- e) initiate changes from recommendations from the HSEQ Manager;
- f) review project environmental performance;
- g) conduct senior management site inspections and consult with workforce on HSEQ issues.

2.4.2 Chief Operating Officer

The **Chief Operating Officer** will:

- a) review significant incidents and near misses and ensure closeout of investigation and implement any improvements or corrective actions. Where required participate in investigations;
- b) review environmental performance of middle management;
- c) advise to site management and the site environmental officer to achieve the highest standard of environmental performance on the site;
- d) initiate changes from recommendations from the HSEQ Manager;
- e) review site environmental performance;
- f) assess the suitability of site staff / resource availability to carry out the works in environmentally responsible manner;
- g) provide information resources on all environmental matters and obtain information from other sources as needed;
- h) conduct senior management site inspections and consult with workforce on HSEQ issues.

2.4.3 HSEQ Manager

The **HSEQ Manager** is responsible for the implementation of environmental requirements through the company resources and the implementation of company policy and processes to ensure that the environmental requirements are met and will:

- a) Prepare and review the Ford Civil project EMP to provide guidance as to whether or not it fulfils the following obligations;
 - i. follows the formats / intentions of the Ford Civil systems;
 - ii. follows the intent of AS/NZS ISO 14001:2016 Environmental Management Systems;
 - iii. incorporates Client requirements;

- b) Regularly review the EMP implementation status to ensure all environmental obligations are met;
- c) advise the Project Manager and project team on changes in statutory requirements;
- d) Prepare documentation to demonstrate compliance and report on compliance;
- e) Conduct system environmental audits in accordance with the project audit schedule;
- f) Provides assistance as required to the project team to fulfil the requirements of the EMP and the expectations of Client;
- g) identify any skills/training needs and arrange appropriate training and update skill/competency registers as required;
- h) provide information resources on all environmental matters and obtain information from other sources as need;
- i) compile environmental stats for senior management based on the information supplied from site;
- j) identify environmental aspects and assess the environmental impacts associated with the work, and document the risk control measure to be taken;
- k) in conjunction with the project manager, prepare a systematic audit program to monitor the effectiveness of the EMP;
- l) carry out site environmental audits and inspections;
- m) Respond to environmental incidents;
- n) investigate significant incidents, and advise project team on implementing corrective actions;
- o) maintain records of accidents/incidents including significant near misses;
- p) develop the site induction handout covering all aspects of site environmental issues;
- q) responsible for the reporting to relevant external bodies of any incident that requires notification (e.g. NSW EPA). This information is to be coordinated with the Project Manager,

2.4.4 Project Manager

The Project Manager is responsible for the implementation of company policy and processes to ensure that the environmental requirements of the work place are met and will:

- a) lead and manage the project in accordance with environmental requirements;
- b) ensure all appropriate actions are taken to implement the Environmental policy, processes and legal requirements;
- c) allocate adequate time and resources (human, financial, and technical) for the environmental management system to be established and maintained at all sites;
- d) ensure the development and implementation of emergency procedures;
- e) identify environmental aspects and assess the environmental impacts associated with the work, and document the risk control measure to be taken, in a project risk register;
- f) ensure all significant environmental aspects/impacts are eliminated or reduced as far as practicable according to the hierarchy of control;
- g) demonstrate commitment to environmental protection through formal participation in Risk Assessment and Control Planning, workplace inspections etc. and informally through work site visits and discussions with staff;

- h) review any environmental related reports, significant incidents /near misses and monitor corrective actions;
- i) participate in the environmental incident investigations;
- j) advise site management and the site environmental officer to achieve the highest standard of environmental compliance on the site;
- k) Initiate changes from recommendations from the HSEQ Manager;
- l) monitor and supervise the environmental performance within their area of responsibility;
- m) participate where required in the resolution of environmental issues;
- n) communicate regularly on relevant environmental matters both internally and to the client immediately in terms of significant incident including government notifications and monthly for all other statistics to the client representative;
- o) manage environmental communication and consultation provisions in accordance with the regulatory and other requirements;
- p) carry out ongoing review of SHEWMS versus works being carried out on site and document in the task observation form;
- q) ensure all employees/contractors are inducted and receive regular training as required to perform jobs in environmentally responsible manner;
- r) responsible for reporting to Senior Management & relevant external parties including client representative of any incident or accident both in verbal and written communications;
- s) ensure all employees/contractors are informed about environmental policies, management system requirements and project plans during induction and they receive regular training as required to perform jobs in environmentally responsible manner;
- t) ensure employees and the relevant environmental representative are consulted in relation to identification of aspects, impacts, and the assessment and control of risks associated with any significant aspects;
- u) stop works where noncompliance is found;
- v) implement corrective actions where sub contactors are lacking both in terms of compliance on site and in the required documentation;
- w) provide all subcontractors engaged on the project a copy of the relevant sections of the EMP or access to the whole document;
- x) manage notification to adjoining sites, properties of upcoming works / emergencies as required;
- y) coordinate resources for the project EMP to be implemented, monitored, maintained to ensure all environmental obligations are met;
- z) ensure compliance with the Client incident reporting systems.

2.4.5 Site Supervisor

The **Site Supervisor** is responsible for the implementation on site of company policy and processes to ensure that the environmental requirements of the work place are met and will:

- a) directs and implements on site environmental management measures
- b) monitor and supervise the environmental performance within their area of responsibility by ensuring environmental protection controls are implemented by all site personnel as required;

- c) ensure all appropriate actions are taken to implement the environmental policy, processes and legal requirements;
- d) lead by example and promote sound environmental practices at every opportunity;
- e) participate where required in the resolution of environmental issues;
- f) review any environmental related reports, and take appropriate action;
- g) ensure that environmentally responsible work practices, procedures, site rules are implemented and adhered to;
- h) conduct daily prestart meetings;
- i) conduct toolbox meetings no less than fortnightly or when significant changes of works occur;
- j) trial and implement emergency response procedures;
- k) identify environmental aspects and impacts and assess risk associated with the work, and document the risk control measure to be taken;
- l) report to Project Management of any incident or near miss that requires notification;
- m) ensure all significant environmental aspects and related impacts are eliminated or reduced as far as practicable according to the hierarchy of control;
- n) ensure employees and the relevant environmental representative are consulted in relation to the identification of aspects and impacts, and the assessment and control of risks associated with any significant aspects;
- o) carry out workplace monitoring and provide assistance and advice;
- p) ensure that employees receive training in the applicable SHEWMS prior to doing any work
- q) ensure all works being undertaken is in accordance with the SHEWMS and site environmental rules applicable to the project;
- r) ensure that the employees have training and competency to perform the work tasks that they have been asked to do
- s) implement corrective actions where sub contactors are lacking both in terms of compliance on site and in the required documentation;
- t) be first point of contact for environmental related matters
- u) ensure that all goods and services purchased/engaged for the project are assessed for suitability in relation to the company's environmental policies and procedures;
- v) assist in the identification of problem areas, including workplace monitoring and provision of assistance and advice;
- w) assist in the monitoring of sub-contractors' obligations to meet their environmental commitments.
- x) maintain environmental documentation and records in accordance with Ford Civil system requirements;
- y) stop works where noncompliance is found;

2.4.6 Project Engineer / Environmental Representative

The **Project Engineer** is responsible for the implementation on site of company policy and processes to ensure that the environmental requirements of the work place are met and will:

- a. directs and implements on site environmental management measures in accordance with this EMP and the relevant Safety Health & Environmental Work Method Statements (SHEWMS);
- b. ensure that environmentally responsible work practices and environmental controls as required are implemented and adhered to by site personnel;
- c. ensure all personnel working at site are inducted and signed onto the relevant SHEWMS for their activity;
- d. ensure that all goods and services purchased/engaged for the project are assessed for suitability in relation to the company's environmental policies and processes;
- e. approve Ford Civil and subcontractors' SHEWMS prior to commencing works on site;
- f. ensure all SHEWMS are forward to the client's Project Manager 2 weeks in advance of the works.
- g. assist in the identification of problem areas, including environmental monitoring and provision of assistance and advice;
- h. assist in the monitoring of subcontractors' obligations to meet their environmental commitments;
- i. identify environmental aspects and impacts and assess the risk associated with the work, and document the risk control measure to be taken;
- j. assist in identifying training and competency requirements and organise for training, including refresher training, in consultation with HSEQ Manager;
- k. issue environmental documentation to all sub-contractors and service providers engaged on the site;
- l. manage all subcontractors and their employees to comply with the relevant environmental requirements;
- m. carry out ongoing review of SHEWMS versus works being carried out on site and document in the task observation form;
- n. maintain environmental documentation and records in accordance with Ford Civil system requirements;
- o. update and monitor the hazardous substance register as required;
- p. keep all persons informed of the site environmental rules and other environmental issues relating to the project.

2.4.7 Workers

The site-based employees/contractors are responsible for implementing environmental controls and will:

- a. adhere to all environmental policies/processes in accordance with instructions;
- b. take reasonable care of the environment that may be affected by their actions;
- c. will participate in consultation and comply with the environmental management system and their Safety, Health and Environmental Work Methods Statement (SHEWMS) or Standard Operating Procedures (SOP);
- d. ensure they have current licenses, registration and competency certificates;
- e. ensure they are able to competently and safely perform any work they undertake and are aware of the environmental impacts associated with their work;

- f. report any environmental aspects/impacts or potential situations that may rise due to works being conducted, to the Site Supervisor;
- g. report all environmental incidents to the Site Supervisor;
- h. identify environmental aspects and impacts and assess risk associated with the work, and document the risk control measures to be taken providing suggestions, on how to improve environmental issues;
- i. seek assistance if unsure of environmental requirements;
- j. comply with site rules;
- k. comply with emergency and evacuation procedures.

3 Senior Management Commitment

3.1 Leadership and commitment

Ford Civil's top management team demonstrate their leadership and commitment with respect to the HSEQ Management System by:

- taking overall responsibility and accountability for the prevention of significant environmental aspects and impacts;
- fully integrating Environmental Management System in to Ford Civil HSEQ Management System;
- taking accountability for the effectiveness of the HSEQ Management System;
- ensuring that the quality, environmental and WHS policies and related objectives are established and are compatible with the strategic direction of the organisation;
- ensuring the integration of the quality, environmental and WHS management system requirements into the organisation's business processes;
- ensuring that the resources needed to establish, implement, maintain and improve the HSEQ Management System are available;
- communicating the importance of effective HSEQ Management System and of conforming to the HSEQ Management System requirements;
- ensuring that the HSEQ Management System achieves its intended outcome;
- directing and supporting persons to contribute to the effectiveness of the HSEQ Management System;
- ensuring and promoting continual improvement;
- supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility;
- developing, leading and promoting a culture in the organisation that supports the intended outcomes of the HSEQ Management System;
- protecting workers from reprisals when reporting incidents, hazards, risks and opportunities.

3.2 Environmental Policy statement

Ford Civil has established, implemented and maintained an Environmental Policy that is appropriate to the purpose and context of the Ford Civil and supports its strategic direction.

This policy provides our commitment to take care of environment through prevention of incidents that could significantly impact the environment. Refer **Attachment 1** – Environmental Policy Statement.

3.3 Company objectives and targets

Ford Civil corporate environmental key performance objectives are to:

- Eliminate all breaches of environmental legislation and regulatory requirements;
- Reduce pollution and waste generation;
- Avoid unnecessary environmental impacts;

- Ensuing company policies are understood and implemented. Copies of company policies can be requested at any time by employees;

The key project environmental targets of Ford Civil are:

- Zero significant environmental incidents on the project;
- Prevent repeat of environmental incidents;
- Investigate actual and potential incidents;
- 100% close out of unsafe environmental conditions within specified timeframes;
- 100% compliance with scheduled inspections by nominated persons.

The HSEQ Manager will prepare monthly Corporate HSEQ Performance Report (FCC-FOR-200) by collating all project HSEQ reports and submit it to senior management for their review. Senior management, in consultation with the project manager initiate corrective actions as required.

- Relevant documents:

- FCC-FOR-200- Corporate HSEQ Performance Report

3.4 Project objectives and targets

Ford Civil has established project Environmental objectives and targets considering the business and project risk management outcomes. The environmental objectives set for this project are consistent with Ford Civil corporate objectives.

The key environmental objectives of the project are to:

- Provide the client with confidence of Ford Civil delivery of the prescribed environmental outcomes during construction of the project;
- Comply with all environmental obligations of the Contract and any other applicable legislation and non-legislative requirements;
- Allocate responsibility and timing of the environmental actions;
- Develop management and audit strategies to ensure ISO14001 – Environmental Management Systems and ISO 19011 – Guidelines for Auditing Management Systems are met and maintained;
- Develop processes for implementing any corrective action required, including review and modification of the EMP;
- Ensure that the construction work procedures minimise potential impacts on the environment and community;
- Develop, implement and monitor measures that minimise pollution and optimise resource use.

The key environmental targets for this project are:

Target	Key Performance Indicators
Zero significant environmental incidents on the project	Works are conducted within scope of Ford Civil, Client’s conditions of approval and legislative and other requirements. All other necessary approvals gained prior to works commencing, recorded and filed.
No identified non compliances to Ford Civil or Client	

Target	Key Performance Indicators
All Ford Civil site personnel are aware of project specific environmental issues and their required management.	All Ford Civil personnel are inducted into site specific environmental management processes and records kept of Ford Civil personnel inducted.
Client directions and suggestions are considered and implemented	System deficiency notices issued by Client are actioned and closed within the specified timeframes.
Prevent repeat of any potential incidents	100% compliance with scheduled inspections by nominated persons 100% close out of unsafe environmental conditions within specified timeframes Investigate actual and potential incidents and close out 100% of unsafe environmental conditions within specified timeframes
Engage in consultation with Client representative	Undertake regular inspections by Ford Civil and correspond with Client representative.

The overall strategies for achieving these environmental objectives and targets are incorporated into the Ford Civil environmental procedures, safety, health and environmental work method statements (SHEWMS), pre-start meetings and on-site toolbox sessions on the project.

To meet these objectives, Ford Civil requires the full co-operation of everyone: Management, Site Supervision and all others employed both directly and indirectly and to talk about environmental impacts and utilise the controls in place.

Progress of project objectives is reviewed monthly during the Project Performance Review Meeting. Summary of the results also will be monitored during the annual HSEQ Management System review process.

- Relevant documents:
 - FCC-FOR-001 – HSEQ Development Plan, tab #5 Corporate HSEQ Management System Objectives
 - FCC-FOR-201- HSEQ Statistics Report

3.5 Management of resources

Ford Civil top management team is committed to provide the resources needed for the implementation and continual improvement of the project in line with the corporate HSEQ Management System.

Project resource planning and determining the requirements will be carried out during the project risk assessment process.

Status of project resources is reviewed monthly during the Project Performance Review Meeting.

4 Training Arrangements

Ford Civil has determined the necessary competence of its workers that affects or can affect the project environmental performance. Training and induction process is in place to ensure that workers are competent on the basis of appropriate education, training or experience. Ford Civil will take actions such as the provision of training to, the mentoring of, or the re-assignment of currently employed persons, or the hiring or contracting of competent persons, to acquire and maintain the necessary competence throughout the organisation.

All new employees of Ford Civil will undergo appropriate company induction on the commencement of their duties. The site-specific induction process which includes environmental induction must be undertaken by all new and existing Ford Civil personnel, subcontractors and visitors including client representatives, prior to works commencing on site. In addition, all workers on site will be inducted in to EMP and specific SHEWMS which incorporate environmental risks and mitigation measure.

Regular environmental toolbox and managers meetings will be held on site to held to maintain and improve environmental issues' awareness and to address any concerns or potential issues.

A training matrix and individual personnel files are established, maintained and reviewed monthly during the Project Performance Review Meeting to make sure that any specified HSEQ Management System training, competency, qualification and licensing requirements are identified and documented for the workers on the project.

Trainees / apprentices can perform high risk work that could cause environmental harm if they are being trained and supervised by a person who has the appropriate training/certificate in accordance with a documented training plan and comply with other requirements of the environmental legislation including keeping appropriate records of the training.

Communication and Interface:

The site supervisor will communicate the environmental issue to workforce through daily pre-start meetings and toolbox meetings. These meetings will highlight / discuss specific community or environmental issues which are relevant to site personnel and will be recorded with topics discussed, date, etc. The subcontractors will be included in all environmental / community toolbox meetings / prestart meetings

In addition, SHEWMS which will be communicated to workforce will detail the environmental aspects/ impacts and the controls to be followed at site.

The project manager will conduct project meetings with the site team covering environmental management as an agenda item.

- Relevant documents:
 - FCC-PRO-005-Competence and Awareness
 - FCC-FOR-058-Competency Register (Project Specific)
 - FCC-FOR-052-Project Induction Presentation
 - FCC-FOR-054-Project Induction Information

5 Environmental Aspects and Impacts

Hazard identification, risk assessment and control (HIRAC) process has been established that is ongoing and proactive. Ford Civil will identify and record the potential environmental aspects and impacts, assess the level of risk associated with each of the potential impact and define the controls necessary to manage the impacts.

Process of managing the project risks including environmental aspects and impacts are outlined in the Risk Management Procedure (FCC-PRO-003). The risk assessment process as prescribed in this procedure was used to determine the potential level of risk for the project environmental hazards.

Project activities that have the potential to cause environmental harm are outlined in the Project HSEQ Risk Register (FCC-FOR-023). The identification of the significant environmental aspects and impacts that could eventuate during construction on this project is central to the selection of appropriate environmental safeguards. Refer Attachment 2 Project HSEQ Risk Register for risk matrix and initial environmental risk assessment.

The initial identification process involves review of Client documentation and other reference materials as required. Key environmental elements of the project that may result in an environmental impact for Ford Civil have been identified with one or more of the following criteria;

- Construction activities that have the potential to cause the discharge or release of pollutants to water, air or land;
- Construction activities that impact on flora, fauna or heritage;
- Construction activities that have the potential to create change to the environment;
- Construction activities that generate waste;
- Vehicle and Plant decontamination.

The risk management process involves an assessment of all specific project activities in or near environmentally sensitive areas and results in the development of a list of risks and a corresponding risk mitigation strategy and risk rating. Each risk is categorised, based on the following:

- Relative scale of the potential impact;
- Type of potential impact;
- Likelihood of occurrence.

The Ford Civil project team along with its subcontractors will review and itemise the risk assessments and strategies of works / storage etc. to minimise potential of incidents.

Operational controls are established for identified aspects and impacts in accordance with the hierarchy of controls and applicable legislation, codes of practice and Australian standards. These controls are detailed in this plan and in Safety, Health and Environmental Work Method Statements (SHEWMS)

The risk management process including risk register will be reviewed at regular intervals or at certain milestones such as starting of new process or subcontractor, throughout the life of the project.

SHEWMS will be prepared to address the hazards and risks of a particular construction method, task or discrete worksite. SHEWMS will include information about the environmental controls to be implemented to address the environmental impacts and risks.

Ford Civil will not engage with the community or any members of the media in relations to works being undertaken on the project unless authorised by the client.

Project Environmental Management Plan



- Relevant documents:
 - FCC-PRO-003-Risk Management Procedure
 - FCC-FOR-023-Project HSEQ Risk Register
 - FCC-FOR-024-Project Risk Workshop Meeting Minutes

6 Environmental Emergency and Incident Management

Ford Civil has established a process to identify all of the foreseeable emergencies at the business and project level that may occur, and the method of recording them.

The type and level of incident that would be regarded as critical by the company, and the process to make sure that any defined critical incidents are managed, is documented in the Emergency Management Procedure (FCC-PRO-035).

Ford Civil's project specific emergency procedures are set out in the Project Emergency Response Plan (FCC-PRO-045/047). All workers at the business and project level and any visitors will be informed of the site-specific emergency response procedures /emergency response arrangements during induction process.

All staff and subcontractors must follow Client's emergency response procedures where required. All emergency incidents should be reported to the Client Representative. All environmental complaints (noise, dust, traffic etc.) will be documented and addressed. They will be reported to the client as required.

Ford Civil ensures:

- relevant information communicated and provided to all workers on their duties and responsibilities;
 - relevant information communicated to subcontractors, visitors, emergency response services, government authorities and, as appropriate, the local community;
 - the needs, capabilities and involvement of all relevant interested parties are considered in the development of the planned response;
 - emergency response plans are tested through planned emergency response drills.
- Relevant documents:
 - FCC-PRO-035-Emergency Management Procedure
 - FCC-PRO-034-Incident Management Procedure
 - FCC-FOR-023-Project HSEQ Risk Register
 - FCC-FOR-024-Project Risk Workshop Meeting Minutes
 - FCC-FOR-045/047-Project Emergency Response Plan
 - FCC-FOR-191-Incident Report
 - FCC-FOR-192-Incident Register
 - FCC-FOR-194-Incident Investigation Report

7 Subcontractor and Interface Contractor Management

All Ford Civil subcontractors are required to operate within the requirements of this EMP, Client's environmental management system, and associated approval documents. All Ford Civil subcontractors will be inducted into Client's environmental requirements and Ford Civil SHEWMS prior to commencing work on site and will be required to adhere to them whilst working on site.

Depending on the complexity of the Ford Civil subcontractors' work or based on a risk assessment, the Ford Civil Project Manager will establish whether a subcontractor is required to develop a project specific EMP or SHEWMS to confirm that their processes and procedures conform to Ford Civil's approved EMP, SHEWMS and procedures. Any subcontractor EMP or SHEWMS submitted as requested by the Project Manager will be approved by the Project Manager prior to the subcontractor commencing works on site.

The work of subcontractors will be monitored by the Ford Civil site supervisors through the site inspection process and compliance to the EMP will be determined.

Ford Civil will report to Client as required on the environmental issues relating to Subcontractors by the following:

- Subcontractors' SHEWMS for works being undertaken will be reviewed / approved by Ford Civil and or Client Environmental Manager or representative,
 - Subcontractors will be advised by induction / toolbox meeting on the requirement to report to Ford Civil on environmental incidents which in turn will be reported to Client,
 - Ford Civil Project Management will advise Client of Subcontractor environmental incidents by:
 - Telephone call to Client management with 20 minutes of the incident
 - Ford Civil initial incident report issued to the Client with 24 hours containing the subcontractor's incident report
 - Ford Civil incident report close out as soon as practicable
- Relevant documents:
 - FCC-PRO-022-Procurement Procedure

8 Legal requirement

Ford Civil has established a process for identifying and recording environmental legislation, state environmental planning policies (SEPPs), Guidelines and Australian standards applicable to the business, and then to adjust the company register to reflect the project-based health and safety requirements relevant to the scope of works for the project.

Applicability of these legal requirements and what needs to be communicated are considered within the Register of Legal and Other Requirements (FCC-FOR-021).

Ford Civil will ensure all current environmental legislation, codes of practice and Australian standards relevant to the project are readily available on site and workers are informed of the method of access.

All changes relevant to the business and project are reviewed and processes updated as required. The impact of any identified change and the prompt to review the relevant procedures that may be affected will be considered.

The company's legal requirements will be reviewed as follows:

- As a consequence of any amendments to the business/project activities;
- As a consequence of any relevant changes to Local, State or Federal Law;
- As a member of EPA, Workcover, business websites and industry forums who all inform the company of regulatory requirements;
- As part of the annual management review process.

Compliance with legal requirements will be evaluated at least once a year during the management review process. Following methods are identified as part of the ongoing evaluation of compliance process:

- Conformity of the processes, products and services at the business and project level;
- Notifications, complaints and warnings from authorities;
- Result of the audits and inspections;
- Outcomes of the management review process.

8.1 Legislative Requirements

The environmental legislation applicable to this project is listed in project legal register (FCC-FOR-021) and is detailed below

Relevant legislation	Brief summary of the legislation requirements
<i>Contaminated Land Management Act, 1997 and amendments in 2003 (NSW EPA)</i>	Establishes a process for investigating, where appropriated remediating land, where contamination presents a significant risk of harm to the environment.
<i>Environmentally Hazardous Chemicals Act, 1985 (NSW EPA)</i>	Regulates the disposal of wastes issued with a 'chemical control order' and designates chemical wastes. Designated chemical wastes that have been identified as potential contaminants of concern, for example via synthetic organic contaminants (SOC's), asbestos, PCB's and presides wastes. For disposing of asbestos and classified wastes, refer to the <i>Protection of the Environment Operations Act 1997</i> .
<i>Heritage Act, 2002</i>	Protects all items of environmental heritage in NSW older than 50 years regardless of cultural heritage significance.

Relevant legislation	Brief summary of the legislation requirements
<i>National Parks and Wildlife Act, 1974</i>	Provides protection for most fauna species and protected flora. Provides protection for Indigenous heritage in NSW. It is an offence: to harm any animal that is part of a threatened species, population or ecological community; to pick any plant that is part of threatened species, population or ecological community. It is also an offence, if a person knows that an area of land is the habitat of a threatened species, population or ecological community, to do something or fail to do something that causes damage to the habitat.
<i>Noxious Weeds Act, 1993</i> (Department of Primary Industry (DPI))	Provides for the identification, classification and control of noxious weeds in NSW. Applies to the management and disposal of noxious weeds if found and removed during the works.
<i>Protection of the Environment Operations (POEO) Act 1997</i> (NSW EPA)	Provides for the control of polluting activities in NSW to prevent pollution of the environment. Provides a duty to notify NSW EPA of any environmental harm from site activities.
<i>Roads Act 1993</i> (RMS)	Consent/approval required for the following: <ul style="list-style-type: none"> • Erection of a structure in, on or over a public road • Carrying out of work in, on or over a public road • Digging up or disturbance of the road surface • Altering of the standard operation of traffic on a road (e.g. through speed zone restrictions, closures, or temporary parking changes, detours).
<i>Soil Conservation Act, 1938</i> (NSW Office of Environment and Heritage (OEH))	Controls activities causing or likely to cause soil erosion or land degradation. Projects activities must prevent soil erosion or land degradation.
<i>Threatened Species Conservation Act, 1995</i> (NSW OEH)	This Act protects certain species, population's ecological communities when they are at a particular level of endangerment, e.g. the Green and Golden Bell Frog.
<i>(Commonwealth) Environmental Protection and Biodiversity Conservation Act, 1999 (EPBC Act)</i> (Department of the Environment)	The Act is triggered by developments that will have a significant impact on Matters of National Environmental Significance, including endangered ecological communities, threatened species and migratory species. The EPBC Act requires approvals to be sort by a commonwealth agency for any activity that may have a significant impact on the environment.
<i>Water Management Act 2000</i> (NSW Office of Water)	Under the Act, a licence would be required if water was to be extracted from a creek/bore or if any waterways were to realigned during construction.
<i>Native Vegetation Act 2003</i>	The Act protects state-protected land and native vegetation as identified in the Act.
<i>Waste Avoidance an Resource Recovery Act 2001 (WARR Act)</i>	This Act repeals and replaces the <i>Waste Minimisation and Management Act 1995</i> and amalgamates Resource NSW, which replaces the existing Waste Planning and Management Boars and the State Waste Advisory Council. Resources NSW has subsequently been amalgamated with NSW EPA. The Act introduces a scheme to promote extended producer responsibility in place of industry waste reduction plans.
<i>Pesticide Act 1999</i> (NSW EPA)	This act aims to reduce the risks associate with the use of pesticides to human health, the environment, property, industry and trade while safeguarding proper pesticide use.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Provides general protection for Indigenous cultural property, and operates concurrently with State Legislation.

Relevant legislation	Brief summary of the legislation requirements
(DEWHA)	
<i>National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999</i>	Promotes due process for site contamination assessment.
<i>Protection of the Environment Operations (Noise Control) Regulation, 2000</i>	Provides provisions on matters relating to noise emissions, maintenance of control equipment, use of certain articles and inspection and testing procedures.
<i>NSW Fisheries Management act 1994 (DPI)</i>	This Act aims to conserve threatened species, populations and ecological communities of fish and marine vegetation.
<i>Airport Act 1996</i>	This Act is part of the planning framework; airports are required to prepare a Master Plan that incorporates an Environment Strategy. The Master Plan is a 20 year strategic vision for the airport site which is renewed every five years. The Master Plan includes future land uses, types of permitted development, and noise and environmental impacts.
<i>HEPA, 2020, PFAS National Environmental Management Plan</i>	This plan provides guidance about per- and poly-fluoroalkyl substances referred to as PFOS, PFOA, and perfluorohexane sulfonate (PFHxS), and the obligations around classification, reuse, treatment and remediation and landfill disposal requirements.
<i>Airports (Environment Protection) Regulations 1997</i>	The Commonwealth has an integrated regime to protect the environment at leased federal airports. Airport operators are required to implement their Airport Environment Strategy. While the airport operator has the main responsibility of protecting the environment, everyone operating or working at an airport needs to be aware of their environmental obligations.
<i>EPA Waste Classification Guidelines (for waste disposal)</i>	Classifying wastes into groups that pose similar risks to the environment and human health facilitates their management and appropriate disposal. Wastes in NSW can be classified for disposal or transport into one of the following categories: <ul style="list-style-type: none"> • Special waste (includes clinical waste, asbestos waste and waste tire's) • Liquid waste • Hazardous waste • Restricted solid waste • General solid waste (putrescible) • General solid waste (non-putrescible)
<i>Crown Lands Management Act 2016</i>	To undertake activities and work on Crown Land, a licence is required from the Department of Planning and Environment (DPE) – Lands (Crown Land). In accordance with the Local Government Act 1993, in areas with appointed land managers “a council manager is authorised to classify and manage its dedicated or reserved Crown land as if it were public land”. The seawall works fall within the Crown Reserve with Council as the appointed manager and so a Crown Lands Licence would not be required. The management of the land should be confirmed with crown lands by council prior to construction.
<i>Coastal Management Act 2016</i>	Replaced the Coastal Protection Act 1979 and established a new strategic framework and objectives for managing coastal issues in NSW. The Act defines four distinct coastal management areas within the coast. The proposed works fall within the following areas: <ul style="list-style-type: none"> • Coastal environment area • Coastal use area

8.2 Approvals, Licences, Permits

The following environmental approvals/ licences/ permits are applicable to this project:

- NSW Planning & Approvals Process: The Sandringham riprap apron works do not require development consent, instead they fall under Part 5 of the EP&A Act.
- State Environmental Planning Policies: The proposed seawall works could be considered as routine works or repairs to existing coastal protection works therefore, development consent for the works is not required under SEPP (Resilience & Hazards) 2021 or the SEPP (Transport & Infrastructure) 2021.
- Fisheries Permit (Part 7)

8.3 Compliance Standards

The following compliance standards are applicable to this project:

Acts, Regulations, Legislation

Refer to Section 8.1 above.

Australian Standards

- AS 2436 Guide to noise Control on Construction, Maintenance and Demolition sites (1981)
- AS 1055 Acoustics – Description and Measurement of Environmental Noise (1997)
- AS 1940 the Storage and Handling of Flammable and Combustible Liquids
- AS 2107 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors (2000)

Codes of Practices

- Code of Practice - How to safely remove asbestos 2019
 - Code of Practice – Managing risks of hazardous chemicals in the workplace 2019
 - NOHSC:1003(1995) Exposure Standards for Atmospheric Contaminants in the Occupational Environment
 - NOHSC:1005(1994) National Code of Practice for the Control of Workplace Hazardous Substances
 - NOHSC:1007(2000) National Code of Practice for Noise Management and Protection of Hearing – 3rd Edition
 - NOHSC:1010(1994) National Standard for Plant
 - NOHSC:1013(1995) National Standard for Occupational Noise
 - NOHSC:2007(1994) National Code of Practice for the labelling of Workplace Substances
- Relevant documents:
 - FCC-PRO-006-Legal and Other Requirements Procedure
 - FCC-FOR-021-Register of Legal and Other Requirements

9 Operational Controls

9.1 Erosion and sedimentation control

Prior to commencement of any construction works, including any earthmoving or vegetation removal works, erosion and sediment control measures are to be installed to prevent pollution of water ways.

All operations of soil and water management works are to be inspected, repaired and maintained to be initiated as required.

Soil and water management works include all measures to control erosion and sediment such as sediment filters, drains, ponds, basins, stormwater run-off and run-off controls, site stabilisation works, temporary water crossings and vehicular access controls.

The following control measures will be considered to minimise erosion:

- Land clearance should be kept to a minimum;
- Clearing areas of highly erodible soils and steep slopes which are prone to water and wind erosion should be avoided wherever possible;
- The interval between clearing and re-vegetation should be kept to an absolute minimum. Re-vegetate progressively as each section of works is completed;
- Keep vehicles to well-marked and graded access roads;
- Divert clean storm water by small levees away from those parts of site where the soil is exposed;
- Storm water drainage is to exit the site via a sedimentation control installation such as silt fencing or sedimentation basins/tanks/ponds. When sedimentation traps are up to 1/3 full of silt, the silt should be removed;
- Timber, logs and rubbish should be removed from site so soil removal and re spreading should not be interfered with;
- All excavated material should be temporarily stockpiled on the high side of the trench for periods less than 1 month;
- Where practicable, all trenches should be backfilled at the end of the working day;
- Areas should be rehabilitated progressively to reduce the potential for sediments to flow into waterways;
- Machine activity to be kept away from drainage lines unless absolutely necessary and then machine activity is to be kept to an absolute minimum;
- All works being undertaken will be carried out within the confines of the approved Site boundaries (EPL where defined by client);
- Construction plant and machinery is to remain within the construction site for the duration of the contract thus limiting the transfer of mud from the site and also the transportation of weeds;
- All drainage channels carrying storm water runoff are to be stabilised;
- Access roads near waterways are to be graded back from the water to funnel the water onto site;
- Earth berms constructed in front of silt fences to reduce velocity of water striking fences;
- Floating silt curtain installed into waterways where clearing works come with 5m. This will be installed along the entire length prior to commencing any construction activities to prevent the spread of any unwanted materials and avoid water pollution. Refer to Figure 2 below. This is not to be installed through seagrass patches as this may cause harm.

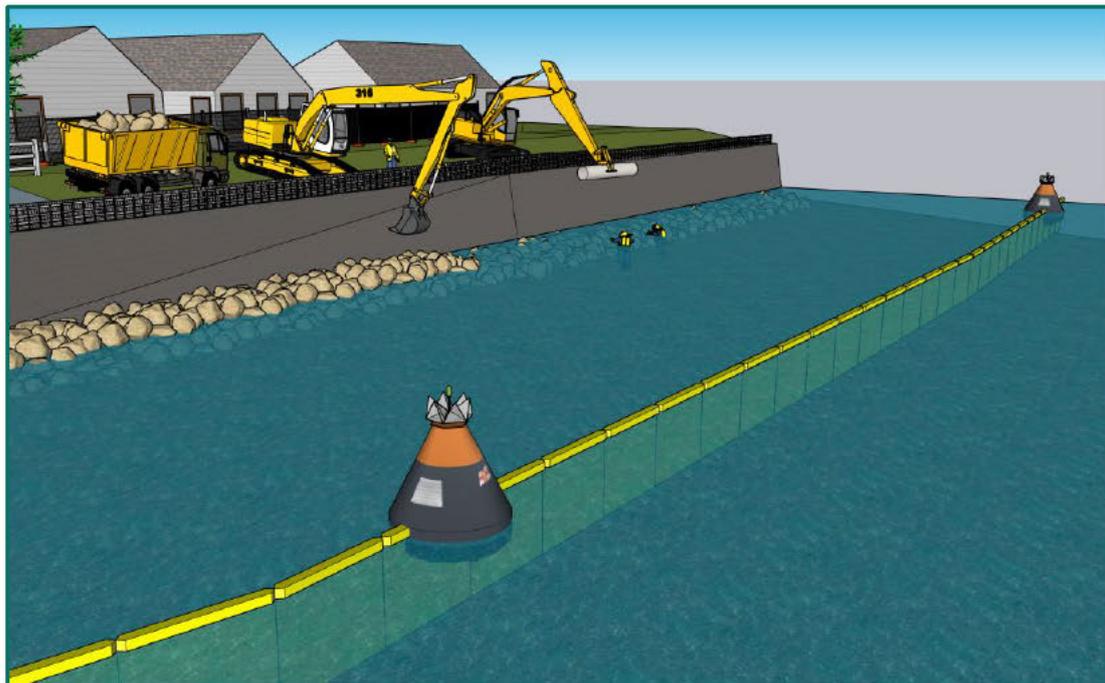


Figure 2: Silt Curtains with Buoys

Erosion and sedimentation control devices used during construction will be provided by Ford Civil as and where required. Sediment and erosion control measures will be adequately maintained during the works and will be specifically inspected and repaired/maintained. Ford Civil will undertake the following actions on the Project in order to minimise erosion and sedimentation:

- Coordinate and oversee all erosion and sediment control aspects whilst employed on the Project;
- Address relevant erosion and sedimentation control matters at Toolbox Talk Meetings;
- Conduct regular environmental inspections using the Environmental Inspection Checklist to assess and monitor environmental control measures during the course of the Project;
- Locate and stabilise stockpiles of soil material in low hazard areas clear of watercourses (if any);
- Progressively and continually implement erosion and sediment controls to reflect changes within the construction process.

A site-specific erosion and sediment control plan detailing how the above controls will be implemented is included as Attachment 4.

Best Practice/Reference

- EPA Publication 275 Construction Techniques for Sediment Pollution Control.
- EPA Publication 480 Environment Guidelines for Major Construction Sites.
- Department of Land & Water Conservation NSW “Urban Erosion & Sediment Control Field Guide” May 1996 (The BLUE book.)

9.2 Working near waterways

The following control measures will be considered to protect the water front from damage due to works being undertaken.

- Spill response kits to be onsite during works;
- Maintenance Logs for Machines in cabin at all times;
- Machine Pre-Starts Completed Daily;
- Silt curtains to be installed prior to commencing sea wall works;
- Isolate spoil stockpiles, plant, and equipment from waterways;
- No storage of fuels or hazardous chemicals near waterways. Fuels stored within site compound to be bunded.

Best Practice/References

- National Parks & Wildlife Act. 1974
- Department of Primary Industries – Office of Water, Guidelines for riparian corridors on waterfront land
- POEO Act 1997

9.3 Water quality management

The following construction processes may have a detrimental effect on water quality:

- Wastewater from construction activities entering the stormwater channels;
- Spillage of diesel, petrol, oils, chemicals etc. on site.

Water quality management strategy

Various controls that will be implemented around the construction site in order to maintain water quality are as follows:

- Proper receptacles provided for waste oils and emergency clean up materials at hand. Fuel storage areas imperviously bunded to 110% of the largest drum's storage volume;
- All fuel and oil storage areas are bunded;
- Plant and equipment inspected upon arrival to site through Plant Verification Checklist (FCC-FOR-125) and daily through Daily Plant Inspections (pre-start checklists/logbooks) to ensure there are no leakages of fuel, oil and hydraulic fluid. These maintenance logbooks are to remain with plant at all times;
- Re-fuelling will not occur in the vicinity of waterways (unless absolutely necessary);
- When concrete is delivered to the site, cleaning out of concrete truck agitators will be conducted at designated areas. These areas will be cleaned up on completion of the works, and the concrete will be disposed of at an inert waste landfill site.

9.4 Dewatering of Work Sites

Groundwater levels will be assessed for each area of the works and where practical, works will be carried out to eliminate dewatering, i.e. working at bottom of tides or redesign to reduce excavation depths. If dewatering is required, a specific dewatering plan will be submitted to Client for approval prior to commencing.

The following control measures will be considered to ensure that dewatering operations do not result in turbid water entering natural waterways.

- Treat turbid water to remove sediment prior to being pumped into storm water system or natural waterway.
- De-water by pumping water, wherever practicable on to vegetated areas of sufficient width to remove suspended soil or to sediment control devices.
- Monitor of water pH levels of controlled water discharges from site to ensure no change to the natural pH levels.

Best Practice/References:

- Landcom "Managing Urban Stormwater: Soils and Construction" 2004 (The BLUE book.)
- Australia New Zealand Environmental Conservation Council "Guidelines for Groundwater protection in Australia.
- Australia New Zealand Environmental Conservation Council "Australian Water Quality for Fresh & Marine Waters" Nov 1992
- Analysis of Water Quality indicators such as suspended solids, pH & Oil/grease by NATA accredited laboratory.
- Turbidity & Ph. Field testing using site gauges.

9.5 Erosion & Dust Control

The following control measures will be considered to minimise / avoid the health risks or loss of amenity due to emissions of dust to the environment and the loss of soil from the environment.

- Ensure that the area of cleared land is minimised during the drier months of the year when dust generation is at its greatest;
- Trees to be cleared are to cut to ground level to allow root system to hold soil matrix until ready for clearing/grubbing;
- Implement dust suppression measures such as promptly watering exposed areas when visible dust is observed or when winds are anticipated;
- Use geo textile fabrics to cover stock piles and un-vegetated areas where practicable. Do not use plastic to cover stockpiles;
- Locate stockpiles where they are protected from the wind;
- Minimise the number of stockpiles, the areas and the time stockpiles are exposed;
- Smooth surfaces should be deep ripped and left rough and cloddy to reduce wind velocity at the soil surface;
- Dust monitoring is to be installed and monitored, work practices to be changed if peaks exceed limits.

Best Practice/References:

- Dust measurement is to be by visual observation of the site by Ford Civil. In addition to externally installed dust collection gauges installed on site by specialty contractors as required.
- EPA Publication 480 Environmental Guidelines for Major Construction Sites.

9.6 Air quality management

The following processes are potential influences on the air quality of the area.

- Dust emissions from earthworks and demolition operations;
- Excessive smoke emissions from plant;
- Dust emissions from stockpiles.

Air quality management strategy

While there is a potential for localised deterioration in air quality during construction due to dust generated from exposed areas, the construction work is expected to have negligible long-term impact on air quality.

Various controls that will be implemented around the construction site in order to maintain air quality are as follows:

- Water carts/hoses to be used to suppress dust;
- Excessive mud to be removed from vehicles before entering public roads;
- The removal of mud spilt by construction equipment from public roads;
- Speed of construction plant and vehicles to be kept to a minimum to avoid the generation of dust;
- All plant and equipment to be maintained in good working order to limit the emission of smoke and dust;
- Tailgates of all trucks leaving the site to be secured prior to leaving the site to prevent any loss of materials;
- Trucks transporting materials will be covered when material is likely to cause a pollution problem;
- Open fires are not permitted;
- Work will cease or be re-programmed if dust control measures are not adequate;
- Exhaust systems to be maintained;
- Avoidance of dust emissions during any concrete drilling, cutting or demolition.

Regular environmental inspections using the Site HSE Inspection Checklist (FCC-FOR-164) will be conducted to monitor the air quality during this Project.

9.7 Air Quality (Plant Emissions)

The following control measures are to ensure there is no health risk or loss of amenity due to emissions of exhaust gases to the environment:

- Vehicles and machinery to be maintained regularly and serviced to the manufacturer's specifications;
- All vehicles, plant & machinery to be fitted with appropriate emission control equipment. Minimum requirement is USEPA Tier II or EU Stage II compliance;
- Use correct fuel for plant & machinery as directed by manufactures specifications.

Best Practice/References

If plant or machinery is emitting visible smoke continuously for longer than 10 seconds, during normal operation, then it will be serviced or replaced.

9.8 Noise management

The following control measures will be considered to ensure that nuisance from noise and vibration does not occur are:

- Maintaining working hours as per Conditions of Approval;
- Not undertaking works on any Sunday or Public Holiday;
- Identifying and using the least noisy construction methods, vehicles, plant and equipment available for the works being undertaken;
- Avoiding the simultaneous operation of more than one item of noisy plant or equipment close together;
- Ensuring that all plant, when not in use is switched off to minimise noise;
- Fitting and maintaining appropriate mufflers on earthmoving and other vehicles on site;
- Providing screening to adjoining areas as necessary to control the spread site generated noise. This includes the placement of noise blankets for noisy works and as required by construction activities;
- Assessing all plant and equipment to ensure suitability of the activity.

The work hours for this Project are as follows:

- 7:00 am – 6:00 pm Monday to Friday
- 8:00 am – 1:00 pm Saturday

With the exception of the following emergency construction work (unplanned works), work outside these hours and weekends will only be permitted with the prior written approval from the client / principal and notification to effected residents.

The emergency construction work that may be undertaken urgently out of normal work hours to avoid:

- Loss of life,
- Damage to property, or
- Environmental harm

Ford Civil will advise Client in the event of:

- becoming aware of the need to undertake emergency construction works, and the need for those activities, and
- within 24 hours of becoming aware of the need to undertake emergency construction work, submit a detail report to the client about:
 - o The circumstances leading to the emergency,
 - o The nature and scope of any construction work undertaken to alleviate the emergency, and
 - o The practicable measures adopted by Ford Civil to prevent any similar incident.

To ensure efficient noise attenuation performance is achieved, practicable and reasonable noise and vibration mitigation and management measures are used during construction works, including the following:

- identifying and using least noisy construction methods, vehicles, plant and equipment available for the type of work being undertaken;
- maintaining plant and equipment properly;

- strategically positioning the plant and equipment that generates high noise levels, impulsive noise, intermittent noise, low-frequency noise or tonal noise as to minimise noise and vibration impacts on surrounding noise sensitive receivers including employees;
- avoiding the simultaneous operation of more than one item of noisy plant or equipment close together and near noise sensitive receivers;
- planning the work site and work processes and taking all such practicable measures necessary to minimise movements that would activate audible reversing and movement alarms, especially during out of hours work;
- undertaking any loading or unloading operations away from noise sensitive receivers;
- selecting and locating access points and roads to the premises as far away as practicable from noise sensitive receivers;
- scheduling respite periods if the work to be undertaken would be likely to generate noise and vibration emissions from the premises and would be conducted over extended periods in the same locality;
- switching off any equipment not in use for extended periods during construction work;
- using structures and topography to shield noise sensitive receivers from noise impacts.

Where noise level exceedances cannot be avoided, consideration should be given to implementing time restrictions and/or providing periods of repose for residents where reasonable and feasible.

Best Practice/References

- No damage to buildings/structures.
- Zero complaints from residents, council or EPA.
- Approved EPL / boundaries for the works
- POEO Act 1997
- Environmental Planning and Assessment Act 1979

9.9 Vibration management

Vibration is generated during some construction activities and has the potential to impact on human perception, buildings/structures and sensitive devices such as medical instruments or photographic equipment. The seriousness of the impact of the vibration is dependent on factors such as the type of soil, the condition of the buildings/structures, the construction activity being undertaken, the type of equipment being used, and the equipment or facilities located in nearby buildings.

Ford Civil will inspect and photograph any structure at risk from vibration impacts prior to works commencing. This inspection will be conducted with the consent of the building owner as a basis for assessing any damage that may arise from construction works.

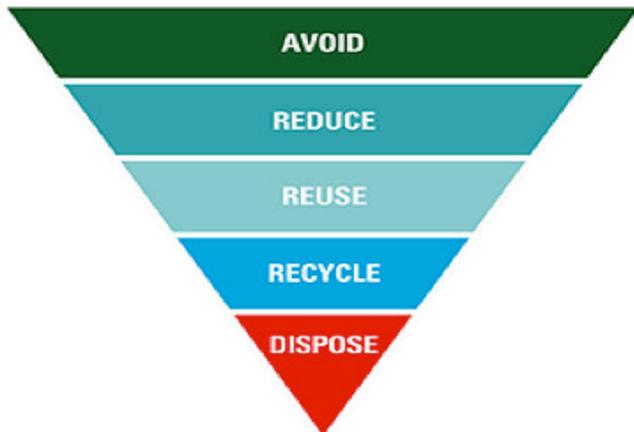
Ford Civil will implement a range of control measures based on site-specific risk factors. These measures may include using smaller plant, reducing the magnitude of the vibration, restricting the use of vibration in compaction equipment, restricting the speed of heavy equipment, and using alternative methods, such as a hydraulic hammer instead of explosives.

A final inspection will be conducted of any building/structure considered to be at risk from vibration to ensure that no damage has occurred.

9.10 Waste management

Ford Civil should not permit or allow any waste generated outside the site to be received at the site. All waste generated at the premises will be assessed, classified and managed in accordance with the NSW EPA Waste Classification Guidelines Part 1: Classifying Waste, 2014.

Our Preferred Options



The following control measures will be considered to minimise generation of solid wastes from construction activities and to appropriately dispose the generated waste:

- Avoid the generation of waste material wherever possible;
- All solid waste should be placed in appropriately designated storage areas during construction;
- As part of progressive rehabilitation of areas any solid waste or spoil material should be removed from site and disposed of appropriately;
- Work and surrounding areas should be maintained in a tidy condition;
- There should be no vegetation burning. All waste vegetation should be chipped or mulched on-site and re-used or appropriately disposed of;
- Weeds are to be disposed of offsite in appropriate disposal facilities;
- Wastes should be collected for recycling and or disposal at Local Government designated sites;
- Maintain a high quality of housekeeping and ensure that materials are not left where they can be washed or blown away to become litter;
- Sending waste concrete from demolition to a concrete recycler instead of landfill;
- Using overburden to construct temporary noise barriers;
- Collecting lubricating oil from the construction plant and equipment and sending it to a recycler.

Waste from maintenance of machinery

Ford Civil will generally maintain earthmoving machinery, vehicles and trucks at a location off site. All waste generated during the maintenance of machinery will be disposed of by a licenced contractor.

Wastes from construction materials

Ford Civil may produce waste from products and their containers and packaging. Some types of waste generated during construction activities include:

- Paints used to paint survey markers or other features

- Two-stroke fuels for small engine-powered plant such as chain saws and generators

Wastes from effluent collection systems

Toilets, showers and sinks will produce wastes. Ford Civil will collect and dispose of wastewater from toilets (including chemical toilets), sinks and showers in accordance with the effluent management requirements of the Local Council and the EPA. Ford Civil will install septic holding systems at construction site offices as required and arrange for licenced contractors to pump them out regularly.

Wastes from other processes

Other wastes that Ford Civil will produce include paper, cardboard, photocopier toner, printer cartridges, plastics, packaging and batteries. Where possible, materials will be recycled (e.g. paper, cardboards, plastic etc.).

Acid Sulfate Soil Management

The site has been assessed and the occurrence of acid sulfate soils can be irregular and localised and at the location of the seawall may be buried by windblown sediments, alluvium or fill. Refer to Figure 3 below. However, due to the minimal sediment excavation expected associated with the proposed placement of the riprap apron, and the highly mobile nature of surficial marine sediments, impacts associated with ASS are considered unlikely.

If ASS is identified during excavation of subsurface materials, an Acid Sulfate Soil Management Plan (ASSMP) will be prepared to avoid environmental degradation if soils which are to be disturbed are found to contain actual or potential ASS.

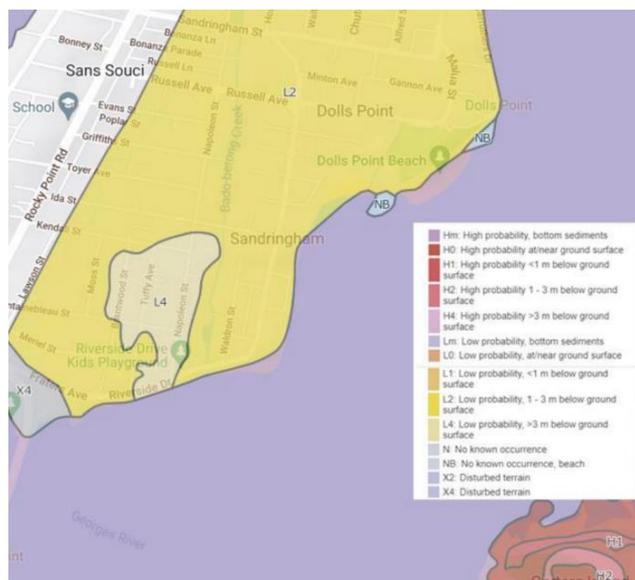


Figure 3: Acid Sulfate Soils Risk (SALIS, 2021)

Waste minimisation and recycling

Ford Civil will strive to produce minimal waste during construction works. Where possible, materials will be reused on site or on other projects or will be removed from site by a licenced contractor for recycling. All non-recyclable/non-reusable waste will be removed from site by a licenced contractor for disposal at a licenced waste facility.

Liquid and chemical wastes

Ford Civil will store and dispose of liquid and chemical wastes as required by the current waste legislation and the Environmental Guidelines.

Waste relocation

If waste is transported from site, the waste should be:

- Transported by a company authorised to transport the relevant waste classification; and
- To a place that can lawfully accept that waste;
- Recorded in a waste disposal register, including details of type, quantity and destination;
- The body of any vehicle or trailer, used to transport waste or excavation spoil from the site, is covered before leaving the site to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and
- Mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves site.

All concrete rinse water is collected and managed onsite in accordance with Environmental Best Management Practice Guideline for Concrete Contractors, 2004 or disposed of to a facility licenced to receive and treat concrete rinse water.

Concrete washouts will be planned, designed and managed as detailed within images below.



Figures 4 & 5: Concrete wash out

Best Practice/Reference

Once targets for waste minimisation have been set maintain data and convert this to cost savings where possible.

- Soil conservation Act, 1938

- Relevant documents:

- FCC-FOR-183-Waste Management Register

9.11 Storage of Fuels & Chemicals on Site

The following control measures will be considered to ensure that chemical and fuel storage is safe, and that any materials that escape do not cause environmental damage such as groundwater or soil contamination.

- Minimise chemical and fuels stored on the site. (Materials in general will be restricted to marker paints, cutting oils, etc. & fuels to be restricted to approximately 4 x 5 litre containers of petrol for tampers, generator use.)
- The Ford Civil site vehicles will be refuelled off site at the local service station;
- All Ford Civil site vehicles to carry spill kits suitable for small spills / leaks;
- Store minimal fuels and other hazardous materials in appropriately bunded structures (spill trays.) away from creeks and drainage lines;
- Bunds should be impervious (PVC containers capable of holding product to 110% of capacity) to prevent spilled product from escaping;
- Any spillage should be cleaned up immediately;
- Maintain a list of chemicals and other potentially hazardous material and material safety data sheets;
- Restrict the area in which hazardous materials can be stored (Produce lockable flammable / hazardous – materials storage cupboard within the Ford Civil compound.) during construction works;
- No planned plant maintenance to be carried out on site. All planned maintenance work is to be carried in the Ford Civil site compound;
- Emergency / breakdown works on plant can only occur once client/authority is notified;
- The contingency plan for this project (minimal fuels / products) will be to have a spill kit bag / fire extinguisher available for all works where potential for leaks / spills / fire could occur. All leaks / spills are to be cleaned up as they occur;
- Notification of incidents will be directed to Environment Manager / Representative;
- A lockable store will be provided for all potentially hazardous products.

Best Practice/Reference

- Australian Standard 1940- The Storage and Handling of Flammable and Combustible Liquids.
- Implement a contingency plan to handle spills, so that environmental damage is avoided.

9.12 Spill prevention and containment

All due care will be taken in the transfer of material from transport vehicles to the storage compound to minimise the potential for leakage or spills.

The storage of fuel, oil and chemicals on site are to be minimised to reduce the chance of spillage.

Impervious bunds of sufficient capacity, able to contain at least 110% of the volume of the largest container of stored chemical, fuel or oil must be constructed around all chemical, fuel and lubricant storage areas.

Fuelling of plant and equipment

- Fuelling of all plant and equipment is to take place as far as possible and practicable from existing stormwater drainage lines (temporary or otherwise) and sediment basins. Extreme care is to be taken should this situation be unavoidable.
- The Operator must be in attendance at all times during the fuelling process. Fuelling activities are to never be left unattended.
- Absorbent materials (spill kit) are to be available at all times during any fuelling activity. Absorbent material shall be used to absorb any minor drips or spills that may occur.
- Storage of fuel containers is to be in a designated and bunded storage area.

9.13 Herbicides and other chemicals

If herbicides or other chemicals are to be used during the Project, the HSEQ team and Project Manager will document a plan for their safe use. Controls will be implemented and documented.

9.14 Contaminated ground

A search of the NSW EPA's Contaminated Land Record did not note any contaminated material within the proximity to the site. Further to this, and due to the dynamic nature of the sediments, and location relative within Botany Bay, it is not expected that significant contamination will be found in the surficial layers of sediment within the construction footprint.

Should contaminated material be found it will be treated as an Unexpected Find and the Unexpected Finds Protocol will be followed. Refer to Section 9.21.

Any contaminated spoil identified during construction works is to be taken to an approved contaminated waste depot appropriate to the type of contamination.

A record of waste disposal is to be obtained to record proper safe disposal of the material where possible.

9.15 Maintenance of Roadways (Dirty Roads)

The following control measures will be considered to ensure that roads are kept clean of soil:

- Prevention of soil being deposited on roads is preferable to cleaning them afterwards;
- Utilise rubble grids / wheel wash for any item leaving site which is unsealed;
- Utilise geofabric on the entry/ exit point for vehicles to drive on;
- Cover all loads of soil being transported for off-site disposal;
- If required, install litter traps, lined with filter cloth in all side entry pits;
- Roads are to be swept or washed down;
- Vehicle and Plant decontamination.

9.16 Traffic management

The following control measures will be considered to manage traffic to and from site, within site boundaries:

- Ensure public safety – no parking of vehicles on public or crown land;
- Ensure adequate access to work sites – defined pedestrian access paths;

- Ensure that road damage due to construction traffic is monitored and addressed in a way that is satisfactory to the relevant authority;
- Ensure that disruptions to traffic flows on public streets are managed to the satisfaction of the relevant road authority;
- Ensure that disruption to public transport services are managed to the satisfaction of the relevant transport provider;
- Ensure that affected local residences, businesses and commuters are advised of any disruption to traffic flows and public transport services;
- Reduce the exposure of the community to construction heavy vehicle traffic and its associated noise and vibration – by planning work;
- The site location plan (Attachment 3) will define haul, vehicular and pedestrian movements across the site. Figure 6 below also illustrates this.



Figure 6: Deliveries via Ida Street showing Laydown Area

Best Practice/Reference

- Road Occupancy Manual
- TfNSW Delegation to Councils Regulation to Traffic
- TfNSW's Traffic Control at Work Sites Technical Manual, Issue 6.0

9.17 Management of Stockpiles

The following control measures will be considered to manage soil stockpiles so that dust and sediment in run-off is minimised:

- Minimise the number of stockpiles, and the area and the time stockpiles are exposed;
- Locate stockpiles away from drainage lines at least 10m, away from natural waterways and where they should be less susceptible to wind erosion;
- Geofabric to be placed underneath stockpiles;
- Ensure that stockpiles have slopes no greater than 2:1 (horizontal: vertical);
- Stabilise stockpiles are covered daily, and particularly prior to/during a rain event, to prevent runoff by covering with anchored geofabric;

- Stabilise stockpiles that should remain bare for more than 7 days by covering with anchored fabric or by seeding;
- Establish sediment controls around unstabilised stockpiles;
- Suppress dust generation from stockpiles as circumstance demand. This includes the sandstone stockpile prior to completing riprap;
- Provide screening to adjoining areas as necessary to control the spread of site generated dust;
- Stockpiles should not be located under the drip line of trees or near protected trees;
- Test material in areas of excavation for waste classification prior to commencing excavation works to enable prompt off-site disposal and minimise creation of stockpiles. Frequency of testing will be dependent on volume of material to be disposed;
- Prior to commencing, stockpile areas to be nominated for each stage of the works, subject to waste classification.

Best Practice/Reference

- EPA Publication 275 Environmental Guidelines for Major Construction Sites.

9.18 Flora and fauna management

During construction work activities care will be taken to minimise disturbance to native flora and fauna. Environmentally sensitive areas will be fenced off to prevent access to the area by employees and mobile plant.

Vegetation Protection (Protected tree zones)

Any vegetation requiring protection (trees etc.) will be barricaded at their dripline and marked to prevent damage to the vegetation for the duration of the construction works.

The following control measures will be considered to protect indigenous flora / vegetation and habitat in the construction work area and to reinstate vegetation and habitat as the works progress.

- Weed contamination in construction work areas;
- Soil compaction especially under tree canopy;
- Protection of indigenous flora / vegetation;
- Protection of Topsoil.

The following control measures will be implemented as required before and during the construction works of this project:

- To control weed contamination of site, trucks and other construction plant should not move from areas where there is significant weed contamination to areas where there is minimal weed contamination;
- Prior to commencing work on site, all construction equipment and trucks shall be free of weed contamination;
- Works to be programmed to minimise the potential for weed contamination. Trucks should start work in minimal weed contaminated areas and move to areas where there is a higher degree of weed contamination;
- All construction vehicles to be prevented from travelling too close to trees or under a tree canopy/drip line;

- Vehicular traffic should be prevented from travelling close to trees by placing some star pickets and webbing around the tree;
- Construction materials should not be stored within these areas;
- Appropriate treatment & disposal of removed vegetation. Implementation of a rehabilitation program of land that has been disturbed by construction activities;
- Program to include landscaping using a diversity of local and indigenous plant/grass species;
- Topsoil should be stockpiled and returned to the site from which it was removed with the original contours;
- If soil compaction has occurred the soil should be loosened to ensure that plant growth is not inhibited and that infiltration of water to the soil layer can occur;
- In pasture or recreation areas, grasses should be sown appropriate to the use of the site in consultation with the local council and landowners;
- Material for rehabilitation should be from areas which are not infested with weeds or other exotic flora;
- The sources should be checked for weeds prior to transportation to site;
- The works are programmed to ensure that weed-infested soil, vegetation and chipped mulch does not get transported to other parts of site during the course of the works;
- Define work and exclusion areas i.e., fencing.

Likewise, marine vegetation (i.e. seagrass) will also be protected. The indicative location of this is shown in Figure 7 below. This will be confirmed by divers prior to the installation of the floating silt curtain to prevent causing any harm.



Figure 7: Marine ecology survey 2022 (Modified from Seadragon Diving Co., 2022)

Weed management

Care will be taken to avoid the spread of weeds around project sites. Where required, weeds will be removed manually from the site and be disposed of appropriately (licenced waste facility) or will be poisoned. Wheel wash facilities will be provided while working in environmentally sensitive areas.

Protection of Fauna

The following control measures are to protect native vertebrate fauna from being trapped:

- Fauna to be protected throughout construction;
- All open trenches should be inspected prior to commencement of work each day for trapped vertebrate fauna such as frogs, reptiles, birds or mammals;
- If it is found that there are trapped vertebrate fauna in open trenches then an appropriate shelter for animals should be contacted to remove it from the trench;
- Wherever possible ensure that all trenches are backfilled each night;
- All shafts should be covered at the end of each working day to prevent vertebrate fauna from entering;
- All rock containing oysters removed during the works should be stockpiled appropriately (in a marine environment within the construction footprint) and reused on-site where possible;
- Contractor should cease work activities and notify Council if fauna species are observed to persistently occupy areas in the immediate vicinity of work zones.

Best Practice/Reference

- Seek expert advice from Department of Natural Resources and Environment and the RSPCA.
- 'Bush Regeneration', Buchanan 1989

9.19 Fire precautions

- No fires are to be lit on site;
- Smoking must only occur in designated smoking areas with appropriate controls;
- A fire extinguisher/fire hose must be available nearby when conducting hot works.

9.20 Heritage & Archaeology

Construction activities in significant heritage/archaeological areas can lead to loss or destruction of valuable artefacts and relics, and the disturbance of historical sites. Ford Civil will work co-operatively with the Client and/or specialist consultant to survey project sites for areas of significant importance if required.

The following control measures will be considered to prevent damage or loss to heritage places and objects which would result in loss of cultural, historic and educational value to the community. Ford Civil will:

- advise relevant representatives of the Construction Program in advance so that they can be on site during construction if necessary;
- fence heritage or archaeological sites that are known at the onset of project;

- place signs to indicate area is a “NO GO” area;
- ensure that the appropriate permits/authorisations (if any) have been received prior to undertaking work in areas that may contain heritage items.

No significant Aboriginal or Non-Indigenous heritage sites have been identified within the construction footprint. However, should any relic, artefact or material suspect of being of Indigenous or European origin be encountered, construction work that might affect the item must cease immediately. The relic, artefact or material is to be protected from damage or disturbance, and the Office of Environment and Heritage will be notified of the find, for guidance.

Best Practice/References

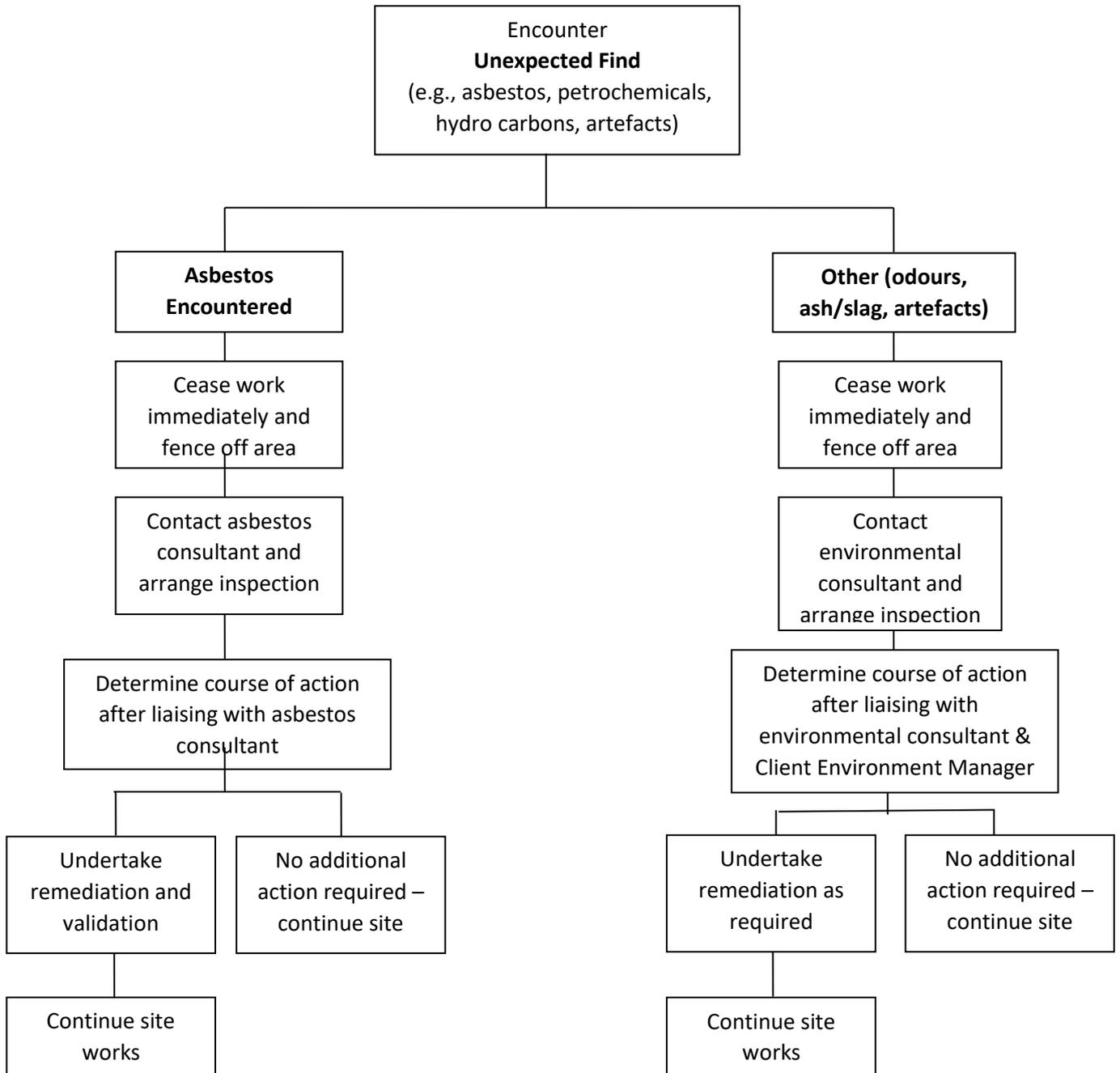
- Not to lose, destroy or deface any sites of historical or archaeological significance.
- NSW Heritage Act. 1997
- National Parks & Wildlife Act. 1974

9.21 Unexpected finds

The following control measures will be considered to protect persons from being exposed unidentified/unexpected material or substance/service which may be uncovered during the excavation process. This may include but not limited to asbestos both bonded and friable, odorous or stained hydrocarbon impacted soils and demolition wasted etc.

- Any unidentified/unexpected material or substance found will cause the task to be immediately stopped.
- Where unidentified services are located which are not found on service checks cause the task to be immediately stopped.
- The area is to then to be taped off and immediately HSEQ team to be informed.
- No works can recommence until:
 - The material is identified;
 - Client approves works to re-commence;
 - Disposal process is clarified and approved;
 - Tip locations for the material are approved.
- All additional work in relation to unidentified/unexpected material or substances are to be documented clearly in the site supervisor’s diary and or any variations sheets signed by the client

Unexpected finds flow chart



Best Practice/References

- Safe Work Australia CoP for the How to Safety Remove Asbestos October 2018
- POEO Act 1997

10 Environmental Monitoring, Auditing and inspections

The environmental monitoring will be undertaken in compliance to Ford Civil EMP in addition to the audit requirements of Client and their nominated representatives to achieve zero harm to the environment. Project forms will be developed throughout the life of the project, for registering the observance and tracking of dust, noise, substances, incident management, and waste tracking logs.

Ford Civil's internal Audit program ensures that all aspects of its activities comply with the principles and requirements of its HSEQ Management System. Internal Audits are planned to be conducted and reported in accordance with Client requirements and Ford Civil's internal audit schedule. In general, audits will be conducted at half yearly intervals to assess the status of EMP implementation on larger projects. Within any particular area of the company, decisions on activities/procedures to be audited are based on the risk assessment within that area and previous audit results.

HSEQ Inspections of all work areas are to be carried out by the HSEQ team at a rate of least one inspection per month. All unsafe work practices, equipment, work areas etc. are to be documented, including corrective actions. The inspections will be completed using the 'Site HSE Inspection Checklists' (FCC-FOR-164).

Workplace inspections:

- will be conducted in consultation and involvement with workers;
- will be conducted by Project team, HSEQ team;
- will be conducted to verify and check SHEWMS control measures are being implemented in accordance with SHEWMS used on the site at the time of the inspection and are effective in controlling risks and hazards;
- will be conducted by Ford Civil and subcontractors together. Subcontractors would participate in inspections on more than just their own immediate work area;
- frequency will be determined by the HSE inspection schedule or in accordance with client or principal contractor requirements (whichever is the greater frequency). In general inspections will be conducted at the following frequency:
 - the Ford Civil site supervisory staff, as part of their daily duties will conduct daily inspections of the site under their control, (including Ford Civil subcontractor activities) and note the issues in daily site diaries.
 - weekly Site Inspections – The Ford Civil site nominated environmental representative will conduct formal weekly HSE inspections of the site by using Site HSE Inspection Checklist (FCC-FOR-164). This checklist would prevent a “tick and flick” approach. This checklist may be modified to cover site-specific activities for compliance with the EMP. Site supervisory staff will manage corrective actions arising from inspections within their areas of control. The completed checklists will be retained on site for audit purposes by Ford Civil.
 - daily prestart meetings will incorporate an environmental section.
- frequency may need to be increased according to the risks identified onsite.

Relevant documents:

- FCC-PRO-036-Audit Procedure
- FCC-FOR-167-Audit Schedule and Register
- FCC-FOR-164-Site HSE Inspection Checklist

11 Nonconformances and Corrective Actions

The non-conformances and corrective actions arising from audits / inspections and incidents will be resolved as per Audit Procedure (FCC-PRO-036) and Incident Management Procedure (FCC-PRO-034) respectively. During the audit/inspection, the auditor/inspector will review the status of previously identified corrective actions to ensure that the corrective actions are implemented effectively and if required raise an Incident Report (FCC-FOR-191).

Any nonconformances/corrective actions arising from the audits or inspections of client or statutory authorities will be captured in Ford Civil management system, same as Ford Civil audits/inspections.

The Ford Civil Project Manager or nominated representative will regularly review the Audit Register (FCC-FOR-167) and Incident Register (FCC-FOR-192) to check that actions are being completed on time. In addition to the above, where an issue is judged to be of a more serious nature, and has been identified repeatedly or constitutes an exceedance of regulatory obligations, the work on the identified operation or site will cease until remedial action is taken to eliminate the issue.

The nonconformances / corrective actions identified as a result of audits and inspections may necessitate the need to review in management review meetings.

Relevant documents:

- FCC-PRO-034-Incident Management Procedure
- FCC-PRO-033-Control of Nonconformities and Corrective Actions Procedure
- FCC-PRO-037-HSEQ Management System Review Procedure
- FCC-FOR-167-Audit Register
- FCC-FOR-191-Incident Report
- FCC-FOR-192-Incident Register

12 Project performance measurement

A process has been established for monitoring, measurement, analysis and performance evaluation the Ford Civil's Environmental management system. The progress towards achievement of the project level environmental objectives and KPIs is the main way to monitor and measure the environmental performance.

The project performance reports will be prepared by the Project Manager on a monthly basis and the outcomes are included into the business reporting processes.

• Relevant documents:

- FCC-PRO-031 - Monitoring, measuring and Reporting procedure
- FCC-FOR-200 – Corporate HSEQ Performance Report
- FCC-FOR-201-HSEQ Statistics Report
- FCC-FOR-203-Project Progress Report

13 Project documented information management

The documented information management process has been established to ensure that project documents are maintained to meet financial, contractual and legislative requirements and that all documents are reviewed and approved by authorised personnel, prior to release.

The project manager is authorised to approve project specific documentation. Project folders have been established to maintain project documentation / records.

All printed copies of documents held on project sites are considered uncontrolled and valid only on the day of printing. Project team is responsible for all site document control and will inform the HSEQ team of any changes to site documentation.

The Ford Civil is responsible to adequately protect all documented information from loss of confidentiality, improper use or loss of integrity.

All documented information (including the documented information of external origin) is identified and controlled to address the business, project and legal requirements.

- Relevant documents:

- FCC-FOR-004-Document and Data Management Procedure

14 Glossary / Abbreviation

<i>EMP</i>	(Project) Environmental Management Plan
<i>EPA</i>	Environmental Protection Authority
<i>EPL</i>	Environmental Protection Licence
<i>FCC</i>	Ford Civil Contracting Pty Ltd.
<i>HIRAC</i>	Hazard Identification, Risk Assessment and Control
<i>HSEQ</i>	Health & Safety, Environmental and Quality
<i>HSEQ Management System</i>	Integrated Management System (Quality, Health & Safety, Environmental Management System)
<i>NC</i>	Non-Conformity
<i>NCR</i>	Non-conformance Report
<i>Premises</i>	Boundary of works prescribed under the contract
<i>SDS</i>	Safety Data Sheet
<i>SEPP</i>	State Environmental Planning Policies
<i>SHEWMS</i>	Safety, Health and Environmental Method Statement
<i>TMP</i>	Traffic Management Plan

15 List of Attachments

- 1 Environmental Policy
- 2 HSEQ Risk Register (Environmental)
- 3 Site Locality / Layout
- 4 Sediment Controls

15.1 Attachment 1: Environmental Policy



REMEDICATION
INFRASTRUCTURE
ROADWORKS
BULK EARTHWORKS
ENVIRONMENTAL
LANDSCAPING

FCC-POL-003
Rev. 1
10/01/2021

Environmental Policy

Ford Civil recognises that environmental conservation is one of the important issues of our community. We recognise the importance of maintaining a high standard of environmental care in conducting our activities. From design and supply, installation, construction, commissioning and maintenance.

Ford Civil will:

- Ensure ongoing compliance with all relevant statutory and other obligations, standards, specifications and codes of practice as well as the requirements of ISO 14001 standard
- Set objectives and targets and ensure that the resources needed to maintain and continually improve the environmental management system are available
- Direct and support persons to contribute to the effectiveness of the environmental management system, as well as other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility
- Manage our diverse activities in preventing or minimising pollution and impacts on visual amenity, air, water, land, flora, fauna and cultural and heritage values
- Strive to improve resource consumption efficiency and minimising waste generation in our services, also implement recycling of materials.
- Enhance organisation's capability by competent, empowered and engaged employees at all levels through the company
- Consult and communicate with employees and subcontractors and other relevant interested parties in matters relating to the quality, health, safety and environment
- Identify, report, investigate and resolve all non-conformances and incidents and take appropriate action and place new controls to prevent recurrence

To comply with our policy, our staff will receive adequate induction and training to enable them to follow our systems and procedures.

This policy will apply to all employees and contractors and is reviewed periodically to ensure it remains relevant to the operations and activities of Ford Civil.



Chief Executive Officer

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fordcivil.com.au
info@fordcivil.com.au

Project Environmental Management Plan



15.2 Attachment 2: Risk Register (Environmental)

15.2.1 Risk Matrix

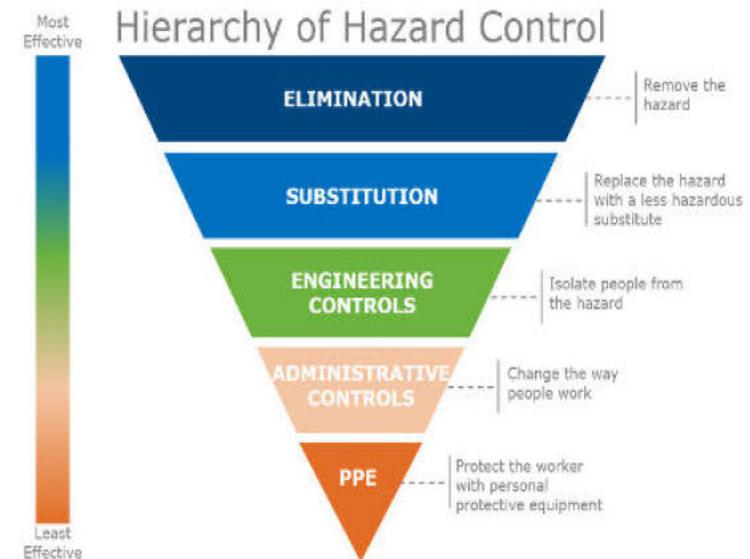
Consequence (Impact) Table				
Impact Band	Health & Safety	Environment & Heritage	Plant Damage	Business Reputation & Financial
Substantial - (5)	Fatal Incident	Permanent widespread ecological damage	Machine unrepairable	International/national negative media coverage. Serious impact on the business. Loss of business from key sector. >\$1m lost
Major - (4)	Permanent Injury: Damage, which permanently alters a person's future (e.g. quadriplegia, paraplegia, amputation of a limb)	Heavy ecological damage, costly restoration	Major damage - > 5 days to return to service	Sustained national negative media coverage. Major impact on the business. Loss of long-term key client. \$50k-\$1m lost
Moderate - (3)	Lost Time Injury: Damage, which temporarily alters a person's future	Major but recoverable ecological damage	Serious damage - < 5 days to return to service	Regional/short negative media coverage. Some impact on the business. Loss of client/project. \$50k-\$250k lost.
Minor - (2)	Medical Treatment: Damage, which temporarily inconveniences a person	Limited but medium term damage	Minor damage - repaired within the same day	Local negative media coverage. Minor impact on the business. Site or Project problem. \$10k - \$50k lost.
Negligible - (1)	First Aid Treatment: Actual injury which requires no treatment or simple first aid	Short term damage	Negligible damage - no machine downtime	Brief local negative or no media coverage. Community complaints and dissatisfaction. <\$10k lost.

Probability (Likelihood) Table			
Probability Band	Description		
Almost Certain - (E)	The threat can be expected to occur 75% - 99%	Common / Frequent Occurrence	More than 1 event per month
Likely - (D)	The threat will quite commonly occur 50% - 75%	Is known to occur or "It has happened regularly"	More than 1 event per year
Possible - (C)	The threat may occasionally occur 25% - 50%	Could occur or "I've heard of it happening"	1 event per 1 - 10 years
Unlikely - (B)	The threat could infrequently occur 10% - 25%	Not likely to occur very often	1 event per 10 - 100 years
Rare - (A)	The threat may occur in exceptional circumstances 0% - 10%	Conceivable but only in exceptional circumstances	Less than 1 event per 100 years

Consequence (Impact) Table						
Risk Assessment Matrix		Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Substantial (5)
Probability (Likelihood)	Almost Certain (E)	Low (5)	Medium (10)	Very High (18)	Extreme (23)	Extreme (25)
	Likely (D)	Low (4)	Medium (9)	Very High (17)	Very High (20)	Extreme (24)
	Possible (C)	Low (3)	Medium (8)	High (13)	Very High (19)	Very High (22)
	Unlikely (B)	Low (2)	Low (7)	High (12)	High (15)	Very High (21)
	Rare (A)	Low (1)	Low (6)	Medium (11)	High (14)	High (16)

Note:

Any task that after controls in place is the High scale (12-16) the project manager must be consulted. If a resultant score is in Very High scale (17-22) "Works should not proceed without further consultation and sign off" by Chief Operating Officer or above. If a resultant score is in Extreme scale (23-25), "Works must not proceed until the risk is reduced".



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15.2.2 Environmental Risk Register

Item No.	ASPECT / ACTIVITY DESCRIPTION	Env. Initial Risk	Env. Score	Type of impact or Hazard	PREVENTATIVE ACTIONS Detailed controls are listed in the appropriate SHEWMS for the activity	Env. Post Risk	Env. Score	Action By:	Action When
Abbreviations: P.M. – Project Manager, Sup. – Supervisor									
1	Site Establishment								
	a) Site sheds, containers and compound set up.	B3	12	Dust generation Waste generation Fuel & chemical spills	<ul style="list-style-type: none"> ■ Access roads to have dust suppression established – water carts, covering of exposed ground with granular material, etc. ■ Sediment controls to be installed, where required, to prevent material leaving the site. ■ Waste bins to be provided for disposal of waste and emptied regularly. ■ Bunded storage areas to be provided for fuels, chemicals and spill kits available within the compound. ■ Chemicals & fuels to be stored in accordance with SDS. 	B2	7	Sup. Sup. Sup. Sup.	Ongoing Ongoing Ongoing Ongoing
	b) Roads and footpaths	C2	8	Material from site being tracked out	<ul style="list-style-type: none"> ■ Roads and footpaths to be kept clean and free from obstructions at all times. ■ Rumble grids used as applicable. ■ Use of sweeper trucks in the event of any material being tracked from site onto aprons, airside roads, roads or footpaths. 	B2	7	Sup. Sup.	Ongoing Ongoing
	c) Vehicle movements to and from site	C2	8	Traffic congestion	<ul style="list-style-type: none"> ■ Access routes as per approved TMPs. ■ Vehicle movement and traffic management plans to conform to RMS “Traffic controls at work sites” manual and ensure only certified traffic controllers are used on roadways. ■ Loads on vehicles and plant to be within authority legal weight limits. ■ Vehicles and plant to travel only on approved roadways, loads secured and covered. ■ Compliance with Heavy Vehicle National Legislation (HVNL). 	B2	7	Sup. Traffic Control Driver	Ongoing Ongoing Ongoing
2	Services Investigation								
	a) Services location & pot holing.	C2	8	Disruption to client operations/ leaseholders due to damage to existing services	<ul style="list-style-type: none"> ■ Notification to service authorities and attendance by patrolmen for works around major services. ■ Utilisation of non-destructive digging equipment. ■ Create exclusion zones during works to prevent incidental damage. ■ Notification to lease/stakeholders of works sequence & programme. 	B2	7	Sup. Sup. Sup. P.M.	Pre-start Ongoing Ongoing Pre-start

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Item No.	ASPECT / ACTIVITY DESCRIPTION	Env. Initial Risk	Env. Score	Type of impact or Hazard	PREVENTATIVE ACTIONS Detailed controls are listed in the appropriate SHEWMS for the activity	Env. Post Risk	Env. Score	Action By:	Action When
		B4	15	Damage to flora/heritage items	<ul style="list-style-type: none"> Develop methodologies for works around significant heritage items i.e. fig trees Utilisation of non-destructive digging equipment. Create exclusion zones during works to prevent incidental damage. 	B2	7	P.M. Sup. Sup.	Pre-start Ongoing Ongoing
3	Installation of in-ground services & concrete footings								
	a) Excavation	D3	17	Visual pollution Noise and Vibration Air Quality	<ul style="list-style-type: none"> Sedimentation controls to be in place and checked daily. All stockpiles are to be stabilised or removed as soon as possible Work to conform to the Code of Practice for Excavation and other statutory documents All truck movements are to occur as per the traffic management plan. Dewatering practices and waste disposal to conform to site Dewatering Management Plan. 	B2	7	Sup. Sup. Sup.	Weekly Ongoing Ongoing Ongoing Ongoing
	b) Dewatering	D2	9	Groundwater	<ul style="list-style-type: none"> Dewatering only to be conducted in accordance with a plan approved by Client as required. Sediment controls to be in place No water is to leave the work zone and returned to the ground as soon as possible 	B2	7	Sup. Sup. Sup.	Ongoing Ongoing As req.
		B4	15	Damage to flora/heritage items	<ul style="list-style-type: none"> Develop methodologies for works around significant heritage items i.e. fig trees Create exclusion zones during works to prevent incidental damage. Use alternate footing design or duct route. No trees to be trimmed or removed without referencing the arborist assessment and approval from Client as necessary 	B2	7	P.M. Sup. Sup.	Pre-start Ongoing Ongoing
4	Mobile Plant and Equipment								
	Plant and equipment	D2	9	Noise and Vibration Air Quality	<ul style="list-style-type: none"> The maintenance and use of major plant must be in accordance with the manufacturer's specifications and the plant must be suitable for purpose, safe and fit for use. Respite periods for noisy works to be observed around sensitive receivers. Use silenced equipment where available. 	B2	7	Owner Sup.	Ongoing Ongoing

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Item No.	ASPECT / ACTIVITY DESCRIPTION	Env. Initial Risk	Env. Score	Type of impact or Hazard	PREVENTATIVE ACTIONS Detailed controls are listed in the appropriate SHEWMS for the activity	Env. Post Risk	Env. Score	Action By:	Action When
5	Hazardous Substances								
	Chemical Substances and Hazardous Materials	D2	9	Chemicals	<ul style="list-style-type: none"> A detailed SHEWMS for the storage, handling. Only approved materials to be used on sites after the Safety Data Sheet and Safety Health & Environmental Work Method Statements have been supplied. Particular attention should be paid to the clean-up and disposal procedures of chemicals to be used and the Personal Protective Equipment required. Transport only according to the Hazardous Material Standards, Regulations and Codes. Where plant is being refuelled on site, the environment must be protected as outlined in the Site Environmental Management Plan. A spill kit must be in place and a spill procedure must be developed and all chemicals and fuels to be kept on site banded to prevent leaching or spills. 	B2	7	Sup.	Start of job
		B3	12	Asbestos impacted soils or bonded pieces found in work areas	<ul style="list-style-type: none"> Use of Unexpected finds procedure. Only trained personnel are to work in the area of known asbestos contamination. Signage to be installed warning of asbestos. All material to be removed from site is to go to approved and licensed asbestos receiver centres, all loads are to be itemised and copies of dockets are to remain on site. Work cover is to be notified if Asbestos is found on site. If material is to be buried on site, hygienist report must nominate area. 	B2	7	Sup. Sup.	Ongoing Ongoing
				Transport of materials	<ul style="list-style-type: none"> All transport of materials to and from site must be undertaken by licenced contractors to licenced premises (tip s and alike) Compliance with HVNL 			Sup.	Ongoing
6	Fire and Explosion								
	Fire and Explosion from work activities	B2	7	Fire / Explosion	<ul style="list-style-type: none"> Firefighting equipment to be provided and positioned as per the requirements of the safety plan. Emergency procedures as per site induction. Fuels, paints etc. to be stored and disposed of according to the Environment Management Plan. Rubbish to be removed from site on a daily basis. 	A2	6	Sup. Sup. All Staff	Ongoing Ongoing As req.
7	Excavation								

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Item No.	ASPECT / ACTIVITY DESCRIPTION	Env. Initial Risk	Env. Score	Type of impact or Hazard	PREVENTATIVE ACTIONS Detailed controls are listed in the appropriate SHEWMS for the activity	Env. Post Risk	Env. Score	Action By:	Action When
	Excavation / moving plant and equipment	D2	9	Visual pollution Noise and Vibration Air Quality	<ul style="list-style-type: none"> Sedimentation controls to be in place and checked weekly All stockpiles are to be firstly placed on an impervious plastic layer and immediately covered. When time for removal arrives, covering is to be removed and load out undertaken in accordance with safe practice. Work to conform to the Code of Practice for Excavation and other statutory documents All truck movements are to occur as per the traffic management plan. 	B2	7	Sup. Sup. Sup. Sup.	Weekly Ongoing Ongoing Ongoing
8	Waste								
	Wastes generated by activities	D2	9	Air, Water, Land	<ul style="list-style-type: none"> Environmental controls for air quality, runoff and dust suppression are as per Operational Controls prescribed in EMP Refuelling, spills, and excess waste materials which may lead to pollution to be identified and controlled and disposed of as per Environment Management Plan. Regular clean-up of works area. Waste bins to be provided for disposal of waste and emptied regularly. Waste classification of excavated soils conducted by an accredited environmental consultant and approved by Client as required, prior to disposal. 	B2	7	Sup. Sup. Sup. Sup.	Ongoing Ongoing Ongoing Ongoing
9	Concrete								
	Concrete Wash out	D3	17	Waste generation Water / land contamination	<ul style="list-style-type: none"> Concrete trucks / pumps to be washed out at nominated point. Wash out water is to sit in wash out area to evaporate with environmental controls in place. Concrete is to be allowed to go hard before disposal off site, this material is to be sent to be recycled. No not use reinforcement thrown into the concrete as a lifting point. The collection receipt Collection point is to be emptied on a regular bases to ensure that material does not escape the containment area. 	B2	7	Sup. Sup. Sup. Sup.	Ongoing Ongoing As req. On going As req.

15.3 Attachment 3 – Site Locality / Layout



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15.4 Attachment 4 – Sediment Controls

