



# Maria Island Critical Infrastructure Upgrades – Stage 3

---

Maria Island National Park

RAA 4032

March 2024

Published by: Tasmania Parks and Wildlife Service  
Department of Natural Resources and Environment Tasmania  
GPO Box 1751  
Hobart TAS 7001

Cite as: Parks and Wildlife Service 2024, Environmental Assessment  
Report for Reserve Activity Assessment 4032 Maria Island  
Critical Infrastructure Upgrades – Stage 3, Department of  
Natural Resources and Environment Tasmania, Hobart.

ISBN:

© State of Tasmania 2024

Department of Natural Resources and Environment

# Environmental Assessment Report

---

<b>Proponent</b>	Parks and Wildlife Service (PWS)
<b>Proposal</b>	Maria Island Critical Infrastructure Upgrades – Stage 3
<b>Location</b>	Maria Island National Park, in and around Darlington
<b>Reserve</b>	Maria Island National Park
<b>RAA no.</b>	4032
<b>Document ID</b>	Environmental Assessment Report (EAR) – Maria Island Critical Infrastructure Upgrades – Stage 3 – January 2024
<b>Assessment type</b>	Reserve Activity Assessment (RAA) Level 3, Southern Region
<b>Related initiatives</b>	Maria Island Re-Discovered (MIRD) Project Maria Island Wastewater Management Project Stage 1 Campground/Day Use – RAA 3536 Maria Island Main Services Trench Jetty to Workshop – RAA 3681 Maria Island Electricity Services Upgrade – RAA 3805
<b>Contact</b>	Tasmania Parks and Wildlife Service GPO Box 1751 Hobart Tasmania 7001  1300 TASPARKS (1300 827 727) <a href="http://www.parks.tas.gov.au">www.parks.tas.gov.au</a>

---

# Contents

---

Environmental Assessment Report.....	3
Glossary and abbreviations .....	6
Report Summary.....	7
1. Assessment process .....	9
1.1 Related permits and management plans required.....	10
2. Statutory assessment and policy requirements.....	12
2.1 Statutory Requirements .....	12
2.2 EPBC Act.....	12
2.3 Other approvals .....	13
3. Proposal.....	14
3.1 Proponent .....	14
3.2 Location .....	14
3.3 Summary .....	14
3.4 Objectives and Outcomes.....	15
4. Public and agency consultation.....	17
4.1 Public consultation summary .....	17
4.2 Stakeholder consultation .....	17
4.3 NRE Tasmania and authorities.....	17
4.4 Glamorgan Spring Bay Council public consultation.....	18
4.5 EPBC Act referral public consultation.....	18
4.6 PWS Public consultation process .....	18
5. Need for the proposal and alternatives .....	19
5.1 Summary of need .....	19
5.2 Alternatives .....	19
6. Evaluation of statutory requirements and policies .....	20
6.1 Statutory Management Plan .....	20
6.2 Other plans .....	22
6.3 Other policies.....	22
7. Evaluation of impacts and recommended conditions ....	23
7.1 Flora and Fauna .....	23
7.2 Historic Heritage .....	26
7.3 Aboriginal Heritage .....	27
7.4 Bushfire.....	27

7.5 Invasive Species .....	28
7.6 Other values.....	29
8. Statement of reasons .....	31
8.1 Assessment Criteria.....	31
8.2 Limitations of Assessment .....	31
9. Decision.....	32
Appendix 1: Proponent Commitments.....	33
Appendix 2: Environmental Management Matters and Mitigations	35
Appendix 3: Public Consultation submission.....	45

## Glossary and abbreviations

---

AH Act	<i>Aboriginal Heritage Act 1975</i>
AHAR	Aboriginal Heritage Assessment Report
AHT	Aboriginal Heritage Tasmania
CEMP	Construction Environmental Management Plan
DA	Glamorgan Spring Bay Council development application
DGL	<i>Eucalyptus globulus</i> dry forest and woodland
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DNPW	Director of National Parks and Wildlife
EAR	Environmental Assessment Report
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
GSBC	Glamorgan Spring Bay Council
HCH Act	<i>Historic Cultural Heritage Act 1995</i>
LUPA Act	<i>Land Use Planning and Approvals Act 1993</i>
MIRD	Maria Island Re-discovered Project
MNES	Matters of National Environmental Significance
MP	<i>Maria Island National Park and Ile Des Phoques Nature Reserve Management Plan 1998</i>
NC Act	<i>Nature Conservation Act 2002</i>
NPRM Act	<i>National Parks and Reserves Management Act 2002</i>
NPWAC	The National Parks and Wildlife Advisory Council
NRE	Department of Natural Resources and Environment Tasmania
PC	<i>Phytophthora cinnamomi</i>
PWS	Tasmania Parks and Wildlife Service
RAA	Reserve Activity Assessment
RSF	Recreation Standards Framework
SWMP	Soil and Water Management Plan
TSP Act	<i>Threatened Species Protection Act 1995</i>
WHS	Work Health and Safety
WWTP	Wastewater Treatment Plant

# Report Summary

---

This Environmental Assessment Report (EAR) completes the environmental assessment of the proposed Maria Island Critical Infrastructure Upgrades – Stage 3, proposed by the Tasmanian Parks and Wildlife Service (PWS) (the proponent). The proposal's unique identifier is Reserve Activity Assessment (RAA) 4032.

Maria Island is a popular destination for Tasmanian, interstate and overseas visitors, with visitor numbers steadily increasing in recent years. The existing infrastructure has reached end of its service life resulting in infrastructure failures and overloading which presents an unacceptable risk to PWS staff, contractors, public health and environmental harm if not replaced. Maria Island is a national park, World Heritage Area, and has two listings on the National Heritage Register for heritage places.

The Maria Island Rediscovered Project (MIRD) has been investing in the upgrades of critical infrastructure on the Island. This proposal will improve the capacity and resilience of the critical infrastructure in the Darlington area.

Stage 1 (completed 2019) and Stage 2 (completed in 2023) involved the construction of new sewage pumping stations, service corridors within Darlington (containing a pressure sewer system, a water reticulation system, and power generation infrastructure) and connection of the public amenities to the new sewer system. A customised solar farm was installed in 2023, which provides a sustainable energy supply and greater renewable energy capacity for Darlington.

This proposal (Stage 3) will include:

- Part A - construction of a new centralised Wastewater Treatment Plant (WWTP) and effluent disposal system, and decommissioning and site rehabilitation of the existing WWTP.
- Part B - service connections (including electricity, water and sewerage) to serviced buildings at Darlington, and upgrades to the fire hydrant main servicing the PWS houses.
- Part C - upgrades to the raw water supply pipeline, and maintenance dredging of the raw water reservoir on Bernacchis Creek.

The new WWTP requires clearing of approximately 3.2 ha, including 1.9ha of dry *Eucalyptus globulus* dry forest and woodland (DGL), a listed threatened community under Tasmania's NC Act, that provides nesting and foraging habitat for the federally listed Swift Parrot, and the clearing of approximately seven *Eucalyptus viminalis* trees, critical habitat for the federally listed Forty-spotted pardalote. Careful design and planning, including extensive consultation with relevant specialists and consistency with MP zoning, has determined the best outcome to balance conservation of the natural values with the World Heritage Area and historic values. Commitments and mitigation measures in the EIS, including requirements for offsetting cleared vegetation, are included in this assessment.

The proposal has been through three public consultation processes – PWS 'Have your say', Glamorgan Spring Bay Council (GSBC) planning permit process, and the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) referral process. One submission was received and has been incorporated into the final EIS. The EPBC Act referral returned a decision of 'not a controlled action'.

Section 1 of this EAR presents the steps in the RAA process and the dates they were completed. Section 2 outlines the statutory and PWS policy requirements. Section 3 is a description of the proposal. Section 4 summarises the public and agency consultation process. Section 5 evaluates

the need for the proposal and alternatives to the proposal. Section 6 is an evaluation of the proposal with the management objectives and policies. Section 7 provides an assessment of the impacts to values, evaluation of the proposed management actions, and a summary of how the submissions have been addressed in the final design and management actions. Section 8 is a summary of assessment criteria relevant to the proposal and how the criteria were considered by the delegate. Section 9 is the decision made by the Deputy Secretary, PWS.

Appendix 1 is the PWS's list of recommended commitments.

Appendix 2 provides a list of the PWS's environmental management mitigation recommendations for inclusion in request for tender documentation for seeking contract tenders. All environmental management recommendations must be captured in the Construction Environmental Management Plan (CEMP) conditions, contract for works, and associated documentation.

This EAR finalises the RRA process.

# 1. Assessment process

The proposal was assessed as a Level 3 Reserve Activity Assessment (RAA) process as the proposed works are in the national park and World Heritage Area, have potential impacts to natural and cultural values and potential community interest in the proposal. The *Maria Island National Park and Ile Des Phoques Nature Reserve Management Plan 1998 (MP)* is the statutory management plan for the proposal.

The Environmental Impact Statement (EIS) was prepared by GHD for the Parks And Wildlife Service (PWS), in collaboration with Department of Natural Resources and Environment Tasmania (NRE) specialists and professional consultants. The draft was released for public consultation on 4 March 2023. It was referred under the EPBC Act to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 6 July 2023.

The Glamorgan Spring Bay Council (GSBC) assessed the proposal as discretionary under the Tasmanian Planning Scheme – Glamorgan Spring Bay, advertised the proposal on 20 July 2023 and issued the planning permit on 5 September 2023. The planning approval process included referral to the Tasmanian Heritage Council.

The PWS drafted the final EIS in response to the above consultations.

The assessment process and milestones are summarised in Table 1.

**Table 1: Assessment Process Milestones**

Date	Milestone
<b>November 2020</b>	3 Reserve Activity Assessment Checklists were completed and combined for Stage 3 works, a Level 3 RAA:
<b>June 2021</b>	RAA 3895 – New Wastewater Treatment Plant – Maria Island
<b>August 2021</b>	RAA 4032 – Residential Connection to Pressure Sewer System, Water and Power – Darlington
	RAA 4075 – Re-establishing Dams Capacity – Darlington
<b>December 2021</b>	Draft EIS submitted to PWS for review.
<b>December 2021 – February 2022</b>	Draft EIS referred to specialist staff within NRE for advice
<b>April 2022</b>	PWS collates advice and requests consultant to address additional information requirements.
<b>17 October 2022</b>	Consultant provides additional information and reports submitted following PWS information requirements.
<b>12 December 2022</b>	Final draft EIS submitted
<b>4 March 2023 to 3 April 2023</b>	PWS “Have your say” public comment period

<b>6 July 2023</b>	Development application submitted to GSBC, and EPBC Act referral submitted
<b>20 July to 3 August 2023</b>	Development application publicly advertised by GSBC
<b>5 September 2023</b>	Planning permit issued
<b>23 November to 7 December 2023</b>	Proposal publicly advertised as part of the EPBC Act referral process
<b>20 December 2023</b>	EPBC Act outcome notified
<b>21 February 2024</b>	Draft EIS finalised incorporating additional information and public input.
<b>March 2024</b>	Environmental Assessment Report (EAR) completed including statement of reasons, commitments, and decision.  EAR considered for endorsement.

## 1.1 Related permits and management plans required

Table 2 outlines permits, and related management plans required. These permits are assessed separate to the PWS RAA process.

**Table 2 Other Permits / Plans required**

<b>Approval or Permit</b>	<b>Agency or Authority</b>	<b>Documentation and process</b>
<b>Plumbing Permit</b>	GSBC	GSBC is the permit authority under the <i>Building Act 2016</i> for issuing Plumbing permits.
<b>Dam Permit</b>	NRE Tas Water Management and Assessment Branch	NRE Tas is the permit authority under the <i>Water Management Act 1999</i> for issuing Dam Works Permits.
<b>Soil and Water Management Plan (SWMP)</b>	GSBC PWS	A Soil and Water Management Plan (SWMP) will be required to minimise soil and erosion runoff prior to any development or works being carried out on a development site(s) on the property.  This plan will also be included as part of CEMP and address the drainage, erosion and sediment control conditions for the proposed works.
<b>Construction Environmental Management Plan</b>	PWS	Lodgement, for endorsement by PWS Southern Region, prior to works commencing.

<b>Weed and Disease Management and Hygiene Plan</b>	PWS	The lodgement of this plan with the CEMP prior to works commencing.
<b>Offset Management Plan</b>	PWS	Lodgement, for endorsement by PWS Southern Region, prior to works commencing.
<b>Decommission and Rehabilitation Plan</b>	PWS	Lodgement, for endorsement by PWS Southern Region, prior to works commencing.

## 2. Statutory assessment and policy requirements

---

The *PWS Environmental Management Policy* takes a risk management approach to assessing and controlling the likely impacts of proposals on environmental values. The RAA process is the PWS system used to evaluate the proposal's consistency with legislative and PWS policy requirements. The RAA process is a systematic way of documenting proposals, their impact and determining any recommendations required to protect environmental, cultural or social values. The RAA process is equivalent to an environmental impact assessment process.

The PWS Level 3 RAA process requires EIS documentation, public consultation, and statement of reasons for a decision. This Environmental Assessment Report (EAR) includes consideration of Commonwealth and State legislation and local government requirements.

### 2.1 Statutory Requirements

Land is reserved under the *Nature Conservation Act 2002* (NC Act). Schedule 1 of the NC Act sets out the purposes of reservation for the various classes of reserved land. For a National Park the purposes of reservation are:

*The protection and maintenance of the natural and cultural values of the area of land while providing for ecologically sustainable recreation consistent with conserving those values.*

The key statutory framework for achieving the purpose of reservation is the *National Parks and Reserves Management Act 2002* (NPRM Act). Section 30 of the NPRM Act requires that the managing authority (the Director of National Parks and Wildlife [DNPW]) for any reserved land for which there is a management plan is to manage that land for the purpose of giving effect to the management plan.

The *Maria Island National Park and Ile Des Phoques Nature Reserve Management Plan 1998* (MP) is the statutory management plan for the proposal. Section 30 of the NPRM Act states that the managing authority (DNPW) ensures development and use within a reserve is in accordance with a management plan.

The proposal's consistency with the management plan, policies and legislation is evaluated in Section 6 of this EAR.

### 2.2 EPBC Act

The EPBC Act requires approval from the Commonwealth government for activities that will have significant impacts to Matters of National Environmental Significance (MNES). MNES include World Heritage areas, National Heritage places, and listed threatened species and ecological communities.

Maria Island is a World Heritage Area (Darlington Probation Station – Australian Convict Sites World Heritage Area), has two listing on the National Heritage Register for heritage places, and contains habitat for, and has records of presence of, numerous listed threatened species, including the critically endangered swift parrot and endangered forty-spotted pardalote.

The proposal was referred to DCCEEW under the EPBC Act on 6 July 2023, and the decision of 'not a controlled action' was returned on 20 December 2023.

Section 7 evaluates the environmental and heritage impacts of the proposal and recommended conditions.

## 2.3 Other approvals

PWS is the proponent, and the Director National Parks and Wildlife is the managing authority of the National Park. An Authority under the NPRM Act is not required as works are listed functions of the managing authority under Section 30 subsection 2 and 3. A contractor will be engaged to undertake the works and the environmental mitigations and commitments (Appendices 1 and 2 of this report) of this EAR will be included in the contract for works and the associated documentation, including the Construction Environmental Management Plan (CEMP).

An Aboriginal Heritage Assessment Report (AHAR) and Addendum was completed for the proposal. The report and addendum advised that no permit under the *Aboriginal Heritage Act 1975* (AH Act) is required and recommended conditions for works, including that an Unanticipated Discovery Plan should be in effect during the works. Further evaluation is provided in Section 7.

The entire island is listed on the Tasmanian Heritage Register and subject to the provisions of the *Historic Cultural Heritage Act 1995* (HCH Act). The Tasmanian Heritage Council provided consent under the HCH Act through the GSBC Development Application (DA) process.

Under the *Land Use Planning and Approvals Act 1993* (LUPA Act), a planning permit was issued by GSBC on 5 September 2023 (DA 2023/149). A plumbing permit from GSBC is required under the *Building Act 2016*. A permit from TasWater is not required as the works are not classified as 'certifiable works' under the *Water and Sewerage Industry Act 2008*.

A Dam Works Permit under the *Water Management Act 1999* is required for the new lagoons. The dredging of Bernacchis Creek Reservoir complies with the Water Management (Dam Works Exemption) Order 2005 and no permit for the dredging work is required under the *Water Management Act 1999*.

The clearance and conversion of a threatened native vegetation community for the purposes of dam works authorised by a Dam Works Permit under the *Water Management Act 1999*, is a listed exemption under the *Forest Practices Regulations 2017*, therefore a Forest Practices Plan is not required under the *Forest Practices Act 1985*.

The natural values reports identified several threatened species and their habitats. These are evaluated in Section 7 of this EAR. Appropriate mitigations have been identified to avoid impact to these species and limit potential impact to their habitat.

Where the proposal impacts wildlife, a permit to interfere with wildlife under the *Threatened Species Protection Act 1995* (TSP Act) or the NC Act would be required. Two previously recorded swift parrot nests are known from near the raw water main alignment. If these trees will be retained, then no permit under the NC Act is required. Otherwise, the proposal is unlikely to require any permits to take any threatened or protected wildlife species (or products thereof).

## 3. Proposal

---

### 3.1 Proponent

The proponent is the PWS, an agency of NRE.

### 3.2 Location

The proposal is in the Darlington Precinct of Maria Island National Park and Darlington Probation Station – Australian Convict Site World Heritage Area. Maria Island is located off the east coast of Tasmania, approximately 15 km from Triabunna (Figure 1).

### 3.3 Summary

The proposal is Stage 3 of critical infrastructure upgrades under the Maria Island Re-Discovered (MIRD) Project and is the final component of the project tying it together. Stage 1 (completed 2019) and Stage 2 (completed in 2023).

This proposal will improve the capacity and resilience of critical infrastructure in the Darlington area to accommodate current and future visitor and staff numbers. Importantly, these works complete the previous stages by providing the final connections of the new systems to the buildings. These works are funded through State Government election commitments.

The key parts of the proposal include:

- Part A
  - Construction of a new centralised Wastewater Treatment Plant (WWTP) and effluent disposal system.
  - Decommissioning and site rehabilitation of the existing WWTP.
- Part B
  - Service connections (including electricity, water and sewerage) to most serviced buildings at Darlington.
  - Upgrades to the fire hydrant main servicing the PWS houses.
- Part C
  - Upgrades to the raw water supply pipeline.
  - Maintenance dredging of the raw water reservoir on Bernacchis Creek.

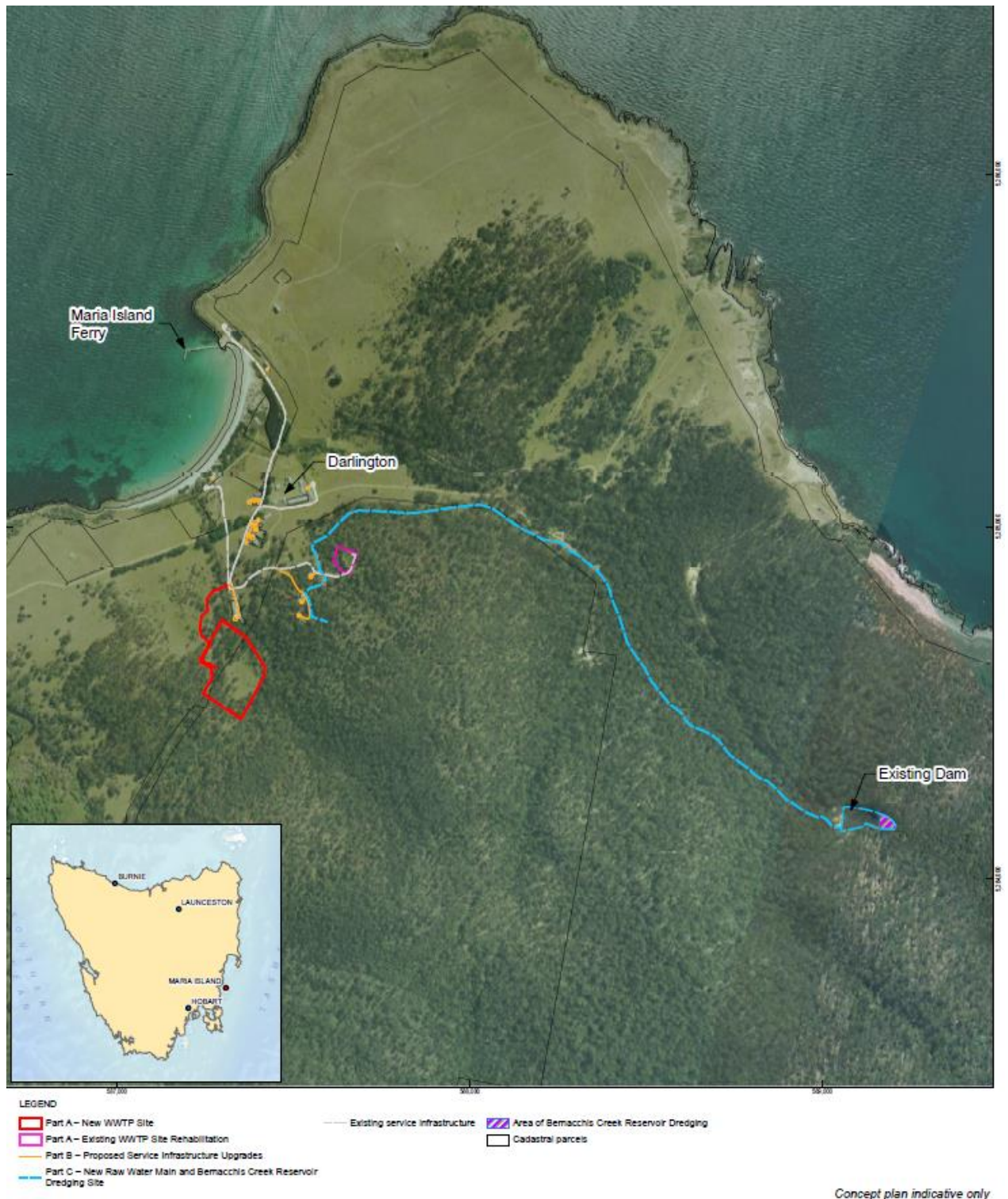
Figure 1 shows the proposed infrastructure locations for all parts of the proposal in Maria Island National Park.

The proposal works are focused around a previously cleared and disturbed site. The clearing of vegetation and understory requirements for the proposal are:

- Part A (total project area of 4.0 ha) requires clearing of 2.1 ha.
- Part B (total project area of 0.25 ha) requires clearing of 0.02 ha.
- Part C (total project area of 1.61 ha) requires clearing of 0.4 ha.

An Offset Management Plan will be developed as part of the proposal.

**Figure 1: Proposed locations for infrastructure.**



### 3.4 Objectives and Outcomes

The proposal has the following objectives and outcomes for Part A works.

- Meet the sewage demands from current and future loads, including during times of peak loading.

- Reduce the risk to public health and environmental harm.
- Minimise, or eliminate, manual handling of sewage and sludge by PWS staff and contractors.
- Provide low maintenance infrastructure, with low power demand.

The objectives and outcomes for Parts B and C works are to support current and future demands by:

- Connecting the new power system to the buildings.
- Upgrading the fire hydrants to the PWS staff housing for improved asset protection.
- Upgrading the raw water pipeline and dam dredging for a more resilient water supply.

Section 2 of the EIS provides more detail on the proposal description and objectives and outcomes to be achieved by each part of the proposal.

## 4. Public and agency consultation

---

### 4.1 Public consultation summary

The public consultation for this project included:

- Stakeholder consultation undertaken by PWS.
- Consultation by PWS with agencies within NRE Tasmania and other authorities.
- Public consultation undertaken by GSBC as part of the planning approval process.
- Public consultation as part of the EPBC referral process.
- Public consultation undertaken by PWS as part of the EIA process.

### 4.2 Stakeholder consultation

The PWS consulted with key stakeholders, including Aboriginal Heritage Tasmania (AHT), the Aboriginal community, PWS Heritage officers, and GSBC. A summary of this consultation is in Section 4 of the EIS.

### 4.3 NRE Tasmania and authorities

The following branches within NRE have been consulted and reviewed the information relevant to their specialties during the assessment:

- Conservation Assessment branch of NRE (which includes relevant specialist branches)
- PWS Heritage branch
- PWS Policy, Planning, and Legislation branch
- PWS Infrastructure branch
- PWS Community Programs branch
- PWS Triabunna-Maria field centre
- PWS Southern Region fire management officers

Consultation within NRE concentrated on removal of critical habitat for threatened species (including clarifying information relating to removal), threatened species surveys, offsets, and visitor communications. Conservation Assessment branch (and the relevant specialists) have been consulted multiple times throughout the RAA process and the proposal was referred under the EPBC Act. The final EIS addresses and incorporates their comments.

PWS Southern Region fire management officers provided recommendations regarding fire management and are included as commitments of this EAR.

The National Parks and Wildlife Advisory Council (NPWAC) reviewed the draft EIS and supported the proposal and the need for upgrading the infrastructure. The Council raised concerns with removal of critical habitat for threatened species, weed management and biosecurity, noting that the national park should be a 'showpiece on how potential impacts of development on flora and fauna values can be managed'. These concerns have been addressed and incorporated into the final EIS. NPWAC advised they were satisfied with the draft EIS and had no further comment.

AHT were consulted throughout the process and recommended an AHAR be prepared for the project. The AHAR included consultation with the Aboriginal community. AHT reviewed and advised on the AHAR, and an addendum to the report was satisfactorily prepared to address their

concerns. AHT determined that a permit was not required and recommended conditions are included in this EAR.

#### **4.4 Glamorgan Spring Bay Council public consultation**

The proposal was publicly advertised as part of the planning approvals process for the GSBC (DA2023/149) from 20 July to 3 August 2023. The Council advised that no representations were received. A planning permit has been issued.

#### **4.5 EPBC Act referral public consultation**

The proposal was publicly advertised as part of the DCCEEW referral process under the EPBC Act (EPBC number 2023/09596) from 23 November to 7 December 2023. The DCCEEW returned a decision of 'not a controlled action' on 20 December 2023.

#### **4.6 PWS Public consultation process**

One submission (see Appendix 2) was received on the proposal during the PWS 'Have your say' public consultation period. The submission was regarding removal and offset of critical habitat for the forty spotted pardalote. The PWS has agreed to a 20-fold offset planting of *Eucalyptus viminalis* and has incorporated this in the EPBC Act referral and the final EIS.

## 5. Need for the proposal and alternatives

---

### 5.1 Summary of need

Maria Island is a popular destination in Tasmania with visitor numbers steadily increasing in recent years. The existing infrastructure has reached the end of its service life resulting in infrastructure failures and overloading.

This proposal is delivering critical infrastructure upgrades, including a new centralized WWTP (Part A). The new infrastructure has been designed to meet the demand of current and future loads, meet contemporary standards, and reduce current risks to public health, environmental harm, and PWS staff and contractor Work Health and Safety (WHS). Burying the fire hydrant water main (Part B) and the raw water main (Part C) will reduce the risk of damage to critical assets from environmental hazards (i.e. bushfire or fallen storm debris) and improve infrastructure resilience.

A detailed description of the need for each part (A, B, and C) of the project is in Section 2.1 of the EIS.

### 5.2 Alternatives

Several alternative options for treatment and disposal of wastewater (Part A) were identified and assessed for Maria Island. The assessment of options was undertaken with consideration of potential impacts to the environmental, heritage and social values of the area and the engineering requirements of the infrastructure. Details on the options assessed is provided in Section 2.3.1 of the EIS.

PWS determined a centralised lagoon wastewater treatment and effluent disposal system at a new site is the preferred option after review of the options available. This solution provides a cost effective, low maintenance solution, with minimal power demand, in a centralised location on a suitable site that considers impact to both natural and cultural heritage values of the island. The proposed solution significantly reduces the risks to public health, staff and contractor WHS, and reduces the risk of environmental harm identified with the existing systems.

Assessment of options for Part B (Services connections and fire hydrant water main) and Part C (new raw water main and dredging of the reservoir) found no alternative cost-effective option to achieve the desired outcomes. Sections 2.3.2 and 2.3.3 of the EIS provides additional detail on the assessment of alternatives.

## 6. Evaluation of statutory requirements and policies

---

### 6.1 Statutory Management Plan

The *Maria Island National Park and Ile Des Phoques Nature Reserve Management Plan 1998* (MP) is the statutory management plan for location of the proposal.

The MP is currently under review. This proposal was assessed and evaluated under the current (1998) plan and is deemed compliant with the current plan. It is expected that the proposed infrastructure plans will be captured in the MP review, with amended facilities and service areas to be appropriately zoned taking into account the location of new and planned works.

The MP requires proposals for development works to be assessed in accordance with procedures approved by the Director, which is this RAA process. The process is used to determine consistency with legislative and PWS policy requirements.

#### 6.1.1 Management goals and objectives

The proposal is not inconsistent with any of the Park and Reserve Management Goals or Objectives in the MP. The proposal has been carefully planned to upgrade facilities and services to support and further the intent of the objective to 'provide recreation and tourism opportunities and facilities based on appreciation and enjoyment of the environmental, heritage, recreational and educational values of the Park.' (Section 15.2).

#### 6.1.2 Management Zones

The zoning ensures appropriate management of differing conditions prevalent in different areas of Maria Island National Park (i.e. natural values versus historic heritage values). All parts (A, B and C) of the proposal area located within the Darlington Zone of the MP. Part A (new centralised WWTP) of the proposal lies within the Facilities and Services Zone A of the Darlington Zone. The Darlington Zone is intended to serve as the principal location for development of facilities for visitors to the island. Proposed works are not within the Recreation Zone.

The management objectives of the Darlington Zone are to:

- protect and conserve environmental and heritage features and values;
- protect and conserve the recreational and tourism atmosphere and character;
- provide recreational and tourism opportunities consistent with the above objectives; and
- consistent with the foregoing, provide the principal visitor and management services and facilities for the Park.

The Facilities and services area A provides for infrastructure services such as sewerage, water supply, power, and communications for the adjacent main Darlington settlement.

Proposed assets are located in areas consistent with MP zones and minimise vegetation clearing and environmental impacts (refer EIS section 6 and Appendices C, D, F and G). Location of the new WWTP does not impact on historic heritage landscape values or known historic or cultural heritage sites (refer to EIS Section 6.6 and Appendices A and H). The proposed new or upgraded infrastructure has been designed and placed to not impact on landscape view fields or the visitor experience. Revegetation of areas will improve landscape values.

Upgraded and new infrastructure will reduce the risk of environmental harm by removing aging and failing infrastructure and providing for an improved visitor and recreation experience.

The proposal is adequately located to align with MP zones and objectives.

### 6.1.3 Other management plan policies

Clearing of vegetation impacts on animal conservation and habitat. The removed vegetation can build up and create a fire risk if not properly managed. The MP has the following relevant Animal Conservation (Section 19.2) and Fire Management (Section 20.1) objectives and policies:

- to 'conserve and protect rare, threatened and endangered animal species',
- 'the following Park or Reserve habitats will be left undisturbed or otherwise given special protection: forty-spotted pardalote and swift parrot core breeding areas';
- 'all practical efforts will be made to prevent fire and other impacts on breeding.';
- 'because dead trees, small stumps and fallen limbs are all important nesting sites, firewood will not be collected from known core breeding areas of the forty-spotted pardalote.'; and
- 'all practicable measures will be taken to diminish the risk of wildfires occurring in the Park and to lessen their impact.'

The EIS demonstrates that the area proposed for clearing for the new WWTP, though contains *Eucalyptus globulus* and *Eucalyptus viminalis*, important species for both the swift parrot and the forty-spotted pardalote, it is not representative of core breeding areas (EIS section 6 and Appendices D, F and G). An Offset Management Plan will be required and used to increase the potential habitat for both species on Maria Island, where the number of trees planted will be greater than the number cleared. The Offset Management Plan will include mitigations to ensure consistency with MP policy 'As far as possible, all plants used in planting works within the Park will be obtained by propagation, in Phytophthora-free soil or other medium, at a nursery established on the island. If this method is not available, obtain approval from the Senior Botanist for plant selection and obtain plants from certified Phytophthora free nurseries.' (Section 19.6).

The vegetation required to be cleared for the proposed works will be carefully managed to provide habitat and reduce the risk of fire risk. Some cleared vegetation may be converted for use as firewood for visitor and staff use, or mulch for soil erosion and rehabilitation purposes. Commitments are included in this EAR to assist in management of cleared vegetation and the reduction of fire risk.

Tracks will either be upgraded to provide suitable access or disturbed for installation of infrastructure. The MP has the following MP policies, relating to tracks and managing impacts, from Sections 18.4 (Road and Vehicular Tracks), Section 19.6 (Phytophthora Protection):

- 'vehicle tracks will be limited to those identified in this plan, site plans, or designated in the Fire Management Plan'
- 'local materials will be used for track and road maintenance, and any other building purpose, rather than imported materials'
- 'all practicable steps will be taken to prevent the introduction or spread of Phytophthora.'
- 'as far as possible, all materials for upgrading roads and landscape works will be obtained from within the Park. Any imported soil, fill or crushed rock used in any construction project will be obtained from sites where Phytophthora has not been found, using Phytophthora-free machinery.'

Works will utilise existing tracks and local gravel wherever possible. A Weed and Disease and Hygiene Management Plan will be required to be included in the CEMP.

The proposal is consistent with the intent of MP policies and objectives.

### **Summary of consistency with MP**

The proposal has been assessed against the goals and objectives, zoning, and policies of the MP. The proposal is considered consistent with the zoning and the intent of the goals, objectives and policy of the MP and is permitted under the MP.

## **6.2 Other plans**

The *Maria Island – Darlington Settlement and Point Lesueur Conservation Management Plan 2008* (the Conservation Management Plan), supported the listing of the Darlington Probation Station on the National Heritage List and the inscription on the UNESCO World Heritage List. Extensive consultation with PWS Heritage Branch occurred through project design and will continue through works to ensure these values are not impacted.

The *Maria Island National Park Darlington Site Plan 1998* (the Site Plan) is a subsidiary non-statutory plan, required by Section 23.3 of the MP. The Site Plan is intended to provide for conservation, management, and visitor use of the Darlington Zone, including management of facilities and services areas within the zone. The Site Plan provides for development or relocation of infrastructure services such as sewerage, water, and power for the main Darlington settlement. The proposed works are consistent with the Site Plan, including Section 4.13 - Services which states, 'Sewerage treatment systems will be maintained, extended, or upgraded to ensure compliance with contemporary treatment standards' and Section 5.4 – Site Disturbance and Environmental Impacts which states 'By maintaining, extending or upgrading sewerage treatment systems to comply with contemporary treatment standards, impacts will be contained within acceptable levels'.

The proposal is consistent with the provisions and intent of the Conservation Management Plan and Site Plan.

## **6.3 Other policies**

The Recreational Standards Framework (RSF) is a PWS tool for determining the location of visitor sites and services in consideration of risk management, visitor management and finance management. The RSF is a mapped representation of the level-of-service delivery.

The MP zoning has considered appropriate locations for services in the context of visitor management and protection of values, particularly heritage values. The proposal aligns with MP zoning, with majority of the services installed in the Facilities and Services Zone A of the Darlington Zone. At the completion of works, where required, the RSF will be updated to reflect the appropriate RSF category.

## 7. Evaluation of impacts and recommended conditions

---

The assessment of environmental and cultural issues relevant to the proposal and how impacts are avoided or mitigated have been evaluated.

Details of this evaluation, including the commitments made by the PWS for implementing the proposal, are discussed. Of particular relevance are:

- flora and fauna (including swift parrot and forty-spotted pardalote habitat)
- historic and cultural heritage

One public submission was received across all three public consultation processes and is addressed in the evaluation below.

### 7.1 Flora and Fauna

Three natural values reports and a habitat assessment report informed the EIS (Appendices C, D, F and G).

#### **Threatened flora**

Numerous vegetation communities were identified across the entire project area, only one community (*Eucalyptus globulus* dry forest and woodland (DGL)) was identified as threatened under the NC Act. No listed flora species were identified in the project area.

The Threatened Ecological Community *Tasmanian Forests and Woodlands dominated by Black Gum or Brookers Gum (Eucalyptus ovata / E. brookeriana)*, listed as Critically Endangered, and identified in the EPBC Act Protected Matters report, was not identified within or adjacent to the project area during the field assessments.

Some minor understory trimming and clearing (including in DGL vegetation) is required for the access track (Part A) and proposed works in Parts B and C.

Clearing of approximately 3.2ha is required for the new centralised WWTP (Part A), including approximately 1.9 ha of DGL and removal of approximately 7 individual *Eucalyptus viminalis* trees. An additional 0.42 ha vegetation clearing is anticipated for works associated with Parts B and C.

#### **Threatened fauna**

Records of threatened fauna and suitable habitat have been identified from within or adjacent to the project area for the following listed species: swift parrot (*Lathamus discolor*), forty-spotted pardalote (*Pardalotus quadragintus*), masked owl (*Tyto novaehollandiae*), Tasmanian wedge-tailed eagle (*Aquila audax fleayi*), broad-toothed stag beetle (*Lissotes latidens*), Tasmanian devil (*Sarcophilus harrisi*) and green and gold frog (*Litoria raniformis*).

An assessment of hollow bearing trees (Appendix G) within the proposed new WWTP area to be cleared found 50 trees of sufficient size to have potential hollows and 5 trees had visible hollows. The area to be cleared, when considered at the landscape scale of the island, is minimal and the loss of potential hollows for habitat is unlikely to constitute a significant impact.

A survey to confirm the presence of the wedge-tailed eagle (EIS Appendix G) within the project impact zone was conducted on 25 March 2022. No new nests were found, the known nest

confirmed that the project area (particularly the dam and raw water main proposed works) could not be seen from the nest.

Surveys for the green and gold frog were conducted on 9-10 January 2023 (EIS Appendix G), including call playback. The frog was not detected at any of the project areas surveyed, no mitigation measures are required.

At the time of assessment and public consultation, the blue-winged parrot (*Neophema chrysostoma*) was not listed on the EPBC Act. It is now listed as vulnerable on the EPBC Act but not listed on the TSP Act. The EPBC referral included the blue-winged parrot, but the natural values reports have not been updated to reflect its new status. The DCCEEW returned a decision of not a controlled action. There are two records of the species on Maria Island and the project area contains potential habitat, however the area of impact is minor compared to the remaining habitat available on the island.

### **Swift parrot and forty-spotted pardalote habitat**

Maria Island is considered priority nesting and foraging habitat for the critically endangered swift parrot (*Lathamus discolor*) and a key biodiversity area for the endangered forty-spotted pardalote (*Pardalotus quadragintus*). Maria Island is also free of sugar gliders, a known predator of breeding swift parrots. Both species are listed under federal and state legislation.

*Eucalyptus globulus* trees and the DGL vegetation community are important habitats for swift parrots. Individual *Eucalyptus viminalis* trees represent core habitat for the forty-spotted pardalote. There are numerous records of these avian species within 500m of the proposed project footprint.

The natural values reports and habitat assessment (EIS Appendices C, D, F and G) classified the proposed project area to be cleared as high-density nesting (in the local context) and medium density foraging habitat for the swift parrot. The Listing Statement for the forty-spotted pardalote considers that core habitat is any individual *E.viminalis* within 3 km of the east coast. High density habitat and suitable foraging habitat is widespread throughout the adjoining forests and woodlands on the western side of the island for both species.

Two records of swift parrot nests exist within or immediately adjacent to raw water main indicating Part C represents nesting habitat. No recorded nest trees will be impacted.

Threats to swift parrot include loss of nesting and foraging habitat, collision with structures (ie fencing) and predation by sugar gliders. Threats to forty-spotted pardalotes include loss of nesting and foraging habitat, including by wildfire.

The single public submission received recommended considering a 20-fold offset for forty-spotted pardalote habitat, which has been adopted by PWS.

### **Management measures proposed**

PWS has provided commitments and management actions in the EIS (EIS Sections 7 and 9). Commitments relevant to the flora and fauna issues raised are addressed by these commitments:

- minimise clearance and disturbance of native vegetation as far as practical, within the constraints imposed by the engineering and site characteristics, including during the detailed design phase, and consider the health of larger trees by retaining a buffer area around the roots
- where trees require removal, convert vertical habitat to horizontal habitat on the fringes of the project area
- clearly mark the area for clearing

- conduct clearing works between February and July inclusive to prevent disturbance to swift parrot and forty-spotted pardalote breeding and fledging periods
- onsite seed collection for supplementary sowing of collected seeds at the existing WWTP as part of the rehabilitation process
- avoid excavations deeper than 50cm within 5m of any large blue gums
- implementation of a comprehensive Offset Management Plan for swift parrot and forty-spotted pardalote habitat cleared during works
- the implementation of a comprehensive CEMP, including a SWMP and a Weed and Disease Management and Hygiene Plan
- implementation of a comprehensive Decommissioning and Rehabilitation Plan
- protection of fauna during construction works (prevent wildlife entry, avoid leaving open excavations, works during daylight hours)
- pre-clearance surveys and if necessary, seek associated permits to disturb
- undertake dredging works with construction techniques that minimise potential for excessive sedimentation or contamination
- ongoing monitoring of impact of fencing on swift parrot
- inspections of materials prior to transportation to the island for presence of sugar gliders

A complete list of commitments and mitigation measures can be found in Appendices 1 and 2 of this report. Relevant commitments are numbers 1 to 7, and 11 to 12, and mitigation measures are 1.1 to 2.24, and 6.1 to 6.13.

### **Evaluation**

The DCCEEW returned a decision of not a controlled action under the EPBC Act.

The swift parrot and forty-spotted pardalote habitat area, including hollow bearing trees, that will be impacted is minimal at a landscape scale. The island provides extensive potential foraging and nesting habitat for the threatened species which is protected through its national park listing and management plan zoning prescriptions. The requirements for offsets, in areas protected for the future, will provide additional long-term habitat for threatened species on the island.

Two known swift parrot nests are near the footprint of Part C works, therefore it is recommended that advice is sought from Conservation Assessment branch on flowering of eucalypt species as a food source, if works in Part C works are to occur during the swift parrot breeding season (September to January inclusive) and any proposed mitigation measures adopted.

The requirements for root buffer zones should be extended to include *Eucalyptus viminalis*, and hollow bearing trees, for protection of habitat, in areas where tree removal is not required (ie Parts B and C).

The fence is not anticipated to be in the flight path of fast-flying birds. The fence has been designed for minimal visual impact to maintain objectives of the heritage landscape world heritage values of the island and the visitor experience.

Conversion of vertical habitat to horizontal habitat requires additional management to:

- avoid impacting adjacent areas during placement;
- provide mulch for rehabilitation purposes;
- avoid creating a wildlife risk by creating windrows of flammable material; and

- provide for operational needs such as firewood.

During works horizontal habitat must be managed in consultation with PWS Southern Region.

The eagle activity check was undertaken in March 2022 for the EIS. Activity checks expire after two years. There is potential eagle nesting habitat in the vicinity of Part C works, and a confirmed nest (though not in line of sight of the proposed works). If Part C works are to be undertaken during the eagle breeding season, a subsequent eagle survey will be required to ensure no new nests within 500m or 1 km line of sight of the proposed works.

### **Conclusion**

Whilst the proposal requires minimal clearing of habitat for threatened species, PWS has considered and utilised design outcomes and mitigations to balance conservation of other values (i.e. world heritage historic cultural landscape values) and the need to replace aging infrastructure to prevent environmental damage from failure and provide for improved visitor experience.

Presence of green and gold frog near project sites was not detected, therefore no mitigation measures for the green and gold frog are required.

The mitigating actions and commitments, including additional root buffer zones, appropriate management of horizontal habitat, and mitigations for Part C works regarding swift parrot and eagle checks in Appendices 1 and 2 provide sufficient impact mitigation for all identified threatened flora and fauna.

## **7.2 Historic Heritage**

Historical research and field surveys have demonstrated that there are no known historic buildings or other features in the areas to be affected by the works. A surface scatter of historic artefacts (bricks, glass) was identified during survey works for the proposal. The Heritage Impact Statement (EIS Appendix H) states this feature can be removed without impacting heritage values.

Part B (infrastructure upgrades) will upgrade critical services on buildings in the Darlington Precinct. These buildings all post-date the convict probation period of Darlington. The services will be replacing like for like. PWS Heritage staff have determined there will be no impact on the heritage values of the site from these works.

### **Management measures proposed**

PWS has provided commitments and management actions in the EIS (EIS Sections 7 and 9). Commitments relevant to historic heritage issues raised are addressed by these commitments:

- the implementation of a comprehensive CEMP, including a Heritage Unanticipated Discovery Plan
- PWS heritage staff will supervise works when conducted near known heritage features

A complete list of commitments and mitigation measures can be found in Appendices 1 and 2 of this report. Relevant commitments are numbers 1 and 9, and mitigation measures are 3.3 to 3.4, and 3.8 to 3.10.

### **Evaluation**

The DCCEEW returned a decision of not a controlled action under the EPBC Act.

The Heritage unit of PWS was extensively consulted to reduce impact to heritage artefacts, buildings, landscapes and view fields and to ensure the siting of the proposed works are located in the most appropriate locations and are screened by vegetation and the topography. Proposed

offset areas will further reduce the visibility of the infrastructure from visitors and in terms of historic landscape preservation. The upgrade of services (Part B) is replacing like for like in an already highly modified area and have been considered in detail and designed to minimise the effects on the buildings or associated archaeological deposits.

### ***Conclusion***

The mitigating actions and commitments in Appendices 1 and 2 provide sufficient impact mitigation.

## **7.3 Aboriginal Heritage**

The AHAR (EIS Appendix A) states that Maria Island was within the territory of the Oyster Bay tribal group and artefacts are known on Maria Island. One new site (AH13940) was identified approximately 50m outside of the proposed development footprint. There are no known sites within the project area and a very low potential for impact on undetected heritage within the proposed development footprint.

An addendum to the report provides response to AHT's queries that arose during consultation. The addendum confirms that the project area has been satisfactorily covered during field assessment and the proposed works pose a minimal risk to Aboriginal heritage.

### ***Management measures proposed***

The PWS has provided commitments and management actions in the EIS (EIS Sections 7 and 9). Commitments relevant to Aboriginal heritage issues raised are addressed by these commitments:

- the implementation of a comprehensive CEMP, including an Aboriginal Heritage Unanticipated Discovery Plan and Aboriginal Stone Artefacts fact sheet.
- exclusion zone around site AH13940

A complete list of commitments and mitigation measures can be found in Appendices 1 and 2 of this report. Relevant commitments are numbers 1 and 8, and mitigation measures are 3.1 to 3.2, and 3.5 to 3.7.

### ***Evaluation***

There are no known Aboriginal heritage sites within the project area and a low probability of encountering unanticipated heritage. The risk of impact is very low.

### ***Conclusion***

The mitigating actions and commitments in Appendices 1 and 2 provide sufficient impact mitigation.

## **7.4 Bushfire**

Conversion of vertical habitat to horizontal habitat, associated with vegetation clearance, has potential to create a fire management risk due to volume of vegetated material cleared and creating a 'windrow' effect by stacking horizontal habitat on the fringes of the cleared areas. PWS Fire management advised that any instance of unmanaged fire will result in significant spotting originating from the high volume of leaf and fine fuels contained in the tree heads. The position of this site at the base of a western aspect slope provides a large area of fire-promoting vegetation types for spotting to quickly develop into landscape wildfire. If allowed to become established, containment would most probably then become climate driven rather than management due to absence of control lines and fuel age/arrangement.

Maria Island has significant widespread fuel loads in the surrounding vegetation due to absence of fire, which increase the fire risk but also act as existing habitat for fauna.

PWS fire management recommended that the majority of the cleared material is removed from site, either by controlled burning (preferably in winter) or for operational needs.

Bushfires can also be ignited from human activities, such as use of machinery during high fire danger periods, or lighting of fires for warmth or cooking purposes. Campfires are only permitted in certain areas on Maria Island, with the remainder being a fire prohibited zone.

Bushfire can have devastating impacts on vegetation and habitat for threatened species. Risk of wildfire is a key threat to the forty-spotted pardalote.

### ***Management measures proposed***

PWS has provided commitments and management actions in the EIS (EIS Sections 7 and 9). Commitments relevant to the bushfire issues raised are addressed by these commitments:

- implementation of a comprehensive CEMP, including hot works restrictions and banning of fires

A complete list of commitments and mitigation measures can be found in Appendices 1 and 2 of this report. Relevant commitments are number 1, and mitigation measures are 7.2 to 7.9.

### ***Evaluation***

To reduce the risk of horizontal habitat creating a bushfire risk, the following commitments and management actions are to be included:

- Conversion of vertical habitat to horizontal habitat is to be managed, in consultation with PWS Southern Region, to:
  - avoid impacting adjacent areas during placement;
  - provide mulch for rehabilitation purposes;
  - avoid creating a wildlife risk by creating windrows of flammable material; and
  - provide for operational needs such as firewood.

### ***Conclusion***

The mitigating actions and commitments in Appendices 1 and 2 provide sufficient impact mitigation for risk of bushfire, including appropriate management of horizontal habitat.

## **7.5 Invasive Species**

Two plant species regarded as environmental weeds (spear thistle – *Cirsium vulgare*, great mullein – *Verbascum thapsus*) were detected in the project area along road verges, the dam wall.

The declared weed, under the Tasmanian *Weed Management Act 1999*, canary broom (*Genista monspessulana*) was detected scattered along the access road and disturbed verges within the project area for Part C but not detected in other project areas. Two species were located in the vicinity of Part A proposed works (California thistle- *Cirsium arvense*, mignonette – *Reseda lutea*).

Maria Island is thought to be free of *Phytophthora cinnamomi* (PC) and has been selected as a management area for the protection of susceptible threatened species. The management plan has specific objectives and policies to protect the island from PC.

Chytrid fungus and other freshwater pathogens are not known on Maria Island, however Bernacchis Creek and the reservoir is habitat for several amphibian species that could be impacted if freshwater pathogens were introduced to Maria Island.

It is proposed to move soil between the reservoir works and the WWTP site, and within the WWTP site for rehabilitation purposes.

### ***Management measures proposed***

The PWS has provided commitments and management actions in the EIS (EIS Sections 7 and 9). Commitments relevant to the invasive species issues raised are addressed by these commitments:

- implementation of a comprehensive CEMP, including a Weed and Disease Management and Hygiene Plan
- all materials for upgrading roads and landscape works will be obtained from within the Park, or PC free sites
- all plants used in planting works within the Park will be obtained by propagation, in PC free soil or other medium
- materials shall not be transported between construction sites

A complete list of commitments and mitigation measures can be found in Appendices 1 and 2 of this report. Relevant commitments are numbers 1 and 6, and mitigation measures are 5.1 to 5.15.

### ***Evaluation***

Locations for storing excavated materials is difficult to find on Maria Island. It is therefore recommended that the dredged soil from the dam be permitted to be relocated to the existing WWTP for rehabilitation purposes. All reasonable efforts must be made to manage other excavated materials, across all parts of the project, within the site. Other options for transporting and managing spoil may occur, where required and with the approval of the Maria Island Ranger in Charge. Management of excavated materials should be included in the Weed and Disease management and Hygiene Plan and the SWMP, with commitments around machine hygiene between sites, as well as material hygiene, and ensure working as far as practicable from clean sites to contaminated sites.

### ***Conclusion***

The mitigating actions and commitments, including additional commitments regarding transfer of dredging material and hygiene requirements, in Appendices 1 and 2 provide sufficient impact mitigation for risk of invasive species.

## **7.6 Other values**

The EIS adequately identified and evaluated values that could be impacted by the proposed works. The assessment and mitigations in the EIS are appropriate for the values listed below. Relevant commitment numbers in the list of commitments in Appendices 1 and 2 are included in parentheses next to the listed value.

- Climate change (Appendix 2, mitigation measure 7.1)
- Geology and geoconservation (Appendix 1, commitments 1, 2, and 7, and Appendix 2, mitigation measures 4.1 to 4.4, and 4.7 to 4.11)
- Acid Sulfate soils (Appendix 1, commitment 1 and Appendix 2, mitigation measures 4.5 to 4.6, and 4.12 to 4.13)
- Visual (Appendix 1, commitments 1 and 3, and Appendix 2, mitigation measures 8.1 to 8.6)
- Social and recreational values (Appendix 1, commitment 1, and Appendix 2 mitigation measures 9.1 to 9.11)

- Transport and parking (Appendix 1, commitment 1, and Appendix 2 mitigation measures 10.1 to 10.7)
- Waste and storage (Appendix 1, commitment 1 and 10, and Appendix 2 mitigation measures 11.1 to 11.8)

***Conclusion***

The mitigating actions and commitments in Appendices 1 and 2 provide sufficient impact mitigation.

## 8. Statement of reasons

---

This Environmental Assessment Report is based on the information provided in the final EIS and incorporates advice provided by NRE specialists and PWS regulatory staff. This assessment also addresses the issues raised in specialist advice and public submissions.

This statement of reasons is a summary of assessment criteria relevant to the proposal and how the criteria were considered by the delegate.

### 8.1 Assessment Criteria

Section 3.3 of the EIS addresses the relevant zoning objectives of the management plan, including location of the proposal to protect and conserve environmental and heritage values and improve the capacity and resilience of critical infrastructure to accommodate current and future visitor and staff numbers to the island. This section also addressed compliance with the *Maria Island – Darlington Settlement and Point Lesueur Conservation Management Plan 2008*.

The proposal is not inconsistent with the conservation of the national parks' natural and cultural values, World Heritage values or visitor experience values. Section 6 of the EIS outlined potential impacts and the mitigation measures applied to minimise impacts, including revegetation plantings to offset removal of a threatened vegetation community and potential threatened species habitat with the aim to provide increased habitat in the long term.

#### ***Nature Conservation Act 2002 and National Parks and Reserves Management Act 2002***

The proposal is not inconsistent with the purpose of reservation for national parks listed in Appendix 1 of the NC Act, nor the management objectives for national parks in Appendix 1 of the NPRM Act, and the improvements could be considered to further the tourism and recreational use of the park whilst conserving the natural and cultural values (objective h).

#### ***Environment Protection and Biodiversity Conservation Act 1999***

PWS referred the proposal under the EPBC Act and a decision of 'not a controlled action' was returned. The proposal does not represent a significant impact to MNES. Refer to EIS Section 8.2.

#### ***Tasmanian Planning Scheme and Historic Cultural Heritage Act 1995***

PWS has been issued a planning permit, with conditions, for the proposal as described in the EIS (section 3.2 and Appendix J). The Heritage Council has given consent to the proposal, through the GSBC planning permit process, subject to conditions (Appendix J).

#### ***Aboriginal Heritage Act 1975***

AHT and the Tasmanian Aboriginal Heritage Council have advised that a permit issued under the Aboriginal Heritage Act 1975 is not required.

### 8.2 Limitations of Assessment

This decision has been informed by the information presented in the final EIS. Further approvals are required in accordance with the permit issued by the GSBC, plumbing permits, and a Dam Works Permit. Should the proposal be significantly changed, an amended EIS may be required and a new recommendation sought from PWS.

## 9. Decision

---

I am satisfied that the proposal is acceptable because:

- The environmental impact statement under the identified assessment criteria demonstrates that the proposal would not cause significant environmental impacts if appropriately managed.
- One public submission was received across three public consultation processes. The one matter raised has been sufficiently addressed in EIS Section 8.
- The proposal supports the reserve management requirements in the MP and furthers the intent of the objective to 'provide recreation and tourism opportunities and facilities based on appreciation and enjoyment of the environmental, heritage, recreational and educational values of the Park.'
- The proposal will improve the capacity and resilience of critical infrastructure to accommodate current and future visitor and staff numbers to the island and reduce the risk of environmental harm or public safety issues posed by the existing aging infrastructure.
- The proposal can be safely implemented with acceptable environmental commitments and mitigation measures captured in the EIS and appendices 1 and 2 of this report.

I recommended that the proposal be authorised and appropriately managed in accordance with matters for environmental management conditions in Appendix 1 and Appendix 2 of this report.



Sophie Muller

DEPUTY SECRETARY

PARKS AND WILDLIFE SERVICE

Date: 22 April 2024

The RAA process is completed when the Deputy Secretary signs this environmental assessment report and provides it to the Regional Manager South to implement this Stage 3 project for Maria Island.

# Appendix 1: Proponent Commitments

Table 3: PWS Commitments

Commitment No.	Commitment	Comment
1	A <b>Construction Environmental Management Plan</b> (CEMP) will be prepared including consideration of the mitigation and management measures (refer Appendix 2) and submitted to the PWS for approval prior to works commencing.	The CEMP is to demonstrate that all environmental and social issues have been incorporated into the complete works.
2	A <b>Decommissioning and Rehabilitation Plan</b> will be prepared for the existing WWTP, including mitigation and management measures (refer Appendix 2, measures 6.1 to 6.13), and submitted to PWS for approval prior to works commencing.	
3	An <b>Offset Management Plan</b> will be prepared, which will include offset monitoring and management measures (refer Appendix 2, measures 2.18 to 2.22).	This must be approved by PWS prior to tree falling works.
4	Provision of 3ha of revegetation to support the establishment of both <i>E.globulus</i> and <i>E.viminalis</i> will be provided in an existing cleared area to complement the nearby DGL forest.	<p>A total of <b>4 ha</b> is required to accommodate the 2 ha offset for <i>E.globulus</i> and the 20:1 offset for <i>E.viminalis</i>.</p> <p>This assumes only 7 <i>E.viminalis</i> trees will be felled.</p> <p>For each additional <i>E.viminalis</i> tree felled during works, an approximate additional 0.25ha will be required for offset planting.</p>
5	Prior to commencing works, a pre-clearance survey for Broad-toothed Stag Beetle will be undertaken by an appropriately trained person.	Applies to Part C works only
6	The project specific CEMP will include a <b>weed and disease management and hygiene plan</b> in accordance with the project specific measures (Appendix 2, measures 5.1 to 5.15).	
7	A <b>Soil and Water Management Plan</b> (SWMP) will be prepared and included as part of CEMP. The SWMP will address the drainage, erosion and sediment control conditions for the proposed works. (Appendix 2, measures 4.1 to 4.13). Disturbed areas within the site will be rehabilitated to the satisfaction of PWS.	
8	The project CEMP will include an <b>Aboriginal Heritage Unanticipated Discovery Plan</b> for Aboriginal heritage sites or artefacts, and the project specific measures (Appendix 2, measures 3.1-3.2, and 3.5 to 3.7).	
9	The project CEMP will include a <b>Heritage Unanticipated Discovery Plan</b> for historic heritage sites or artefacts, and the project specific measures (Appendix 2, measures 3.3 to 3.4, and 3.8 to 3.10).	
10	Waste management controls will be included in the project specific CEMP (Appendix 2, measures 11.1 to	

---

11.8), and all waste will be removed from the island. Disturbed areas within the site will be rehabilitated to the satisfaction of the PWS.

- 11** Minimise where practical and the design allows, the removal of existing critical habitat trees *Eucalyptus viminalis*.
- 12** For each critical habitat tree of trees *Eucalyptus viminalis* which must be removed in the delivery of the project, a minimum of 20 *E.viminalis* will be replanted in an existing cleared area to complement the nearby DGL forest.
-

# Appendix 2: Environmental Management Matters and Mitigations

**Table 4: Mitigations and management measures**

<b>1. Vegetation management and general works</b>	
<b>General measures – PWS commitments in EIS</b>	<b>Comment</b>
<p><b>1.1</b> <i>Eucalyptus globulus</i> dry forest and woodland (TASVEG code: DGL), is a threatened vegetation type under Schedule 3A of the Tasmanian <i>Nature Conservation Act 2002</i>, impact to this community is to be avoided and minimised as best as possible.</p> <p><b>1.2</b> During the detailed planning for the land clearance for works in Parts B and C (the new raw water main and the access area required for dredging works), avoid larger trees wherever practical, and consider the health of large trees by retaining buffer areas around roots.</p>	
<b>Measures to be included in CEMP – PWS commitments in EIS</b>	<b>Comment</b>
<p><b>1.3</b> Minimise clearance and disturbance of native vegetation as far as practical, within the constraints imposed by the engineering and site characteristics.</p> <p><b>1.4</b> Ensure clearing area is marked, and that no further encroachment on vegetation occurs.</p> <p><b>1.5</b> Wherever practical, minimise removal of standing trees but note that if trees do require removal, 'vertical habitat' can be converted to 'horizontal habitat' by shifting felled material to the fringes of the project area. Smaller shrubs and vegetation can be turned into mulch and spread to assist in the rehabilitation.</p> <p><b>1.6</b> Minimise removal of <i>E.globulus</i> during works to maximise retention. Any excavations deeper than 50 cm within approximately 5m of any larger gums must be avoided wherever possible. This buffer will avoid any material impact on the root system.</p> <p><b>1.7</b> Onsite seed collection to be undertaken where practical for any felled <i>E.globulus</i> trees for supplementary sowing of collected seeds at the existing WWTP site as part of the rehabilitation process. (Applies to works in Part A only.)</p> <p><b>1.8</b> During Part C works (raw water pipeline), minimise the extent of "clearance and conversion" and/or "disturbance" to native vegetation. This is particularly relevant to the areas mapped as DGL.</p> <p><b>1.9</b> No individuals of <i>E.globulus</i> or <i>E.viminalis</i> will removed, except for safety purposes. For each <i>E.viminalis</i> removed, 20 <i>E.viminalis</i> seedlings are required to be planted as part of the Offset Management Plan</p> <p><b>1.10</b> Minor clearing of vegetation required around Federation Houses will be minimised and undertaken with advice from PWS. (Part B works only.)</p> <p><b>1.11</b> The SWMP will include measures to ensure that within the construction works areas, indirect impacts from sedimentation and erosion are controlled and at the completion of works, the site will be rehabilitated using appropriate erosion control measures and revegetated to minimise potential for erosion and contamination of run-off.</p> <p><b>1.12</b> At the completion of the construction works, the existing WWTP site will be rehabilitated in accordance with the Decommissioning and Rehabilitation Plan.</p> <p><b>1.13</b> Revegetation of nearby areas will be undertaken in accordance with the Offset Management Plan.</p>	<p>Refer to PWS required measures regarding required management of 'horizontal habitat' under Fauna Protection Measures.</p> <p>Root buffer to include <i>E.globulus</i>, <i>E.viminalis</i> and hollow bearing trees.</p> <p>Onsite seed collection of felled <i>E. viminalis</i> trees is required given the higher offset requirements.</p> <p>Trees must be removed for Part A, new WWTP, works. The offset requirements apply to those works, as well as Part B and C works (where 1.9 is more applicable).</p>

## 2. Fauna Protection Measures

General measures – PWS commitments in EIS	Comment
<p><b>2.1</b> Survey the site, including a 50m buffer, for any new den sites within 30 days prior to construction works. Any potential or new den sites located within the works sites (including a 50m buffer) are to be managed in accordance with the <i>Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil (Sarcophilus harrisii)</i>. (Applies to works in Part A and C only.)</p>	<p>Measures 2.1-2.2 are responsibilities of the PWS project manager.</p> <p>Measure 2.3 is the responsibility of PWS</p>
<p><b>2.2</b> Prior to commencing works in Part C, a pre-clearance survey for Broad-toothed Stag Beetle will be undertaken by an appropriately trained person.</p>	
<p><b>2.3</b> To validate the assumption that there is only a remote risk of bird collision with the chainlink fence (particularly the Swift Parrot), there will be a monitoring program implemented. For the first two-years post-construction during the peak breeding season (i.e. September, October, November, and December) monthly monitoring of the fence perimeter will be undertaken by a suitably qualified PWS officer to assess for any birds that have collided with the fence. Scheduled monitoring, as well as any incidental observations will document any injuries or mortalities through collision. In the event that an incident occurs, this will be reported to relevant agencies, with mitigation measures implemented to minimise ongoing collision risk; e.g. adding materials to improve visibility or detract the birds from the fencing. (Applies to works in Part A only.)</p>	<p>Advice will be sought from Conservation Assessment Section of NRE in the event incidents are observed.</p>
<p><b>2.4</b> Undertake dredging works with construction techniques that minimise potential for excessive sedimentation or contamination of Bernacchis creek.</p>	
Measures to be included in CEMP – PWS commitments in EIS	Comment
<p><b>2.5</b> The extent of loss of individuals of <i>E.globulus</i> to be minimised as far as practical throughout the project areas. No individuals of <i>E.viminalis</i> to be removed as part of Part C works.</p>	<p>Hollow bearing trees should be retained where practical.</p>
<p><b>2.6</b> The clearing of vegetation must be conducted between February and July, inclusive, to avoid breeding seasons and fledging periods of threatened species. (Applies to works in Part A.)</p>	<p>Refer to PWS required measures for swift parrots.</p>
<p><b>2.7</b> Existing horizontal habitat within the area to be cleared shall be relocated to the fringe of the cleared or disturbed area. (Applies to works in Part A and C only.)</p>	
<p><b>2.8</b> Construction works will be undertaken during daylight hours to reduce the impact on nocturnal species.</p>	
<p><b>Excavations</b></p>	<p>Refer to PWS required measures regarding management of “horizontal habitat”</p>
<p><b>2.9</b> Construction works shall be managed to minimise the extent and duration of open trenches.</p>	
<p><b>2.10</b> Excavations left open and unattended (e.g. overnight, weekends, etc.) shall be either fully covered or fenced and/or measures for fauna escape provided (e.g. ramps).</p>	
<p><b>2.11</b> Open trenches shall be checked for trapped fauna early each morning during construction.</p>	
<p><b>Swift Parrot and Forty-spotted Pardalote</b></p>	<p>Trees must be removed for Part A, new WWTP, works. The intent of 2.12 (and 2.14) should be implemented where possible in Part A, and at all times during Parts B and C.</p>
<p><b>2.12</b> Minimise removal of <i>E.globulus</i> during works to maximise retention of foraging habitat. Any excavations deeper than 50 cm within approximately 5m of any larger blue gums must be avoided wherever possible. This buffer will avoid any material impact on the root system.</p>	
<p><b>2.13</b> To offset impacts that cannot be avoided, revegetation of <i>E.globulus</i> will be undertaken at locations near the site, with approximately 100 individuals of <i>E.globulus</i> from locally collected provenance to be planted. Refer to Offset Management below. (Applies to works in Part A and C only.)</p>	<p>The root buffer zones also apply to <i>E.viminalis</i> trees and hollow bearing trees.</p>
<p><b>2.14</b> Minimise clearance of <i>E.viminalis</i> trees (white gum), noting the unavoidable estimated loss of seven trees.</p>	

**2.15** To offset impacts (removal of the seven individuals of *E.viminalis*) replanting will be undertaken in nearby revegetation areas on a 20:1 basis from locally collected provenance. Refer to Offset Management below. (Applies to works in Part A and C only.)

**2.16** Maria Island does not support the Kreffts (syn: sugar] glider (*Petaurus notatus*), which are a recognised threat to swift parrots and forty-spotted pardalotes. While there is a very low likelihood of the works introducing the species to the island, a suitably qualified person (e.g. a PWS officer) will examine all materials being supplied to the island prior to transport for the presence of gliders (note that this may also minimise the risk of transport of rats and mice).

**Offset Management**

**2.17** To offset the impact of clearing certain vegetation, offset plantings will be completed. A minimum of 100 *E.globulus* and 140 *E.viminalis* will be planted as part of the project. *E.viminalis* will be planted on a 20:1 basis.

**2.18** An Offset Management Plan will be prepared which will include ongoing monitoring and management measures for the site.

**2.19** The current treatment plant site is one site proposed given that *E.globulus* occurs naturally in the area, the site is nearby, the existing fencing shall be retained to provide protection from browsing fauna and the ± 1ha site will allow for the replanting of *E.globulus* from locally collected provenance and a high density multi-generational planting of *E.viminalis* from locally collected provenance

**2.20** An additional area of 2ha will be established in an existing cleared area nearby to support the establishment of both *E.globulus* and *E.viminalis* and complement the nearby DGL forest.

**2.21** The sites and the breakdown of species and number of trees to be planted at each site will be confirmed in the Offset Management Plan.

The Offset Management Plan will determine the area required to conduct offset plantings to represent existing forest types (ie. stems per ha) to achieve both *E.globulus* and *E.viminalis* offset requirements. It is expected that a minimum of 4 ha will be required. For each additional *E.viminalis* required to be felled, it is estimated an additional 0.25ha offset area will be required.

Refer to 5.2 for important PC mitigations for plantings.

Refer to section 6 below for mitigation measures regarding use of mulch.

Additional required measures

**Horizontal habitat management**

**2.22** Conversion of vertical habitat to horizontal habitat must be managed in consultation with PWS, and in accordance with the below guidelines:

- avoid impacting adjacent areas during placement;
- provide mulch for rehabilitation purposes;
- avoid creating a wildfire risk by creating windrows of flammable material, which includes appropriate management of flashy fuels, quantities, and head materials needed for burning; and
- provide for operational needs such as firewood.

**Swift Parrot protection measures**

**2.23** If works in Part C are proposed to occur during the swift parrot breeding season (September to January inclusive), then advice must be sought from Conservation Assessment branch on flowering of eucalypt species as a food source and potential impacts to swift parrots.

**Eagle protection measures**

**2.24** If works in Part C are proposed to occur during the eagle breeding season, then a survey for nests is required prior to works commencing.

3. Heritage

General measures – PWS commitments in EIS	Comment
---	---------

---

## Aboriginal Heritage

**3.1** Any unanticipated Aboriginal heritage discoveries made during works are required to be referred in accordance with the provisions of the *Aboriginal Heritage Act 1975*. In addition, the Contractor would need to immediately notify PWS staff to seek advice. Advice from the PWS staff and Aboriginal Heritage Tasmania will be followed.

**3.2** All personnel should be made aware of the Aboriginal Heritage Unanticipated Discovery Plan and their obligations under the *Aboriginal Heritage Act 1975* prior to works commencing.

## Historic Heritage

**3.3** All works personnel/contractors involved in the works shall be briefed about and understand the Heritage Unanticipated Discovery Plan.

**3.4** Notification of any discoveries will be made to the Historic Heritage Section of PWS, who will provide advice on conservation measures and monitor adherence to advice.

### Measures to be included in CEMP – PWS commitments in EIS

Comment

## Aboriginal Heritage

**3.5** An Aboriginal Heritage Unanticipated Discovery Plan and Aboriginal Stone Artifacts fact sheet (to assist in recognising potential artefacts) will be in the CEMP, detailing stop work protocols, notifications, and steps to secure the site from any additional impacts. If previously undetected archaeological sites or objects are located during the course of the proposed infrastructure upgrade works, the process described in AHT's Unanticipated Discovery Plan shall be followed.

**3.6** Construction contractors should be informed of the location of site AH13940 and an exclusion zone will be established around the Aboriginal heritage site AH13940 identified near the project works site.

**3.7** A PWS Officer trained in identifying Aboriginal heritage, in particular stone artefacts, will walk over the final sites/routes prior to commencement of works.

## Historic Heritage

**3.8** Protocols for unexpected archaeological discoveries (the Heritage Unanticipated Discovery Plan) will be included in the CEMP, following established protocols and advice from the PWS.

**3.9** If previously undetected archaeological sites or objects are located during the course of the proposed infrastructure upgrade works, the process described in the Heritage Unanticipated Discovery Plan shall be followed.

**3.10** When excavation works are being undertaken near known heritage features, PWS heritage staff shall be consulted and where required will be present on-site during construction works.

During Part B and Part C works.

---

## 4. Soil management and protection measures

### General measures – PWS commitments in EIS

Comment

## Erosion and sedimentation management

**4.1** Within the construction work areas, ensure indirect impacts from sedimentation and erosion are controlled through measures such as sediment traps, temporary bunds, covering of soil stockpiles in periods of heavy rain, and work scheduling to minimise duration of site disturbance. Details will be developed by the contractor in the CEMP, with the PWS to approve the CEMP prior to work commencing.

**4.2** Geotextile or sediment control fabric may be used for temporary protection of areas of any evident bare ground. However, in the long-term, the use of native 'leaf litter' mulch is preferred as this helps to maintain soil health and fertility,

Best environmental practice construction methods should be adopted for all earthworks and installation of buried infrastructure to reduce potential impact to geomorphic processes

whereas long-term use of geotextile may inhibit natural soil and native plant regeneration processes.

**4.3** At the completion of the construction work, the site will be rehabilitated using appropriate erosion control measures and revegetated to minimise potential for erosion and contamination of run-off.

**4.4** Undertake dredging works (Part C works) with construction techniques that minimise potential for excessive sedimentation or contamination of Bernacchis Creek Reservoir.

**Acid Sulfate Soils**

**4.5** The new WWTP site (Part A works) is located approximately 300m south of the nearest Coastal Acid Sulfate Soil features. The raw water pipeline (Part C works) traverses areas mapped as low or extremely low probability of Acid Sulfate Soils occurring. Care is required during works to ensure Acid Sulfate soils are not disturbed. If the benthic substrate is disturbed during the dredging works (Part C works) this can have negative impacts on aquatic taxa with potential for deoxidisation of the reservoir and algae blooms.

**4.6** Part B is in an area mapped as Potential Acid Sulfate Soils. If any excavations are required, consideration should be given to the potential of encountering Acid Sulfate Soils.

(ie erosion and sedimentation). Good environmental trenching practice is available in the *Tasmanian Coastal Works Manual Guideline 111 Trench Digging*. It is recommended this is incorporated into the CEMP.

Soil and management controls must address best practice for works required where the new sewer rising main or raw water pipeline cross creeks.

**Measures to be included in CEMP – PWS commitments in EIS**

**Comment**

**Erosion and sedimentation management**

**4.7** A SWMP will be included in the CEMP outlining protocols to minimise drainage, erosion and sediment control issues.

**4.8** Erosion and sediment control measures shall be installed at each work site to prevent sediment-laden stormwater being discharged from the site.

**4.9** Cut-off drains shall be constructed on the high side of works areas and stockpiles to intercept and divert surface runoff away from works areas to existing drainage paths.

**4.10** Dust emissions will be minimised through measures such as covering of stockpiles, watering of exposed surfaces and stockpiles during extended periods of dry weather and rehabilitating disturbed areas as soon as practical.

**4.11** Disturbed areas within the project sites will be rehabilitated to the satisfaction of PWS.

**Acid Sulfate Soils**

**4.12** The CEMP will detail methodology and risk mitigations to prevent the risk of de-oxidisation and algae blooms forming.

**4.13** The Contractor to be trained in the identification of Acid Sulfate Soils and if observed appropriate action to be taken in accordance with the NRET guidelines *Tasmanian Acid Sulfate Soil Management Guidelines*.

Dredging methodology in the CEMP must include volume of spoil to be removed and sediment analysis, in addition to the risk mitigation measures requested in 4.12.

**5. Invasive Species management measures**

**General measures – PWS commitments in EIS**

**Comment**

**5.1** As far as possible, all materials for upgrading roads and landscape works will be obtained from within the Park. Any imported soil, fill or crushed rock used in any construction project will be obtained from sites where *Phytophthora* has not been found, using *Phytophthora*-free machinery.

**5.2** As far as possible, all plants used in planting works within the Park will be obtained by propagation, in *Phytophthora*-free soil or other medium.

**5.3** Several manuals provide guidance on management actions designed to minimise the risk of introducing weeds (and disease) to a project area. Strong

precautions are considered appropriate in this case, given the reserve status of the site. These manuals can be referred to for the development of site-specific procedures for the project, and include:

- Allan, K. & Gartenstein, S. (2010). Keeping It Clean: A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens. NRM South, Hobart.
- Rudman T. (2005). Interim *Phytophthora cinnamomi* Management Guidelines. Nature Conservation Report 05/7, Biodiversity Conservation Branch, Department of Primary Industries, Water & Environment, Hobart.
- Rudman, T., Tucker, D. & French, D. (2004). Washdown Procedures for Weed and Disease Control. Edition 1. Department of Primary Industries, Water & Environment, Hobart.
- DPIPWE (2015). Weed and Disease Planning and Hygiene Guidelines - Preventing the Spread of Weeds and Diseases in Tasmania. Department of Primary Industries, Parks, Water & Environment, Hobart.

Measures to be included in CEMP – PWS commitments in EIS	Comment
<p><b>5.4</b> A Weed and Disease Management and Hygiene Plan, developed in accordance with Tasmanian Washdown Guidelines for Weed and Disease Control; and NRET Weed and Disease Planning and Hygiene Guidelines is to be included in the CEMP.</p>	
<p><b>5.5</b> Prior to commencement of works, area to be checked for weeds, and any weeds removed.</p>	
<p><b>5.6</b> During works, any incidental weeds within the project area will be removed.</p>	
<p><b>5.7</b> At the completion of works, and any rehabilitation of sites, weeds will be checked and removed.</p>	<p>Monitoring and control of thistle is particularly critical for the old WWTP site.</p>
<p><b>5.8</b> Follow-up periodic post-works monitoring, and control of disturbed sites will be undertaken (particularly in relation to thistle species), depending on the proposed timing, initially by the Contractor and handed over to the PWS for ongoing monitoring.</p>	<p>The dredged soil from the dam will be permitted to be relocated to the existing WWTP for rehabilitation purposes. The Maria Island Ranger in Charge may approve additional materials to move between sites, where no other options for managing spoil are available. All other excavated materials, across all parts of the project, are to be managed within the site (as per 5.15).</p>
<p><b>5.9</b> The area will be assessed annually to manage the identified species (particularly in relation to thistle species) and to note the presence of any potentially invasive species that have been accidentally introduced to the site during works.</p>	
<p><b>5.10</b> Externally sourced construction materials shall only be obtained from certified “low risk” weed and disease-free sources.</p>	
<p><b>5.11</b> Imported construction materials shall be compatible with the surrounding environment.</p>	
<p><b>5.12</b> All materials, plant and equipment, packaging, boots and clothing, shall be thoroughly cleaned and checked by the PWS prior to entering the National Park. An anti-bacterial agent, such as F10 should be used for washing down items that have been in contact with soil external to the island.</p>	
<p><b>5.13</b> All plant and equipment, including work boots and clothing, shall be thoroughly cleaned before moving between construction sites on the island. Cleaning of materials, plant and equipment shall be to the satisfaction of the PWS, and in accordance with the guidelines in 5.4.</p>	
<p><b>5.14</b> The area of construction disturbance shall be minimised to reduce the risk of weed establishment post construction.</p>	
<p><b>5.15</b> Materials shall not be transported between construction sites.</p>	<p>Management of spoil should be included in the Weed and Disease management and Hygiene Plan and SWMP, with commitments around machine hygiene between sites, as well as material hygiene, and ensure working as far as practicable from clean sites to contaminated sites.</p>

## 6. Decommissioning and Rehabilitation measures

General measures – PWS commitments in EIS	Comment
<p><b>6.1</b> The Decommissioning and Rehabilitation Plan shall be a detailed plan setting out all the tasks in order of sequence, all necessary safety documentation and procedures and environmental protection measures.</p>	<p>Decommissioning and Rehabilitation plan is to include works in Part B and any requirements for removal of inground infrastructure and remediation of the site post removal.</p>
<p><b>6.2</b> The vegetation surrounding the existing WWTP ponds is dry <i>E.pulchella</i>-<i>E.globulus</i> forest and woodland. Some <i>E.globulus</i> trees on the fringe of the rehabilitation area of the existing WWTP may provide seed dispersal for the area into the future, however seed collection and supplementary seed sowing of the rehabilitation areas is required.</p>	
<p><b>6.3</b> Geotextile or sediment control fabric may be used for temporary protection of areas of any evident bare ground. However, in the long-term, the use of native 'leaf litter' mulch is preferred as this helps to maintain soil health and fertility, whereas long-term use of geotextile may inhibit natural soil and native plant regeneration processes.</p>	
Measures to be included in CEMP – PWS commitments in EIS	Comment
<p><b>6.4</b> Removal and disposal to a licenced facility of any sludge remaining in the existing WWTP.</p>	<p>The Offset Management Plan will determine the area required to conduct offset plantings to represent existing forest types (ie. stems per ha). It is expected that a minimum of 4 ha will be required. For each additional <i>E viminalis</i> required to be felled, it is estimated an additional 0.25ha offset area will be required.</p> <p>The Offset Management Plan is to detail the spread of required offset trees across the WWTP and other sites, as plating of 240 trees at the existing WWTP is not practical.</p> <p>Corflute or plastic trees guards are not very practical on Maria Island, they do not withstand the browsing pressure and degrade quickly. Alternate methods for regrowth protection would be welcomed.</p>
<p><b>6.5</b> Removal of all waste materials from the Island, with recycling of materials considered wherever practical, and disposal to a licenced facility for any residual waste.</p>	
<p><b>6.6</b> Minimise disturbance during the works around the periphery of the area to encourage plant species regeneration.</p>	
<p><b>6.7</b> Use native leaf litter and coarse wood debris to 'mulch' the site to protect any regeneration from browsing fauna, protect the soil from erosion, and if seed is present in the material, regeneration is encouraged.</p>	
<p><b>6.8</b> Supplementary sowing of collected seed from the felled <i>E.globulus</i> trees at new WWTP site to facilitate the rehabilitation process and encourage growth of <i>E.globulus</i> in the area. Approximately 100 <i>E.globulus</i> trees will be planted to create additional foraging habitat for swift parrots, as recommended in the supporting reports, across the existing WWTP site and additional area of 2ha.</p>	
<p><b>6.9</b> In addition, approximately 140 individual <i>E.viminalis</i> trees (at the required offset of 20:1) will be planted across the existing WWTP site and additional area of 2ha as part of the rehabilitation works to provide additional habitat for the forty-spotted pardalote.</p>	
<p><b>6.10</b> Any woody debris and 'mulch' material will need to be from a similar vegetation community (e.g. <i>Eucalyptus pulchella</i> forest and woodland) to ensure the site rehabilitates with the same species that surround the site.</p>	
<p><b>6.11</b> Any rehabilitation plantings/regrowth will be protected where required with standard plastic or corflute tree guards held in place with stakes.</p>	
<p><b>6.12</b> The existing fence is to remain in place to prevent browsing fauna entering the site. The fence will be removed once there is considerable regrowth of flora.</p>	
<p><b>6.13</b> Manage all weeds in accordance with NRET <i>Weed and Disease Planning and Hygiene Guidelines</i>, the Weed and Disease Management and Hygiene Plan, and associated documentation.</p>	

## 7. Bushfire and climate change measures

General measures – PWS commitments in EIS	Comment
---	---------

**Climate Change**

7.1 During detailed design, ensure infrastructure is sited away from any parts of the island expected to experience climate change impacts, and ensure detailed design considers changing weather conditions.

**Bushfire**

7.2 Fires will be banned in the Park during periods of high to extreme fire danger, as well as during days of Total Fire Ban and reserve fire restrictions. Take all practicable measures to inform visitors of such bans.

Measures to be included in CEMP – PWS commitments in EIS	Comment
--	---------

**Bushfire**

7.3 No hot work, including the use of machinery which may result in sparks, shall be permitted during periods of high fire danger. Hot works guidelines to be implemented. Hot works will not be permitted if the Tasmania Fire Danger Rating exceeds 20 or the relative humidity falls below 30 percent.

7.4 Fire risk management and response within the project areas will be included in the CEMP.

7.5 No fires to be lit by the Contractor.

7.6 No hot work, including the use of machinery which may result in sparks, shall be permitted during periods of high fire danger or greater.

7.7 A Job Safe Environment Assessment (JSEA) will be undertaken for the construction works.

7.8 No smoking to be undertaken in work sites, with approved area designated for smoking.

7.9 A fire emergency response plan to include access to and location of equipment (either supplied by Contractor or the PWS), and emergency notifications and response procedures.

Additional required measures
------------------------------

**Bushfire**

Refer to Horizontal Habitat Management Measure 2.24

**8. Visual and landscape protection measures**

General measures – PWS commitments in EIS	Comment
---	---------

8.1 Works will be designed to preserve the visual amenity of the Darlington Visual Impact Zone and visitor experience. Vegetation and large trees will be retained to provide a visual screen where possible. The new WWTP fence is to be galvanised steel so it will weather overtime and blend with the natural vegetation screen.

8.2 Where practical mitigation measures will help provide screening for the development.

Measures to be included in CEMP – PWS commitments in EIS	Comment
--	---------

8.3 The CEMP will include measures to preserve visual amenity to the works and minimise impacts to visitors.

8.4 Minimise clearance and disturbance of native vegetation as far as practical, within the constraints imposed by the engineering and site characteristics.

---

**8.5** Any visual impacts from the Oast House Track will be managed through supplementary planting of local native species by PWS.

**8.6** Wherever practical, minimise the removal of standing trees and monitor site clearing as it is taking place. Implement screening plantings if required and conversions to 'horizontal habitat'.

## 9. Social and recreational values protection measures

### Measures to be included in CEMP – PWS commitments in EIS

### Comment

**9.1** The CEMP will include measures to reduce impacts on the social and recreational values during construction.

**9.2** Where possible all contractor equipment will be fitted with noise suppressors and used so that noise is minimised where possible. All work, including demolition, excavation and building work must comply with AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites.

**9.3** Machinery and equipment will be well maintained to minimise noise emissions.

**9.4** Dust emissions will be minimised through measures such as covering of stockpiles, watering of exposed surfaces and stockpiles during extended periods of dry weather and rehabilitating disturbed areas as soon as practical.

**9.5** Construction works will be undertaken during daylight hours only to minimise the impact on fauna and visitors/the public.

**9.6** Public notifications of any closures and/or restrictions that may be in place for the duration of the works.

#### Public Safety

**9.7** Barriers and/or fencing and signs shall be installed around all works areas.

**9.8** Excavations left open and unattended shall be fully fenced to prevent access by visitors/the public.

**9.9** When the site is unattended, works areas shall be managed to minimise the safety risk to visitors/the public.

**9.10** Temporary closure of the Reservoir and Oast House Circuit tracks while works are being carried out. Adequate warning to be provide allowing for closure notifications to be published notifying visitors of the temporary closures.

**9.11** Public notifications of any closures and/or restrictions that may be in place for the duration of the works.

The Project Manager will develop a Communications Plan as part of the project to assist in communicating these notifications. The Contractor is responsible for providing adequate notification and required closures.

## 10. Transport and parking management measures

### Measures to be included in CEMP – PWS commitments in EIS

### Comment

**10.1** The CEMP will include measures to reduce potential impacts of increased traffic during construction.

**10.2** Driving on the Island will not take place between dusk and dawn, viewed as the highest risk times for wildlife collisions, unless in the event of an emergency.

**10.3** Vehicle movements will be minimised, with the Contractor proposing measures within the CEMP to reduce vehicle movements on site.

**10.4** The speed limit on the island is 20km/h within Darlington Precinct and 40-50km/h south of Painted Cliffs.

**10.5** Vehicles shall only be driven on formed roads and existing tracks.

---

---

**10.6** Passenger vehicles will be parked overnight at the PWS workshop precinct, minimising parked vehicles within the Darlington Precinct.

**10.7** Visitors (pedestrians and bikes) and wildlife have right of way over all vehicles.

## 11. Waste and storage management measures

### General measures – PWS commitments in EIS

Comment

**11.1** Solid wastes generated from the construction of the project will be managed in accordance with the principles of the waste hierarchy and will follow this order of preference: Avoidance; Reuse; Recycling and Disposal. Appropriate containment is also a key management measure, ensuring the waste is contained, and not entering the environment in windy conditions or through animals spreading the waste. All waste generated from the Project will be removed from the island; with excess soil managed on the island.

**11.2** Any disturbance from the Project will be reinstated and rehabilitated to its pre-construction condition and regenerated. Any excess material from the excavation will be removed from the Project site to an approved location as directed by the PWS.

### Measures to be included in CEMP – PWS commitments in EIS

Comment

**11.3** The CEMP will include measures for management of waste and storage during construction.

#### Storage

**11.4** Materials, plant and equipment shall only be stored at sites nominated by the PWS.

**11.5** Materials, plant and equipment shall be stored so as to prevent damage to the site and environment, including bunding where appropriate.

**11.6** Re-fuelling and fuel/oil storage procedures will reduce the risk of spills to land or water.

#### Waste

**11.7** Waste management will include removal of all recycling and residual waste materials from the Island.

**11.8** Any excess material from excavations will be removed from the Project site to a location approved by PWS, and be managed in accordance with the SWMP.

## Appendix 3: Public Consultation submission

---

**Table 5: Response to submission**

Issue	EIS	Response
Forty-spotted pardalote habitat and offset, recommend adopting a 20:1 offset for any <i>Eucalyptus viminalis</i> removed during works, and seeking advice on the most resilient seedlings to be collected due to climate change impacts. (full submission included on next page)	Threatened Fauna (Section 6.1)	Recommendation for offset adopted by PWS and incorporated into final EIS.  Due to the national park status of the reserve, introducing additional genetics is beyond the scope of the project.

## CONTACT DETAILS

---

### **Tasmania Parks and Wildlife Service**

GPO Box 1751

Hobart, Tasmania, 7001

1300 TASPARKS (1300 827 727)

[www.parks.tas.gov.au](http://www.parks.tas.gov.au)