

Victorian Desalination Project

WATERSURE

Environmental Management Plan Attachment 4 – Environmental Monitoring Schedule

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ATTACHMENT 4 – ENVIRONMENTAL MONITORING SCHEDULE

This Environmental Monitoring Schedule includes only environment-specific monitoring programs. The monitoring associated with O&M activities of the Desalinated Water Supply System is integrated into the relevant O&M Manuals, including for the mechanical, electrical, chemical and control systems.

Type	Purpose	Scope	Monitoring Objectives and Targets	Monitoring Methodology	Responsibility	Frequency
Marine – Operational Marine Monitoring Program (OMMP)						
Plant and diffuser performance, water quality parameters, marine ecology, and coastal processes.	To monitor plant and diffuser performance, water quality parameters and ecological components of the marine and coastal environment and where appropriate provide mechanisms in order to manage the spatial extent and levels of impact attributable to the operation of the VDP.	Monitoring plant and diffuser performance, water quality parameters and ecological components of the receiving environment. Impact assessment of the receiving environment. Where applicable, management of the intake of seawater and discharge of brine and other liquid waste streams to the marine environment.	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> EPA Waste Discharge Licence. Project Deed Performance Requirements. 	In accordance with the OMMP.	Environmental and Systems Specialist & Operations Manager	In accordance with the OMMP.
Land Quality						
Land quality monitoring.	To prevent pollution by ensuring early detection of any signs of land contamination or acidification.	If required, in response to confirmed release of potential land pollutants to the environment. If required, in response to major earthworks requiring disturbance of actual or potential acid sulfate soil.	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> Environment Protection Regulations 2021 <i>Industrial Waste Management Policy (Waste Acid Sulfate Soils)</i>. EPA Waste Discharge Licence. Project Deed Performance Requirements. 	<i>National Environment Protection (Assessment of Site Contamination) Measure.</i> EPA Publication 655: <i>Acid Sulfate Soil and Rock.</i>	Environmental and Systems Specialist	If required, in response to major earthworks and/or in response to confirmed release of potential land pollutants to the environment.

Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

Type	Purpose	Scope	Monitoring Objectives and Targets	Monitoring Methodology	Responsibility	Frequency
				<p>EPA Publication 2001.1: <i>Guidance for the clean up and management of polluted groundwater.</i> (Note: statutory environmental audits that continue to be completed in accordance with the EP Act 1970 would make reference to EPA Publication 840.1, rather than EPA Publication 2001.1).</p> <p>EPA Publication 669.1: <i>Groundwater Sampling Guidelines.</i></p> <p>EPA Publication IWRG701: <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.</i></p>		

Groundwater Quality

Groundwater quality monitoring.	To prevent pollution by ensuring early detection of any signs of groundwater contamination.	<p>If required, in response to confirmed release of potential groundwater pollutants to the environment.</p> <p>If required, in response to major earthworks requiring disturbance of actual or potential acid sulfate soil.</p>	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> Environment Protection regulations 2021 <i>Industrial Waste Management Policy (Waste Acid Sulfate Soils).</i> EPA Waste Discharge Licence. Project Deed Performance Requirements. 	<p><i>National Environment Protection (Assessment of Site Contamination) Measure.</i></p> <p>EPA Publication 655: <i>Acid Sulfate Soil and Rock.</i></p>	Environmental and Systems Specialist	If required, in response to major earthworks and/or in response to confirmed release of potential groundwater pollutants to the environment.
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Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

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				<p>EPA Publication 2001.1: <i>Guidance for the clean up and management of polluted groundwater.</i> (Note: statutory environmental audits that continue to be completed in accordance with the EP Act 1970 would make reference to EPA Publication 840.1, rather than EPA Publication 2001.1).</p> <p>EPA Publication 669.1: <i>Groundwater Sampling Guidelines.</i></p> <p>EPA Publication IWRG701: <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.</i></p>		

Surface Water Quality

Surface water quality monitoring.	To prevent pollution by ensuring early detection of any signs of surface water contamination and/or acidification.	If required, in response to confirmed release of potential surface water pollutants to the environment.	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> • <i>Water Act 1989.</i> • Environment Protection regulations 2021.. • <i>Industrial Waste Management Policy (Waste Acid Sulfate Soils).</i> • EPA Waste Discharge Licence. • Project Deed Performance Requirements. 	EPA Publication IWRG701: <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.</i>	Environmental and Systems specialist	In accordance with EPA Discharge Licence and Environment Protection regulations 2021
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Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

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						If required, in response to confirmed release of potential surface water pollutants to the environment.
Air Quality						
Air quality monitoring.	To prevent pollution by ensuring early detection of any signs of air quality degradation.	<p>If required, in response to confirmed release of potential air pollutants to the environment.</p> <p>If required, in response to a confirmed air quality complaint that has been received within a distance from O&M activities that levels of disturbance are possible.</p>	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> Environment Protection regulations 2021. <i>Environment Protection (Vehicle Emissions) Regulations 2013.</i> EPA Waste Discharge Licence. Project Deed Performance Requirements. 	<p>EPA Publication 440.1 – <i>A guide to the sampling and analysis of air emissions and air quality.</i></p> <p>EPA Publication 1666.1 – <i>Determination of odour concentration by dynamic olfactory.</i></p> <p>EPA Publication 1883 Guidance for assessing odour.</p> <p>Australian Standard 3580.1.1 – <i>Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment.</i></p>	Environmental and Systems Specialist	If required, in response to confirmed release of potential air pollutants to the environment, and/or a confirmed complaint
Environmental Performance Inspection						
Ecological Reserve monitoring and inspection.	To minimise adverse environmental effects by monitoring reserve amenity and environmental values.	Monitor litter, weeds and pests and known sensitive locations, including cultural heritage, flora and fauna.	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> <i>Environment Protection and Biodiversity Conservation Act 1999.</i> <i>Flora and Fauna Guarantee Act 1988.</i> 	In accordance with site environmental inspection checklist.	Environmental and Systems Specialist	Monthly

Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

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			<ul style="list-style-type: none"> • <i>Catchment and Land Protection Act 1994.</i> • <i>Plant Biosecurity Act 2010.</i> • Project Deed Performance Requirements. 			
Desalination Plant monitoring and inspection.	To minimise adverse environmental effects by monitoring amenity and environmental values.	Monitor litter, weeds and pests, spill kits and known sensitive locations, including cultural heritage, flora and fauna.	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999.</i> • <i>Flora and Fauna Guarantee Act 1988.</i> • <i>Catchment and Land Protection Act 1994.</i> • <i>Plant Biosecurity Act 2010.</i> • EPA Waste Discharge Licence. • Project Deed Performance Requirements. 	In accordance with site environmental inspection checklist.	Environmental and Systems Specialist	Monthly
Transfer Pipeline monitoring and inspection.	To minimise adverse environmental effects by monitoring amenity and environmental values.	Monitor litter, weeds and pests, spill kits and known sensitive locations, including cultural heritage, flora and fauna.	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999.</i> • <i>Flora and Fauna Guarantee Act 1988.</i> • <i>Catchment and Land Protection Act 1994.</i> • <i>Plant Biosecurity Act 2010.</i> • <i>Wildlife Act 1989.</i> • Project Deed Performance Requirements. 	<p>In accordance with site environmental inspection checklist.</p> <p>Note : Any events reported to the environmental and systems specialist during the month will be captured on the monthly environmental inspection checklist.</p> <p>Watersure contractor to perform maintenance (weed spraying / slashing) and monitoring according to agreed yearly schedule.</p>	Environmental and Systems Specialist	Monthly / Yearly

Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

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				A yearly walk-through is organized to monitor assets condition and perform subsequent maintenance.I		
Flora and Fauna						
Terrestrial biodiversity and biosecurity.	To minimise adverse environmental effects upon terrestrial biodiversity attributable to project activities by monitoring loss or impact of native flora and fauna due to damage or removal and/or the transmission of weeds, pests or diseases within the desalination plant, ecological reserve and pipeline easement.	If required in response to major earthworks potentially leading to adverse impacts upon sensitive flora and fauna.	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999.</i> • <i>Flora and Fauna Guarantee Act 1988.</i> • <i>Catchment and Land Protection Act 1994.</i> • <i>Plant Biosecurity Act 2010.</i> • <i>Wildlife Act 1989.</i> • Project Deed Performance Requirements. 	<p>Agriculture Victoria, <i>Pests, diseases and weeds</i> (http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds)</p> <p>Agriculture Victoria, <i>Potato Cyst Nematode</i>, Agriculture Note No. AG0572.</p> <p>O’Gara, E et al (2005) Management of <i>Phytophthora cinnamomi</i> for Biodiversity Conservation in Australia: Part 2 – National Best Practice Guidelines. A report funded by the Commonwealth Government Department of the Environment and Heritage by the Centre for <i>Phytophthora</i> Science and Management, Murdoch University, Western Australia.</p> <p>Commonwealth of Australia (2015), <i>Arrive Clean, Leave Clean.</i></p>	Environmental and Systems Specialist	If required in response to major earthworks.

Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

Type	Purpose	Scope	Monitoring Objectives and Targets	Monitoring Methodology	Responsibility	Frequency
Marine biodiversity and biosecurity	To minimise adverse environmental effects upon marine biodiversity attributable to project activities by monitoring loss or impact of native marine flora and fauna due to damage or removal and/or the transmission of weeds, pests or diseases within the project marine waters.	Monitor vessels and marine equipment required for O&M activities within VDP project waters.	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> Environment Protection regulations 2021. Biosecurity Management Act 2015. Fisheries Act 1995. EPA Waste Discharge Licence. Project Deed Performance Requirements. 	MarinePestPlan 2018–2023 DPI (2009) <i>Biosecurity Control Measures for Abalone Viral Ganglioneuritis: A Code of Practice</i> DAWR Australian Ballast Water Management Requirements ENV-000-PR-001 Marine Biosecurity Procedure	Environmental and Systems Specialist	Prior to and during marine activities.
Rehabilitation monitoring.	To minimise adverse environmental effects by monitoring rehabilitation, including reinstatement, weed and pest control	If required following major earthworks in accordance with property specific rehabilitation plan.	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> Property-specific rehabilitation plans. Project Deed Performance Requirements. 	DSE (2006) <i>Native Vegetation – Revegetation Planting Standards</i> .	Environmental and Systems Specialist	If required in response to major earthworks.
Wombat health.	To minimise adverse health effects in ecological reserve wombat population due to infection by mange mite (<i>Sarcoptes scabiei</i>).	If required, in response to a confirmed sighting of a mange affected wombat in the Ecological Reserve.	To identify and treat mange affected wombats resident within the Ecological Reserve.	Mange Management Treatment Methods (http://mangemanagement.org.au/treatment-methods/)	Environmental and Systems Specialist	If required, in response to a confirmed sighting of mange affected wombat in the Ecological Reserve.
Noise and vibration						
Noise & Vibration Monitoring.	To ensure activities are managed in an environmentally sensitive manner by responding to complaints	If required, in response to a noise complaint that has been received within a distance from O&M activities that audible levels of noise disturbance are possible	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> Environment Protection regulations 2021 EPA Waste Discharge Licence. 	EPA Publication 280: <i>A Guide to the Measurement and Analysis of Noise</i> .	Environmental and Systems Specialist	If required, in response to a complaint

Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

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			<ul style="list-style-type: none"> Project Deed Performance Requirements. 	Australian Standard AS 1055:2018 <i>Acoustics – Description and measurement of environmental noise.</i> EPA Publication 1826.4: Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues		

O&M activities – Construction works necessary for O&M activities

Any monitoring identified in environmental approvals, including relevant Project Deed Performance Requirements.	To minimise adverse environmental effects by monitoring construction works necessary for O&M activities, such as: <ul style="list-style-type: none"> cultural heritage flora and fauna groundwater land contamination and/or acidification (acid sulfate soils) surface water quality marine biosecurity and biodiversity terrestrial biosecurity and biodiversity 	Any construction works necessary for O&M activities	To monitor compliance with relevant requirements of: <ul style="list-style-type: none"> Relevant environmental legislation. Any environmental approvals relevant to the works. Project Deed Performance Requirements. 	As relevant for the identified environmental approvals and in accordance with the relevant Project Deed Performance Requirements	Environmental and Systems Specialist	As relevant for the identified environmental approvals and in accordance with the relevant Project Deed Performance Requirements
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Type	Purpose	Scope	Monitoring Objectives and Targets	Monitoring Methodology	Responsibility	Frequency
Waste Management & Resource Efficiency						
Energy, water, chemical and waste monitoring	<p>To conserve resources and reduce waste by monitoring resource use efficiency.</p> <p>To report on waste production and resource consumption for Project and regulatory compliance.</p>	<p>Monitor and report on compliance, waste generation and resource consumption against resource efficiency indicators in accordance with the EMP, EPA Waste Discharge Licence, National Pollutant Inventory and National Greenhouse & Energy Reporting Scheme requirements.</p>	<p>To monitor and report compliance with relevant requirements of:</p> <ul style="list-style-type: none"> National Pollutant Inventory (NPI). National Greenhouse & Energy Reporting Scheme (NGERS). EPA Waste Discharge Licence. Project Deed Performance Requirements. ENV-000-PL-008 Environmental Action Plan – Resources and Waste Management. 	<p>National Pollutant Inventory Guide.</p> <p>National Greenhouse and Energy Reporting (Measurement) Systems and Technical Guidelines (Department of Water Climate Change).</p> <p>EPA publication 1828.2 Waste disposal categories characteristics and thresholds</p> <p>EPA Publication 1968.1 Guide to classifying industrial waste and Publication</p> <p>EPA Publication IWRG822.4 Waste codes</p> <p>EPA Publication IWRG701: <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.</i></p>	<p>Environmental and Systems Specialist</p>	<p>Monthly</p>
Waste hazard categorisation and management monitoring	<p>To monitor compliance with relevant waste hazard categorisation and management requirements.</p>	<p>Waste characterisation assessment and quality monitoring</p>	<p>To monitor compliance with relevant requirements of:</p>	<p>EPA publication 1828.2 Waste disposal categories characteristics and thresholds</p> <p>EPA Publication 1968.1 Guide to classifying industrial waste</p>	<p>Environmental and Systems Specialist</p>	<p>In accordance with EPA Industrial Waste Resource Guidelines.</p>

Environmental Management Plan
Attachment 4 – Environmental Monitoring Schedule

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			<ul style="list-style-type: none"> Relevant waste hazard categorisation and management requirements in the <i>Environment Protection Act 2017</i> and associated subordinate legislation and guidance. Project Deed Performance Requirements. 	EPA Publication IWRG822.4 Waste codes EPA Publication IWRG701: <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.</i>		
Pre-treatment process sludge quality	To monitor compliance with relevant waste hazard categorisation and management requirements.	Pre-treatment process sludge quality monitoring.	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> Relevant waste hazard categorisation and management requirements in the <i>Environment Protection Act 2017</i> and associated subordinate legislation and guidance. Project Deed Performance Requirements. Waste designation WD000300207 valid from 1/07/2022 to 1/08/2027 	<p>EPA publication 1828.2 Waste disposal categories characteristics and thresholds</p> <p>EPA Publication 1968.1 Guide to classifying industrial waste</p> <p>EPA Publication IWRG822.4 Waste codes EPA Publication IWRG701: <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.</i></p>	Environmental and Systems Specialist	In accordance with EPA Industrial Waste Resource Guidelines.
Trade waste sewer discharge monitoring	To monitor compliance with relevant waste hazard categorisation and management requirements.	Trade waste sewer discharge monitoring.	<p>To monitor compliance with relevant requirements of:</p> <ul style="list-style-type: none"> South Gippsland Region Water Corporation Trade Waste Agreement with Watersure, expiry 30 June 2024. 	South Gippsland Region Water Corporation Trade Waste Agreement with Watersure, expiry 30 June 2024	Environmental and Systems Specialist	In accordance with requirements specified in South Gippsland Water Corporation's Trade Waste Agreement.