



Appendix 14: Environmental Management Plan – Turner River Solar Hub



Plan

Environmental Management Plan

Turner River Solar Hub

11 March 2025

548PG-5670-PL-EN-0001

Rev 0



Project Name	Turner River Solar Hub
Proponent / Approval Holder	Pilbara Energy (Generation) Pty Ltd
ABN of Approval Holder	31 631 303 305
Proposed Action	The Proposed Action is for the development of a renewable energy hub, the Turner River Solar Hub (TRSH) comprising of solar generation and 220 kV transmission line spurs connecting to Fortescue's existing Power Network in the Pilbara region of Western Australia.
Location of the Action	The Proposed Action is located approximately 120 km south of Port Hedland on Lot 209 Plan P238236 in the Pilbara region of Western Australia.
Date of Preparation	11 March 2025

Declaration of Accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the *EPBC Act or the Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed:

Date: 13 March 2025

Full name: Jarrod Pittson

Organisation: Pilbara Energy (Generation) Pty Ltd



EXECUTIVE SUMMARY

Table E 1 Executive Summary Table

Proposal name	Turner River Solar Hub (TRSH) Project
Proponent name	Pilbara Energy (Generation) Pty Ltd (PEG)
Ministerial statement number/s	Not applicable (yet to be granted).
Purpose of the EMP	To outline how the environmental impacts of the Proposal will be monitored, reported and managed for the following environmental factors: Flora and Vegetation and Terrestrial Fauna.
Key environmental factor/s	<ul style="list-style-type: none">• Flora and Vegetation: To protect flora and vegetation so that biological diversity and ecological integrity are maintained.• Terrestrial Fauna: To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.
Outcomes	<p>Flora and Vegetation:</p> <ul style="list-style-type: none">• Clearing no more than 1,090.0 ha of native vegetation in 'Very Good' to 'Excellent' condition.• Clearing no more than 502 <i>Euploca mutica</i> (P3) individuals.• Clearing no more than 23 <i>Trianthema aff. oxycalyptum</i> individuals.• Clearing no more than 155.2 ha of vegetation type ChAaTc containing ~4,345,600 <i>Triodia chichensternensis</i> (P3) individuals. <p>Terrestrial Fauna:</p> <ul style="list-style-type: none">• Clearing no more than 1,108.2 ha of fauna habitat within the DE of 1,416,6 ha.• Clearing no more than:<ul style="list-style-type: none">○ 2.07 ha of the drainage line/river/creek (minor) habitat.○ 1,027.71 ha of the plain (sand) habitat.○ 51.04 ha of the plain (stony/gibber) habitat.○ 6.75 ha of the hills/ranges/plateaux habitat.
Proposed construction date	February 2027
EMP required pre-construction?	Yes



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1 INTRODUCTION

Pilbara Energy (Generation) Pty Ltd (PEG), a wholly owned subsidiary of Fortescue Ltd (Fortescue), is proposing to develop the Turner River Solar Hub (the Proposal) in the Pilbara region of Western Australia (WA). The Proposal is located approximately 120 kilometres (km) south of Port Hedland and about 25 km west of Fortescue's North Star Project (refer to Figure 1).

This Environmental Management Plan (the Plan) has been prepared to outline how the environmental impacts of the Proposal will be monitored, reported and managed for Flora and Vegetation and Terrestrial Fauna.

This Plan has been prepared in accordance with the WA Environmental Protection Authority's (EPA) *Instructions: How to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans* (EPA, 2024). Where appropriate this Plan has also been prepared in accordance with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Environmental Management Plan Guidelines (DCCEEW, 2024).

1.1 Proposal

The Proposal encompasses the development of a solar farm, 220 kilovolt (kV) transmission line spurs and additional supporting infrastructure. The transmission line spurs will integrate the solar farm into Fortescue's Pilbara Energy Connect (PEC) transmission network, enabling energy supply across operations in the Pilbara. Supporting infrastructure includes water infrastructure (i.e. turkey's nests and water pipelines), access roads and service corridors, laydown areas, concrete batching, waste management and landfill, borrow pits, site offices and workshops, battery storage and fencing (external).

The Proposal involves the disturbance of up to 1,108.2 ha of vegetation (including 18.2 ha of cleared/degraded areas) within a 1,416.6 ha Development Envelope (DE).

Reference is made throughout this Plan to two areas within the DE: the 'Northern DE' and the 'Southern DE' (as shown on Figure 1).

Works associated with construction and operation of the Proposal will include:

- Clearing of vegetation and topsoil removal,
- Geotechnical investigations,
- Water abstraction,
- Creation of temporary access tracks and turnaround locations,
- Creation of a permanent solar farm, substations, transmission line spurs and additional supporting infrastructure,



- Stockpiling and laydown areas,
- Rehabilitation, and
- Ongoing maintenance activities.

1.2 Legislative Context and Definitions

Fortescue employees and contractors are obliged to comply with all relevant environmental legislation. Environment legislation directly relevant to this Plan is provided in Appendix A.

Definitions of terms and acronyms used throughout this Plan are provided in Appendix B.

1.3 Environmental Factors

This Plan addresses the key environmental factors relevant to the Proposal, including:

- Flora and Vegetation, and
- Terrestrial Fauna.

A breakdown of the key environmental factors is provided in Table 1-1, along with a summary of the existing environment, activities that may affect the factor, and any applicable site-specific environmental values.



Table 1-1 Overview of Key Environmental Factors, Existing Environment and Related Proposal Activities

Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
<p>Flora and Vegetation</p>	<p>The Proposal is located within the Chichester subregion (PIL1), which is described as being dominated by scrub steppe on Archaean granite and basalt plains and ranges. <i>Acacia inaequilatera</i> is the most typical shrub, growing over <i>Triodia wiseana</i> with <i>Eucalyptus leucophloia</i> tree steppes on ranges (George <i>et al.</i>, 2011).</p> <p>Pre-European vegetation mapping based on Beard (1975; 1990) describes two vegetation associations within the DE:</p> <ol style="list-style-type: none"> 1. Abydos Plain – Chichester 93: 1,416.5 ha of the DE (99.99%), and 2. Abydos Plain – Chichester 626: 0.13 ha of the DE (<0.01%). <p>These vegetation associations retain over 99% of their original extent remaining with WA, the Pilbara bioregion, Chichester subregion and local government area.</p> <p>Vegetation</p> <p>Field surveys (360 Environmental, 2024; SLR, 2023; SLR, 2025) mapped 16 vegetation types within the DE. A recent fire affects approximately 80% of the southern DE prior to the 2023 survey (SLR, 2023). Mapping reliability in this burnt area was considered moderate-high. The vegetation condition of the DE ranges from 'Excellent' to 'Completely Degraded' (cleared), with 93% of the DE and Indicative Disturbance Footprint (IDF) in 'Very Good' or 'Excellent' condition.</p> <p>No vegetation types identified within the DE were considered to be representative of any State or Commonwealth listed Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs).</p> <p>Flora</p> <p>No flora listed as Threatened under the BC Act or EPBC Act were identified during the field surveys (360 Environmental, 2024; SLR, 2023). Further, none were identified to have a medium or high likelihood of occurrence within the DE. The following priority species were recorded within the DE or identified as having a medium or high likelihood of occurrence within the DE:</p>	<ul style="list-style-type: none"> • Clearing of areas of native vegetation within the DE for Proposal infrastructure. • Vehicle, equipment and people movement. • Temporary stockpiling of cleared vegetation and excavated soil. • Wind and water dispersion. • Transport, storage, and handling of hazardous materials for the maintenance and refuelling of vehicles and equipment. • Hot works and changes in fire management practices. 	<ul style="list-style-type: none"> • Permanent clearing of up to 1,090.0 ha of native vegetation in 'Very Good' to 'Excellent' condition. • Clearing up to: <ul style="list-style-type: none"> ○ 502 individuals of <i>Euploca mutica</i> (P3), ○ ~4,345,600 individuals of <i>Triodia chichesterensis</i> (P3), and ○ 23 individuals of the potentially novel taxon <i>Triantherma</i> aff. <i>oxycalyptum</i>.



Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
	<p>1. <i>Euploca mutica</i> (P3¹) (previously known as <i>Heliotropium muticum</i>) – recorded within the northern and southern sections of the DE.</p> <p>2. <i>Gomphrena leptophylla</i> (P3) – high likelihood (due to taxonomic uncertainty).</p> <p>3. <i>Stylidium weeliwolli</i> (P3) – high likelihood.</p> <p>Further, two flora species of other significance were recorded within the DE. One potentially novel taxon (<i>Trianthema</i> aff. <i>oxycalyprum</i>) and one range extension (<i>Portulaca digyna</i>).</p> <p>No Weeds of National Significance (WoNS) nor State Declared Pests (DPs) were identified within the DE.</p>		
Terrestrial Fauna	<p>Five broad fauna habitats (360 Environmental, 2023; Spectrum, 2025) were mapped within the DE (excluding cleared areas), including:</p> <ol style="list-style-type: none"> 1. Plain (stony/gibber), 2. Plain (sand), 3. Granite Outcrops, 4. Hills/Ranges/Plateaux, and 5. Drainage Line/River/Creek (minor). <p>The following conservation significant species were recorded during the field surveys:</p> <ul style="list-style-type: none"> • Northern Quoll (<i>Dasyurus hallucatus</i>) – EN • Greater Bilby (<i>Macrotis lagotis</i>) – VU • Pilbara Leaf-nosed Bat (<i>Rhinonictis aurantia</i>) – VU • Brush-tailed Mulgara (<i>Dasyercus blythi</i>) – P4 • Western Pebble-mound Mouse (<i>Pseudomys chapmani</i>) – P4 • Grey Falcon (<i>Falco hypoleucos</i>) – VU • Pilbara Grasswren (<i>Amytornis whitei whitei</i>) – P4 	<ul style="list-style-type: none"> • Clearing of terrestrial vertebrate fauna habitat in the DE to accommodate the Proposal infrastructure. • Vehicle, equipment and people movement. • Long-term (30 years) operation of the wind farm, which includes the turbine movements and operation of the transmission line spur infrastructure. • General construction and operational-related activities (i.e., artificial light, noise, increase of human activities). 	<ul style="list-style-type: none"> • Loss of up to 1,108.20 ha of fauna habitat. • Direct loss of up to the following fauna habitat of value to conservation significant species: <ul style="list-style-type: none"> • 2.07 ha of the drainage line/river/creek (minor) habitat. • 1,027.71 ha of the plain (sand) habitat. • 51.04 ha of the plain (stony/gibber) habitat. • 6.75 ha of the hills/ranges/plateaux habitat.

¹ EN = Endangered, VU = Vulnerable, OS – Other Specially Protected, M = Migratory, P = Priority under BC Act



Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
	<p>Additionally, the Ghost Bat (<i>Macroderma gigas</i>) (VU) has previously been recorded within the DE.</p> <p>Further, a likelihood assessment identified the following conservation significant fauna species to potentially occur within the DE:</p> <ul style="list-style-type: none"> • Spectacled Hare Wallaby (<i>Lagorchestes conspicillatus leichardti</i>) – P4 – High likelihood • Common Brush-tailed Possum (<i>Trichosurus vulpecula</i>) – VU – Medium likelihood • Long-tailed Dunnart (<i>Antechinomys longicaudatus</i>) – P4 – Medium likelihood • Short-tailed Mouse (<i>Leggadina lakedownensis</i>) – P4 – Medium likelihood • Peregrine Falcon (<i>Falco peregrinus</i>) – OS – High likelihood • Common Sandpiper (<i>Actitis hypoleucos</i>) – M – Medium likelihood • Pacific Swift (Fork-tailed Swift) (<i>Apus pacificus</i>) – M – Medium likelihood • Oriental Plover (<i>Charadrius veredus</i>) – M – Medium likelihood • Common Greenshank (<i>Tringa nebularia</i>) – M – Medium likelihood • Pilbara Olive Python (<i>Liasis olivaceus barroni</i>) – VU – High likelihood • Pin-striped Finesnout Ctenotus (<i>Ctenotus nigrilineatus</i>) – P1 – Medium likelihood • Gane’s Blindsnake (<i>Anilius ganei</i>) – P1 – Medium likelihood 		



1.4 Potential Impacts

1.4.1 Flora and Vegetation

Implementation of the Proposal would result in the permanent clearing of up to 1,108.2 ha of native vegetation (including 18.2 ha of cleared/degraded areas).

Potential **direct** impacts to flora and vegetation from the Proposal include:

- Clearing of up to 1,108.2 ha of native vegetation of which 1,090 ha is in 'Excellent' condition.
- Clearing of up to 502 *Euploca mutica* (P3) individuals.
- Clearing of up to 155.2 ha of vegetation type ChAaTc containing ~4,345,600 *Triodia chichensternensis* (P3) individuals.
- Clearing of up to 23 *Trianthema* aff. *oxycalyptum* individuals.

Potential **indirect** impacts to flora and vegetation from the Proposal include:

- Fragmentation of populations or habitats, leading to disjunct populations and edge effects.
- Introduction and/or spread of weeds and/or pathogens.
- Contamination of soil or water due to leaks or spills of hazardous materials (e.g., fuels or lubricants).
- Smothering of vegetation from dust deposition.
- Contamination of soil or water due to waste materials.
- Altered hydrological flows (including altered erosion and sedimentation processes).
- Altered fire regimes.

1.4.2 Terrestrial Fauna

The Proposal will result in the loss of up to 1,108.2 ha of fauna habitat.

Potential **direct** impacts to terrestrial fauna from the Proposal include:

- Clearing of up to 1,108.2 ha of regional and local fauna habitat.
- Clearing of habitat critical to the survival of the Northern Quoll and Bilby.
- Fauna injury or mortality from vehicle collision during the construction and operational phase.



The clearing of habitat required for the Proposal includes:

- 2.07 ha of drainage line/river/creek (minor) habitat. This is critical dispersal and foraging habitat for the Northern Quoll and critical burrowing and foraging habitat for the Bilby.
- 1,027.63 ha of plain (sand) habitat. This is critical burrowing and foraging habitat for the Bilby.
- 51.04 ha of plain (stony/gibber) habitat. This is critical burrowing and foraging habitat for the Bilby.
- 6.75 ha of hills/ranges/plateaux habitat. This is critical dispersal and foraging habitat for the Northern Quoll.

Potential **indirect** impacts to terrestrial fauna from the Proposal include:

- Fragmentation of fauna habitat.
- Altered fauna behaviour.
- Degradation of fauna habitat.

1.5 Condition Requirements

The Proposal is currently being assessed through an Environmental Review Document (ERD) under Part IV of the *Environmental Protection Act 1986* (EP Act). This Plan outlines Fortescue's monitoring and management approach and has been prepared to provide supporting information to this application. Condition requirements have therefore yet been issued.

1.6 Rationale and Approach

This section provides a summary of the rationale and approach to developing the mitigation and management strategies including:

- Management objectives and environmental outcomes.
- Survey and study findings.
- Key assumptions and uncertainties.
- Rationale for choice of indicators and/or management actions.

This Plan adopts a combination of outcome-based provisions and objective-based (management) provisions. Outcome-based provisions relate to monitoring and have been applied when sufficient information exists to establish and evaluate specific measurable outcomes. Objective-based provisions relate to the achievement of environmental factors through the implementation of management actions and targets. Objective-based provisions



are applied when there is insufficient information or a level of uncertainty not allowing specific outcomes and measurable criteria.

The outcomes and objectives applicable for the Proposal and rationale is detailed in Table 1-2.

Table 1-2 Environmental Outcomes and Objectives and Rationale

Provision	Rationale
Flora and Vegetation	
<p>Outcome 1: Clearing no more than 1,090.0 ha of native vegetation in 'Very Good' to 'Excellent' condition.</p>	<p>An outcome-based provision was selected as the maximum extent of clearing of native vegetation is measurable and reportable. The maximum clearing extent has been calculated based on the indicative disturbance footprint encompassing all areas of disturbance required to construct and operate the Proposal.</p> <p>The trigger criteria selected has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.</p>
<p>Outcome 2: Clearing no more than 502 <i>Euploca mutica</i> (P3) individuals.</p>	<p>An outcome-based provision was selected as the estimated maximum number of individuals of these flora species to be cleared is measurable and reportable. The maximum number of individuals to be cleared has been calculated based on known records within the indicative disturbance footprint.</p> <p>The trigger criteria selected has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.</p>
<p>Outcome 3: Clearing no more than 23 <i>Trianthema</i> aff. <i>oxycalyptum</i> individuals.</p>	
<p>Outcome 4: Clearing no more than 155.2 ha of vegetation type ChAaTc containing ~4,345,600 <i>Triodia chichensternensis</i> (P3) individuals.</p>	<p>An outcome-based provision was selected as the estimated maximum number of individuals of these flora species to be cleared is measurable and reportable. The maximum number of individuals to be cleared has been calculated based on a conservative estimation of 28,000 individuals per ha of ChAaTc vegetation type, in relation to the total amount of ChAaTc within the indicative disturbance footprint.</p> <p>The trigger criteria selected has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.</p>
Terrestrial Fauna	
<p>Outcome 1: Clearing no more than 1,108.2 ha of fauna habitat within the DE of 1,416,6 ha.</p>	<p>An outcome-based provision was selected as the maximum extent of clearing of these fauna habitats is measurable and reportable. The maximum clearing extent has been calculated based on the indicative disturbance footprint encompassing all areas of disturbance required to construct and operate the Proposal.</p> <p>The trigger criteria selected has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.</p>
<p>Outcome 2: Clearing no more than:</p> <ul style="list-style-type: none"> • 2.07 ha of the drainage line/river/creek (minor) habitat. • 1,027.71 ha of the plain (sand) habitat. • 51.04 ha of the plain (stony/gibber) habitat. 	



Provision	Rationale
<ul style="list-style-type: none"> 6.75 ha of the hills/ranges/plateaux habitat. 	

1.6.1 Survey and Study Findings

The key findings from the surveys/studies undertaken for the Proposal are briefly discussed within Table 1-3.

Table 1-3 Overview of related surveys and studies undertaken within the DE

Reference	Survey/Study Type
Flora and Vegetation	
North Star Junction: Flora and Vegetation Assessment (360 Environmental, 2024)	Two-phase field survey of an area of an area of approximately 4,757 ha (covers the northern extent of the DE). The survey recorded the floristic composition and vegetation types.
Detailed Flora and Vegetation Assessment: North Star Junction West (SLR, 2023).	Two-phase field survey of an area of approximately 4,533 ha. The survey recorded the floristic composition and vegetation types.
Detailed Flora and Vegetation Assessment – Turner River Consolidated (SLR, 2025)	Two-phase field survey of an area approximately 1,768 ha. The survey recorded the floristic composition and vegetation types. Consolidation of all three-survey data to achieve floristic alignment.
Terrestrial Fauna	
North Star Junction Renewable Energy Infrastructure Project: Vertebrate Fauna Assessment (360 Environmental, 2023).	Single phase detailed vertebrate fauna survey in the northern area of the DE.
North Star Junction West: Detailed Terrestrial Vertebrate Fauna Assessment (Spectrum, 2025)	Two-phase detailed vertebrate fauna survey within the southern area of the DE.
Wodgina Project: Targeted Greater Bilby Survey (Spectrum, 2024)	Targeted Greater Bilby survey across entire DE.

1.6.2 Key Assumptions and Uncertainties

Key assumptions and uncertainties include:

- Baseline surveys have accurately recorded the presence of conservation significant species, vegetation and habitat types within the DE.
- Protection of critical habitat will enable persistence of conservation significant fauna within the DE.
- Limited studies and research on the sensitivity of conservation DE significant fauna to increases in dust, noise and vibration.



2 MANAGEMENT PLAN COMPONENTS

2.1 Management Provisions

A series of outcome-based management provisions have been developed to mitigate environmental impacts that could potentially be caused by implementation of the Proposal.

Outcome-based provisions are detailed for Flora and Vegetation in Table 2-1 and Terrestrial Fauna in Table 2-2. Note additional standard mitigation measures to minimise potential impacts from the Proposal are detailed in the EPA and EPBC referral supporting documents. Only those management actions related to the Terrestrial Fauna, and Flora and Vegetation outcomes are presented with this Plan.



Table 2-1 Measures to address the flora and vegetation environmental outcomes

WA EPA Factor: Flora and Vegetation

WA EPA Objective: To protect flora and vegetation so that biological diversity and ecological integrity are maintained.

Outcomes:

- Clearing no more than 1,090.0 ha of native vegetation in 'Very Good' to 'Excellent' condition.
- Clearing no more than 502 *Euploca mutica* (P3) individuals.
- Clearing no more than 23 *Trianthema* aff. *oxycalyptum* individuals.
- Clearing no more than 155.2 ha of vegetation type ChAaTc containing ~4,345,600 *Triodia chichensternensis* (P3) individuals.

Key Environmental Values: Native vegetation in 'Very Good' to 'Excellent' condition; priority flora.

Key Impacts and Risks: Clearing of native vegetation; clearing of priority flora.

• Clearing no more than 1,090.0 ha of native vegetation in 'Very Good' to 'Excellent' condition.

Environmental Criteria	Response Actions	Monitoring	Timing / Frequency of Monitoring	Reporting
<p>Trigger Criterion:</p> <ul style="list-style-type: none"> • 90% of permitted clearing extent for specified native vegetation in 'Very Good' to 'Excellent' condition is reached. <p>Threshold Criterion:</p> <ul style="list-style-type: none"> • Permitted clearing extent for specified native vegetation in 'Very Good' to 'Excellent' condition is reached. 	<p>Trigger Level Actions:</p> <ul style="list-style-type: none"> • Undertake review of remaining clearing - calculate remaining clearing required to ensure within threshold limits. • Communicate extents of clearing for specified vegetation in 'Very Good' to 'Excellent' condition to key personnel, noting percentage cleared to date. <p>Threshold Contingency Actions:</p> <ul style="list-style-type: none"> • Clearing will cease immediately. • Environmental incident will be recorded and investigated if threshold is exceeded. • DWER will be notified along with investigation report if threshold is exceeded. • Rehabilitation of any clearing exceedance areas will be undertaken. 	<ul style="list-style-type: none"> • Regular construction area inspections to visually check / review clearing boundaries. • All clearing areas will be checked and confirmed post-clearing. Site inspection will be undertaken prior to and following clearing to confirm clearing is appropriately demarcated. Disturbance will be managed using Fortescue's Land Use Certificate System (Fortescue, 2023). 	<ul style="list-style-type: none"> • Weekly during construction activities. • Annual compliance reporting 	<ul style="list-style-type: none"> • Internal construction reporting. • Ground disturbance permit signed off by Fortescue Superintendent. • Annual Compliance Assessment Reports (CAR) are required to be submitted in accordance with EPA's <i>Post Assessment Guideline for Preparing a Compliance Assessment Report (CAR), Post Assessment Guideline No. 2</i>. • In the event that trigger criteria were exceeded during the reporting period, the CAR will include a description of the effectiveness of the contingency actions that have been implemented to manage the impact and any adaptive management measures applied as a result of the exceedance.
<p>• Clearing no more than 502 <i>Euploca mutica</i> (P3) individuals.</p> <p>• Clearing no more than 23 <i>Trianthema</i> aff. <i>oxycalyptum</i> individuals.</p> <p>• Clearing no more than 155.2 ha of vegetation type ChAaTc containing ~4,345,600 <i>Triodia chichensternensis</i> (P3) individuals</p>				
<p>Trigger Criterion:</p> <ul style="list-style-type: none"> • 90% of permitted clearing extent for specified priority flora is reached. <p>Threshold Criterion:</p> <ul style="list-style-type: none"> • Permitted clearing extent for specified priority flora is reached. 	<p>Trigger Level Actions:</p> <ul style="list-style-type: none"> • Undertake review of remaining clearing. • Communicate extents of clearing for each specified priority flora to key personnel, noting percentage cleared to date. <p>Threshold Contingency Actions:</p> <ul style="list-style-type: none"> • Clearing will cease immediately. • Environmental incident will be recorded and investigated if threshold is exceeded. • DWER will be notified along with investigation report if threshold is exceeded. 	<ul style="list-style-type: none"> • Regular construction area inspections to visually check / review clearing boundaries. • All clearing areas will be checked and confirmed post-clearing. Site inspection will be undertaken prior to and following clearing to confirm clearing is appropriately demarcated. Disturbance will be managed using Fortescue's Land Use Certificate System (Fortescue, 2023). 	<ul style="list-style-type: none"> • Weekly during construction activities. 	<ul style="list-style-type: none"> • Internal construction reporting. • Ground disturbance permit signed off by Fortescue Superintendent. • Annual compliance reporting.



Table 2-2 Measures to address the terrestrial fauna environmental outcomes

WA EPA Factor: Terrestrial Fauna

WA EPA Objective: To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.

Outcomes:

- Clearing no more than 1,108.2 ha of fauna habitat.
- Clearing no more than of the following fauna habitats:
 - 2.07 ha of the drainage line/river/creek (minor) habitat.
 - 1,027.71 ha of the plain (sand) habitat.
 - 51.04 ha of the plain (stony/gibber) habitat.
 - 6.75 ha of the hills/ranges/plateaux habitat.

Key Environmental Values: Conservation significant fauna habitat.

Key Impacts and Risks: Fauna habitat loss and injury through direct and indirect impacts.

- Clearing no more than 1,108.2 ha of fauna habitat.
- Clearing no more than of the following fauna habitats:
 - 2.07 ha of the drainage line/river/creek (minor) habitat.
 - 1,027.71 ha of the plain (sand) habitat.
 - 51.04 ha of the plain (stony/gibber) habitat.
 - 6.75 ha of the hills/ranges/plateaux habitat.

Environmental Criteria	Response Actions	Monitoring	Timing / Frequency of Monitoring	Reporting
<p>Trigger Criterion:</p> <ul style="list-style-type: none"> • 90% of permitted clearing extent for specified fauna habitat is reached. <p>Threshold Criterion:</p> <ul style="list-style-type: none"> • Permitted clearing extent for specified fauna habitat is reached. 	<p>Trigger Level Actions:</p> <ul style="list-style-type: none"> • Undertake review of remaining clearing – calculate remaining clearing required to ensure within threshold limits. • Communicate extents of clearing for specified fauna habitat to key personnel, noting percentage cleared to date. <p>Threshold Contingency Actions:</p> <ul style="list-style-type: none"> • Clearing will cease immediately. • Environmental incident will be recorded and investigated if threshold is exceeded. • DWER will be notified along with investigation report if threshold is exceeded. • Rehabilitation of any clearing exceedance areas will be undertaken. 	<ul style="list-style-type: none"> • Regular construction area inspections to visually check / review clearing boundaries. • All clearing areas will be checked and confirmed post-clearing. Site inspection will be undertaken prior to and following clearing to confirm clearing is appropriately demarcated. Disturbance will be managed using Fortescue’s Land Use Certificate System (Fortescue, 2023). • Ground survey and use of aerial imagery of clearing areas and comparison to the IDF. • Under Fortescue’s environmental management framework, performance against compliance targets are monitored and internally reported to management on a monthly basis. • Monitoring of Rehabilitation areas in line with Fortescue’s ‘Rehabilitation and Revegetation Monitoring Guideline’ (Ref: 45-GU-EN-0009) 	<ul style="list-style-type: none"> • Weekly during construction activities. • Annual compliance reporting. • Bi-annually when clearing has occurred. • Monthly. • Annual basis for the first three years to determine initial establishment, then on a biennial basis to determine trajectory towards reference sites and established completion criteria. 	<ul style="list-style-type: none"> • Internal construction reporting. • Ground disturbance permit signed off by Fortescue Superintendent. • Annual Compliance Assessment Reports (CAR) are required to be submitted in accordance with EPA’s <i>Post Assessment Guideline for Preparing a Compliance Assessment Report (CAR), Post Assessment Guideline No. 2</i>. • In the event that trigger criteria were exceeded during the reporting period, the CAR will include a description of the effectiveness of the contingency actions that have been implemented to manage the impact and any adaptive management measures applied as a result of the exceedance. • Maintain records of all rehabilitation.



2.2 Environmental Risk

Fortescue actively manages risk by undertaking a risk assessment prior to relevant approval submissions to identify high risk areas where conservation significant fauna, flora and vegetation have been identified, and potential impacts are likely. Annual Environmental Risk Reviews are undertaken during construction and operations phase where all environmental risks are considered with a focus on high-risk impacts. The review considers the effectiveness of management actions that are currently in place for these impacts. The review also considers any relevant incidents that have occurred, if the actions from incident investigations have translated into new management actions and generally considers the need for any new management actions to ensure lower risk targets can be achieved.

2.2.1 Compliance and Audits

Fortescue ensures compliance with its legal obligations through first party quality assurance by site and corporate environment teams with a focus on effective environmental management through the implementation of the Fortescue wide Environmental Management System.

Fortescue has adopted a risk-based approach to monitor compliance with its legal obligations. Site environment teams will monitor their compliance with this Plan.

Where non-conformances occur, the incident will be reported in accordance with the *Incident Event Management Procedure* (45-PR-SA-0080). Non-conformance issues and/or opportunities for improvement identified will be documented and tracked via Fortescue's business management system and reported to appropriate authorities as required.



3 MONITORING

3.1 Program Summary

An effective long-term monitoring program is adaptive. Innovations in monitoring techniques and methods should be incorporated into the program design over time. This would, however, be dependent on, and driven by the quality and quantity of data collected from site. Any changes will be detailed in the annual monitoring report and captured in the next revision of the Plan.

Key monitoring actions have been identified to monitor the potential impacts of the Proposal to Flora and Vegetation, Terrestrial Fauna and associated habitat. Monitoring will be undertaken by suitably qualified individuals for the methodology type specified. The proposed monitoring program will be developed as the approval process progresses and key monitoring actions associated with the key environmental factor outcomes for the Proposal are identified in Table 2-1 and Table 2-2.

3.2 Data Handling and Statistical Analysis

Data will be handled in accordance with the data handling protocol established as part of the annual monitoring process. The protocol will include the requirements as to data storage and protection, data extraction, quality control, analysis, interpretation, reporting and presentation. The protocol will also directly reference and align with the requirements detailed in *Document Control, Information Management* (100-ST-DC-001) and *Geographic Information Systems and Raw Data Guidelines* (100-GU-EN-0009).

Statistical analysis of data will be undertaken to compare baseline values of parameters to each subsequent monitoring event, and between indirect impact sites values to reference sites values (where possible). Comparisons should be replicable.

Statistical (univariate and multivariate) analysis methods for vegetation health monitoring will be undertaken where data permits. Where data capture allows, analysis will include univariate or multivariate analysis, as deemed appropriate, to determine whether there are any statistical variations in the monitoring data. Robust statistical analysis shall be completed for all programs. Error analysis shall also be completed to understand the accuracy of the monitoring results.



4 ADAPTIVE MANAGEMENT AND REVIEW

Fortescue will implement adaptive management practices to learn from the implementation of mitigation measures, monitoring and evaluation against criteria, to more effectively meet the environmental outcome. Adaptive management practices that will be assessed for the management and monitoring program as part of this approach include as required:

- Evaluation of the monitoring program, data and comparison to baseline data and reference sites on an annual basis to verify whether responses to project activities are the same or similar to predictions.
- Evaluation of assumptions and uncertainties of management and monitoring program.
- Re-evaluation of the risk assessment and revision of risk-based priorities as a result of monitoring outcomes.
- Review of data and information gathered over the review period that has increased understanding of site environment in the context of the regional ecosystem.
- Review of management actions as the project matures and new management measures and technologies become available that may be more effective for environmental management.
- Assessment of changes which are outside the control of the project and the management measures identified (i.e., a new project within the area or region; regional change affecting vegetation health management).
- Evaluation and introduction of new or different monitoring methods due to changes in technology.

The overarching monitoring program will be technically assessed and reviewed every five years. The main objective of the assessment and review will be to ensure that the methods, parameters and frequency used are considerate and appropriate to the findings of the monitoring program. If no criteria are exceeded (detailed in Section 2) after five years, the frequency of monitoring will be reduced to a frequency supported by the review.

In addition, this Plan may be reviewed based on regulators (EPA and/or DCCEEW) and decision-making authorities comments during the Proposal approval process.



5 STAKEHOLDER CONSULTATION

Fortescue has undertaken extensive stakeholder consultation program whereby landowners, regulators and other relevant parties have been consulted with regard to investigation and design through the environmental approvals process.

Table 5-1 will be updated following receipt of stakeholder comment as a result of the review and approval process.

Table 5-1: Stakeholder consultation

Stakeholder	Correspondence	Changes
DWER	Fortescue: Submission of s38 referral for the Project, including <i>Environmental Management Plan</i> (548PG-5670-PL-EN-001 Rev 0) (04/03/2025; UID-196577).	



6 ENVIRONMENTAL MANAGEMENT ROLES AND RESPONSIBILITIES

Fortescue implements and maintains an Environmental Management System (EMS) that aligns with the principles of ISO14001 International Standard for Environmental Management Systems. Fortescue also maintains an Environment Policy that is publicly available on the Fortescue website². The Policy is endorsed by the Chief Executive Officer and the Board, stating that compliance with environmental laws and obligations is the minimum standard to which Fortescue will operate. It is the responsibility of all Fortescue employees and contractors to comply with the Environment Policy.

The Fortescue environmental management framework is managed by environmental personnel, within corporate, site operations and projects. Position descriptions for relevant environmental personnel outlines the requirements to manage and implement Fortescue's EMS sitewide. Fortescue identifies the environmental aspects of its projects and operations through a systematic risk assessment process. Environmental risks are reviewed and updated annually with Environmental Improvement Plans (EIPs) established for high-risk environmental aspects.

Operational controls (management plans, procedures, guidelines and work instructions) will be identified and developed for each environmental risk. Environmental management programs established at Operational and Project sites detail the implementation of operational controls and monitoring of its effectiveness. Effectiveness of critical environmental controls implemented for high-risk environmental aspects are audited annually to identify improvement opportunities that may reduce the consequence or likelihood of occurrence of environmental risks or gaps.

All Fortescue employees, including supervisors, receive training during inductions outlining their responsibilities in relation to complying with the Environment Policy. Environmental personnel at Operational Sites and Projects deliver targeted training on specific regulatory requirements, site specific approval conditions and use of Fortescue management plans and procedures to ensure that personnel understand their environmental responsibilities when undertaking their day-to-day work.

Fortescue maintains a database that is accessible to all Fortescue personnel to capture, maintain and report details of non-compliances and corrective actions. Performance against compliance targets are monitored and internally reported to management on a monthly basis, ensuring that non-compliance triggers and adverse environmental trends are identified, and appropriate corrective and remedial actions can be implemented. Monthly analysis and reporting to Senior Managers is undertaken for environmental incidents and actions

² <https://cdn.fortescue.com/docs/default-source/corporate-governance/environment-policy.pdf>



completed. Regular reporting of environmental performance to regulators is undertaken in accordance with the Statutory Reporting Schedule.

Environmental personnel at Operational and Project sites undertake monthly auditing against high-risk environmental obligations (those obligations where non-compliance could potentially lead to environmental harm). Results of audits are internally reported to Senior Managers, with corrective actions arising from non-compliance captured, reviewed and reported.

Records relating to environmental management (including compliance, monitoring and reporting) are maintained within Fortescue in accordance with Fortescue's Record Keeping Policy.

Continuous improvement of Fortescue EMS and environmental performance is driven through the environmental governance processes within the business, including monthly reporting to Senior Managers, quarterly reporting to the Board and quarterly environmental management review meetings with Site and Head Office management. Improvement actions identified on Fortescue EMS effectiveness and environmental performance are identified through the Senior Environmental Management team.

6.1 Proposal Specific Roles and Responsibilities

To be updated as the Proposal progresses through approvals process



7 ENVIRONMENTAL TRAINING

Fortescue will ensure that all individuals employed in the construction of the Proposal have the appropriate training and experience required to successfully implement this Plan.

All personnel will receive environmental awareness training, applicable to their roles and responsibilities. Environmental awareness training will include the following formats:

- Toolbox talks - delivered as part of pre-start briefings to the workforce.
- Site inductions.
- Incident response training.
- Task briefings.



8 COMMUNICATION

8.1 Complaints Procedure

All complaints will be recorded within a register that will be developed and maintained by Fortescue. Community grievances can be raised with Fortescue via email, by sending a letter to Fortescue's Head Office or Community Offices or via the phone numbers listed below:

- 1800 867 086 (AUS)
- +61 3 7047 7881 (WhatsApp).

Complaints will be recorded in Fortescue's Stakeholder Relationship Management system (SRM) and regular updates provided to the complainant. All grievances and complaints are assessed on their maximum potential consequence and classified in accordance with Fortescue's Risk Management Standard. Grievances are investigated and corrective actions identified as required. Once corrective actions have been completed, the complainants are consulted to confirm if a satisfactory resolution of the complaint has occurred.

8.2 Emergency Response

Fortescue will prepare both a construction and operations phase Emergency Response Plan. This Plan will detail how emergencies are responded to within the DE.



9 REFERENCES

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- Department of Climate Change, Energy, the Environment and Water (DCCEEW). (2024). Environmental Management Plan Guidelines. DCCEEW, Canberra.
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- George, *et al.*, (2011). A biodiversity survey of the Pilbara region of Western Australia 2002-2007. WA: Western Australian Museum.
- SLR, (2023). Detailed Flora and Vegetation Assessment: North Star Junction West (v2.0). Report prepared for Fortescue Ltd. Perth: SLR Consulting Australia.
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DOCUMENT CONTROL

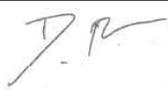
Environmental Management Plan		
Status	IFU - Issued for Use	11-Mar-25
Summary of Changes	N/A	
Author	Dominic Flynn - Jacobs Group (Australia) Pty Ltd	 Signature
Checked or Squad Review# (if applicable)	Sofie Springer, Jacob Azzarello, Jane Humphrey	sofie.springer  Digitally signed by sofie.springer DN: cn=sofie.springer, email=sofie.springer@fortescue.com Date: 2025.03.12 11:01:05 +08'00' Signature
Approved	Marlene Lootz	Marlene Lootz  Digitally signed by Marlene Lootz Date: 2025.03.12 08:31:15 +01'00' Signature
Next Review Date (if applicable)	11-Mar-30	



FIGURE 1 THE PROPOSAL



APPENDIX A RELEVANT LEGISLATION

Legislation	Application
<i>Aboriginal Heritage Act 1972 (WA)</i>	Protection of Aboriginal Heritage in Western Australia.
<i>Biodiversity Conservation Act 2016 (WA)</i>	Conservation and protection of biodiversity and biodiversity components.
<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>	Protection on environmental matters of national significance.
<i>Environmental Protection Act 1986 (WA)</i>	Prevention, control and abatement of pollution and conservation protection and enhancement of environment.
Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA)	Regulates the clearing of native vegetation.
<i>Mining Act WA 1978 (WA)</i>	Identify, evaluate and manage the environmental impacts of mining proposals.
<i>Rights in Water and Irrigation Act 1914 (WA)</i>	Relates to rights in water resources, to make provisions for the regulation, management, use and protection of water resources, to provide for irrigation schemes and for related purposes.



APPENDIX B ACRONYMS AND DEFINITIONS

Acronym / term	Definition
BC Act	<i>Biodiversity Conservation Act 2016</i>
CAR	Compliance Assessment Report
DBCA	Department of Biodiversity Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DE	Development Envelope
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DPs	Declared Pests
DWER	Department of Water Environment and Regulation
EN	Endangered
EPA	Environmental Protection Authority
EIPs	Environmental Improvement Plans
EMS	Environmental Management System
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EPBC Act	<i>Environment Protection Biodiversity and Conservation Act 1999</i>
ERD	Environmental Review Document
Fortescue	Fortescue Ltd
ha	Hectares
IDF	Indicative Disturbance Footprint
ISO	International Organisation for Standardisation
km	Kilometres
kV	Kilovolt
OS	Other Specially Protected
P1	Priority 1
P3	Priority 3
P4	Priority 4
PEC	Pilbara Energy Connect
PEG	Pilbara Energy (Generation) Pty Ltd
PLNB	Pilbara Leaf-nosed Bat
PECs	Priority Ecological Communities
TECs	Threatened Ecological Communities
VU	Vulnerable
WA	Western Australia
WoNS	Weeds of National Significance