ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) MANUAL

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1. Purpose and application

1.1. Purpose

The purpose of this Environmental Management System (EMS) Manual is to:

- provide the AquaSure Pty Ltd (AquaSure) team with a structured approach to managing environmental outcomes during design, start-up, construction, commissioning and operation stages of the Victorian Desalination Project (Project), associated marine intake and outlet, transfer pipeline and electricity power supply within its direct influence and control.
- outline all environmental management plans (EMPs), whether they be AquaSure or another responsible entity, which are subordinate to this EMS Manual but cover specific areas of the project work.

By effectively implementing the EMS Manual, AquaSure provides a framework that systematically addresses all the environmental performance requirements (PRs) and assure all stakeholders it has the means to ensure that regulatory and policy requirements can be managed in a systematic and efficient manner while also striving to add value and continually improve its environmental performance.

The EMS Manual heads up the environmental management framework that is implemented for the Project. To understand the importance of this document in setting the direction for environmental management, it is important to appreciate why the environmental management framework has been developed and how it relates to the environmental PRs which define the expected environmental outcomes for the project. This is detailed in the following sections. The EMS Manual is designed to conform with AS/NZS ISO 14001:2004 Environmental Management Systems – Requirements with guidance for use

1.2. Application

This EMS manual applies to AquaSure, its consultants, contractors and associates in delivering the VDP, throughout its project term.

All personnel must comply with the requirements of this EMS manual.

1.3. References

The following documents have informed the development of this EMS Manual:

- Project Deed between AquaSure and the State
- Department of Sustainability and Environment. 2008. Victorian Desalination Project – Environment Effects Statement (including EPA Works Approval Application)
- Mitchell K et al. 4 December 2008. Report of the Inquiry to the Minister for Planning - Victorian Desalination Project – Environment Effects Statement
- Minister for Planning. January 2009. Victorian Desalination Project – Assessment under *Environment Effects Act 1978*
- AS/NZS ISO 14001:2004. Environmental management systems – Requirements with guidance for use

1.4. Definitions and acronyms

AEMP	Area Environmental Management Plan
AquaSure	AquaSure Pty Ltd - the proponent for the Victorian Desalination Project
AQS	AquaSure Management System
Area 1	Marine intake and outlet structures
Area 2	Desalination plant and facilities

Area 3	Utilities comprising: • Transfer pipeline from the desalination plant to Melbourne's water supply system at Pakenham • Power supply comprising high voltage alternating current (HVAC) underground cable network transmission and power supply from the desalination plant to Cranbourne.
CEO	AquaSure Chief Executive Officer
Client	Capital Project Division of Department of Sustainability and Environment
Close-out works	While construction will be largely complete, some construction items will require to be completed after the plant has started delivering desalinated water. These items are the close-out works
Commercial acceptance	The stage when most of the D&C activities are complete and the desalinated water supply system is able to be safely operated
Commissioning	Commissioning is the program of activities to test and run-in the plant so that it can become operational
Contractor	The AquaSure appointed D&C Contractor (Thiess Degrémont Joint Venture) and the O&M Contractor (Degrémont Thiess Services Joint Venture)
COO	AquaSure Chief Operating Officer
CWMS	Construction Work Method Statement
D&C	Design and Construction
D&C Contractor	Thiess Degrémont Joint Venture
DC-CIP	Design and Construct Community Involvement Plan
DCP	Design and Construction Plan
Defects liability period	This is the period after the completion of the works during which the D&C Contractor is responsible for any defects. The period is specified in clause 24.6 of the Deed and is generally 24 months.
DEWHA	Department of Environment, Water, Heritage and the Arts
DPCD	Department of Planning and Community Development
DSE	Department of Sustainability and Environment
DTS	Distributed temperature sensing
DTSJV	The AquaSure appointed O&M Contractor, Degrémont Thiess Services Joint Venture.
DWSS	Desalinated Water Supply System, including the marine intake/outlet facilities, the desalination plant and water transfer pipeline.
EEAct	*Environment Effects Act*
EES	Environment Effects Statement
EIRP	Environment Incident Response Plan
Electricity Supplier	AGL
EMP	Environmental Management Plan
EMR	Environmental Management Representative
EMS	Environmental Management System

EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
Gigalitres (GL)	Billion litres
ISO 14001	AS/NZS ISO 14001:2004 Environmental Management Systems – Requirements with guidance for use
JSEA	Job Safety and Environmental Analysis
MIRA	Monitoring, inspection, reporting and auditing
O&M	Operations and Maintenance
O&M Contractor	Degrémont Thiess Services Joint Venture
Project	Victorian Desalination Project
Project Deed (the Deed)	Contractual arrangement between the State and AquaSure Pty Ltd for the delivery of desalinated water from the project to Victoria's water supply system
PMP	AquaSure Project Management Plan
PR	Performance Requirement
PS&PR	Project Scope and Performance Requirements set out in Annexure 3 to the Project Deed
REC	Renewable Energy Certificate
REC Contractor	AGL
Reference document	Reference Documents includes the documents referred to in Appendix S2 (Reference Documents) to the PS&PR (Annexure 3 to the Project Deed)
SCADA	Supervisory control and data acquisition
SEP	Site Environmental Plan
State	The Honourable Timothy James Holding, MP, in his capacity as the Minister for Water of the State of Victoria for and on behalf of the Crown in the Right of the State of Victoria (the **State**)"
TDJV	The AquaSure appointed D&C Contractor, Thiess Degrémont Joint Venture.
VDP	Victorian Desalination Project
WA	EPA Works Approval
WMS	Work Method Statement

2. Scope and objectives

2.1. Scope

AquaSure exists in response to a Request for Proposal by the State of Victoria for the purpose of providing high quality desalinated water from the Project to Victoria's water supply system from the end of 2011. AquaSure's core functions include finance, design, build, operate and maintain Australia's largest desalination plant on the South Gippsland coast in Victoria. The plant will be capable of supplying up to 150 billion litres of water a year - a third of Melbourne's annual water needs - with capability to expand to 200 billion litres a year in the future. AquaSure has a 30 year concession.

This EMS Manual addresses all phases of the Project including:

- Design and construction (including testing and commissioning, close out and defects liability period)
- Operations and maintenance

2.2. Project objectives

AquaSure is to ensure that the following objectives are met:

- Investment in the Project
- Financing for the Project
- Design and Construction of the Project through contract to Thiess Degrémont Joint Venture (TDJV)
- Operations and Maintenance of the Project through contract to Degrémont Thiess Services Joint Venture (DTSJV)
- Provision of power and renewable energy certificates through AGL

2.3. Environmental objectives and targets

AquaSure's overarching environmental objective is to:

- comply with the environmental standards established for the Project through design and appropriate risk management
- optimise energy efficiency through project design and offset any impact through the purchase of renewable energy credits for 100% of the electricity used at the Desalination Plant and Transfer Pipeline
- protect the beneficial uses of the coastal and marine environment

such that AquaSure is recognised as a good environmental citizen.

The PRs specified in the Project Scope and Performance Requirements (PS&PRs) have been set as more detailed project objectives and targets for the project, particularly Appendix S3 Environmental Requirements to Annexure 3 of the PS&PRs.

3. Project overview

AquaSure is the special purpose vehicle to finance, design, build, operate and maintain the Project.

3.1. Project delivery mode and contractual requirements

In 2004, the Victorian Government put in place a long term plan for water – Our Water Our Future: Securing Our Water Future Together. In accordance with this plan, a comprehensive strategy for the sustainable use of water resources in central Victoria was developed and released in 2006 in the form of the Central Region Sustainable Water Strategy.

In June 2007, in response to the risk that Victoria's worst drought will continue, the Victorian Government released the next stage of its plan for water – Our Water Our Future: the Next Stage of the Government's Water Plan. The plan provides the biggest boost to Victoria's water supplies in 25 years and includes the development of a new seawater desalination plant on the Bass Coast.

The seawater desalination plant together with ancillary infrastructure will supply water to the Melbourne Water supply system and other regional supply systems. The project will be delivered as a Public Private Partnership (PPP) and will commence delivery of desalinated water by the end of 2011.

The State has contracted with AquaSure to deliver the Project. As such, from 1 September 2009, the official status of Project proponent has been transferred from the State to AquaSure.

AquaSure has contractual responsibilities and obligations with a number of organisations to facilitate delivery of the Project. The key contractual arrangements relevant to managing the environmental aspects of the Project are:

- TDJV for design and construction of the Project
- DTSJV for operation and maintenance of the Project
- AGL for the supply of power and renewable energy certificates (RECs)
- The Independent Reviewer and Environmental Auditor (IR&EA) for independent verification of Project activities.

TDJV and DTSJV are referred to as 'the Contractor' in this EMS Manual. AGL is the Electricity Supplier and REC Contractor.

Clause 58.3 of the Project Deed permits AquaSure to subcontract its obligations to the Contractor, the Electricity Supplier and REC Contractor. Through contractual arrangements, as established under the Project Deed, AquaSure has transferred the relevant obligations to each of these organisations. These obligations are identical to those in the Project Deed. Each organisation has specific responsibilities and accountabilities to implement and achieve the PRs.

AquaSure selected the above organisations before securing the Project. In doing so, it made sure that the organisations are all reputable, relevantly experienced and qualified to carry out their responsibilities.

Through the implementation of this EMS Manual, AquaSure will continue to make sure that each organisation has appropriate management systems in place and meet their obligations under the Project Deed and environmental legislation.

3.2. Project development and approval

In December 2007, the Minister for Planning decided that the Project required assessment under the *Environment Effects Act 1978* (EE Act) In addition to this, assessment and approval was required under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Victorian Environment Effects Statement (EES) process was accredited as the assessment approach for the purposes of the EPBC Act. A Works Approval (WA) Application was submitted under the *Environment Protection Act 1970* and was exhibited concurrently with the EES.

The Secretary to the Department of Sustainability and Environment (DSE) was the proponent for the Project on behalf of the Minister for Water. Under direction of the secretary, the Capital Project Division of DSE was responsible for the development of the Project and the preparation of the EES.

The EES developed a reference project as the basis for the environmental impact and risk assessments that were carried out as part of the EES. To determine the reference project to be assessed in the EES, a broad range of concepts were developed for different aspects of the Project. These were then assessed for technical feasibility and subsequently for compliance with the Project objectives including legislative requirements. The process resulted in a matrix of opportunities from which a combination was selected for the reference project. The purpose of the reference project used by the EES process was also to demonstrate the Project's feasibility and ability to achieve acceptable environmental outcomes.

The Minister for Planning appointed an inquiry under the EE Act to consider the EES, public submissions and provide a report to the Minister. The Minister then prepared his assessment of the environmental effect of the Project under the EE Act. Formally, the Minister of Planning's Assessment was then provided to the relevant decision makers including the Victorian Minister for Environment and Climate Change, the Victorian Environment Protection Authority (EPA) and the Australian Government Minister for Environment, Heritage and the Arts.

An overview of the EES, Works Approval and EPBC Approval process which was undertaken is shown in Figure 1.

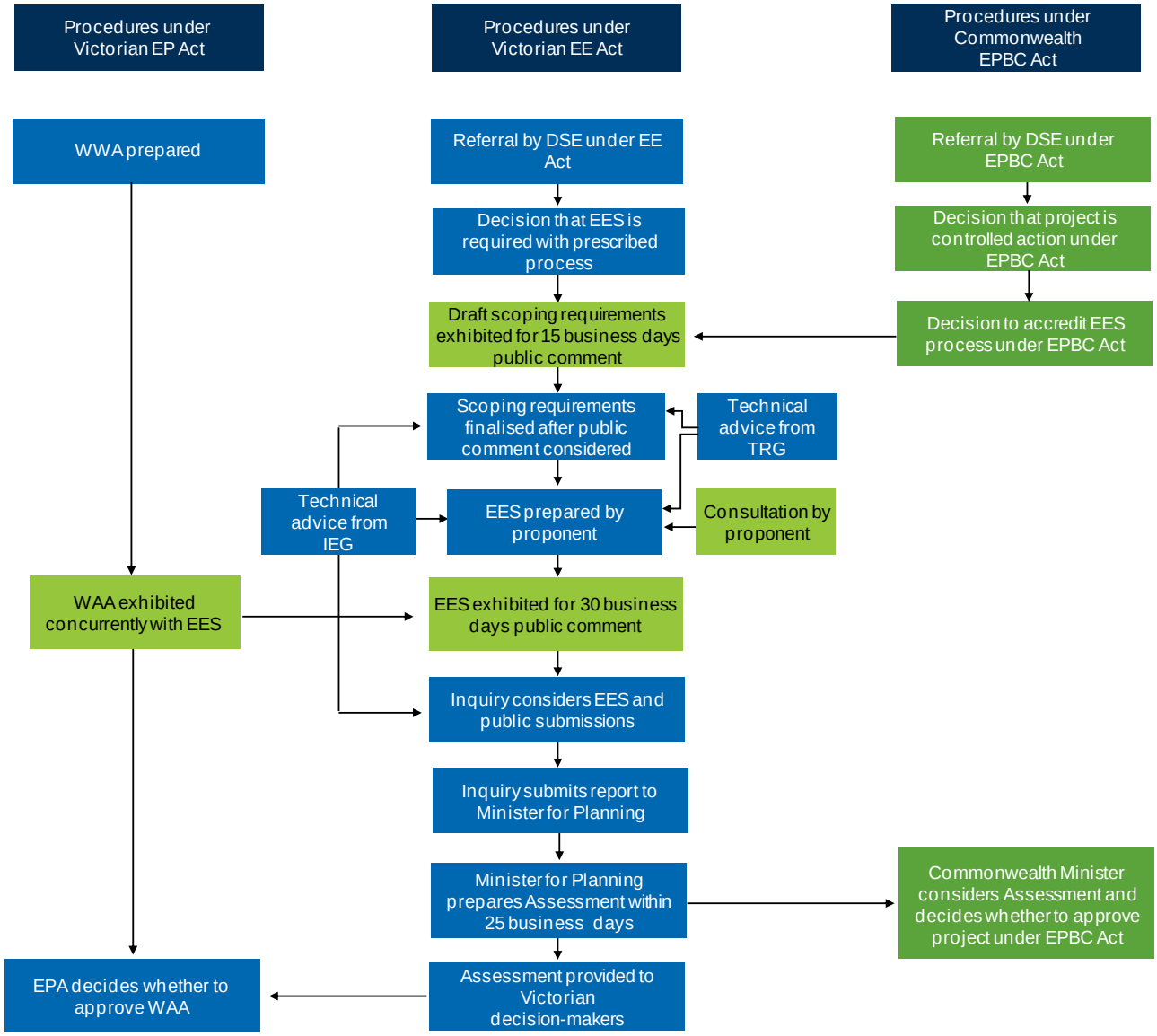

Figure 1: An overview of the EES, Works Approval and EPBC Approval process

The EES and the State defined the Project environmental objectives. The relevant environmental objectives and targets for the Project are listed as:

- To minimise the environmental impact of the Project through design and appropriate risk management and mitigation measures and in particular, to minimise adverse impacts on the coastal and marine environment from construction activity, visual intrusion, noise and waste discharge and disposal
- To protect the beneficial uses of the coastal and marine environment, including the landscape and recreational values of the adjacent coastal reserve.

These objectives form the core of the environmental requirements of the contractual Project Deed including PS&PRs.

The fundamental output from the EES process was the establishment of the environmental PRs for the Project, based on these objectives. These requirements establish the environmental PRs for the Project and define the minimum environmental performance required for the Project to ensure that the Project will deliver on the environmental expectations of the community and key stakeholders. The establishment of the environmental PRs and their importance to the Project are discussed further below in Section 3.5.

The PRs, as amended by the Inquiry and the Minister for Planning's assessment and the EPBC Act approval, have been transferred into the Project Deed between the State and AquaSure.

The EPA also granted a Works Approval (WA) for the project (WA 64404) to DSE, that was subsequently transferred to AquaSure. The WA includes a number of conditions that AquaSure must satisfy before a licence to operate will be issued.

3.3. Project components

The Project is located near Wonthaggi in the Bass Coast region south east of Melbourne and involves the development of:

- Area 1 - Marine intake and outlet structures
- Area 2 - Desalination plant and facilities
- Area 3 - Utilities comprising:
    - Transfer pipeline from the desalination plant to Melbourne's water supply system at Pakenham
    - Power supply comprising high voltage alternating current (HVAC) underground cable network transmission and power supply from the desalination plant to Cranbourne.
    - Ancillary fibre-optic cable

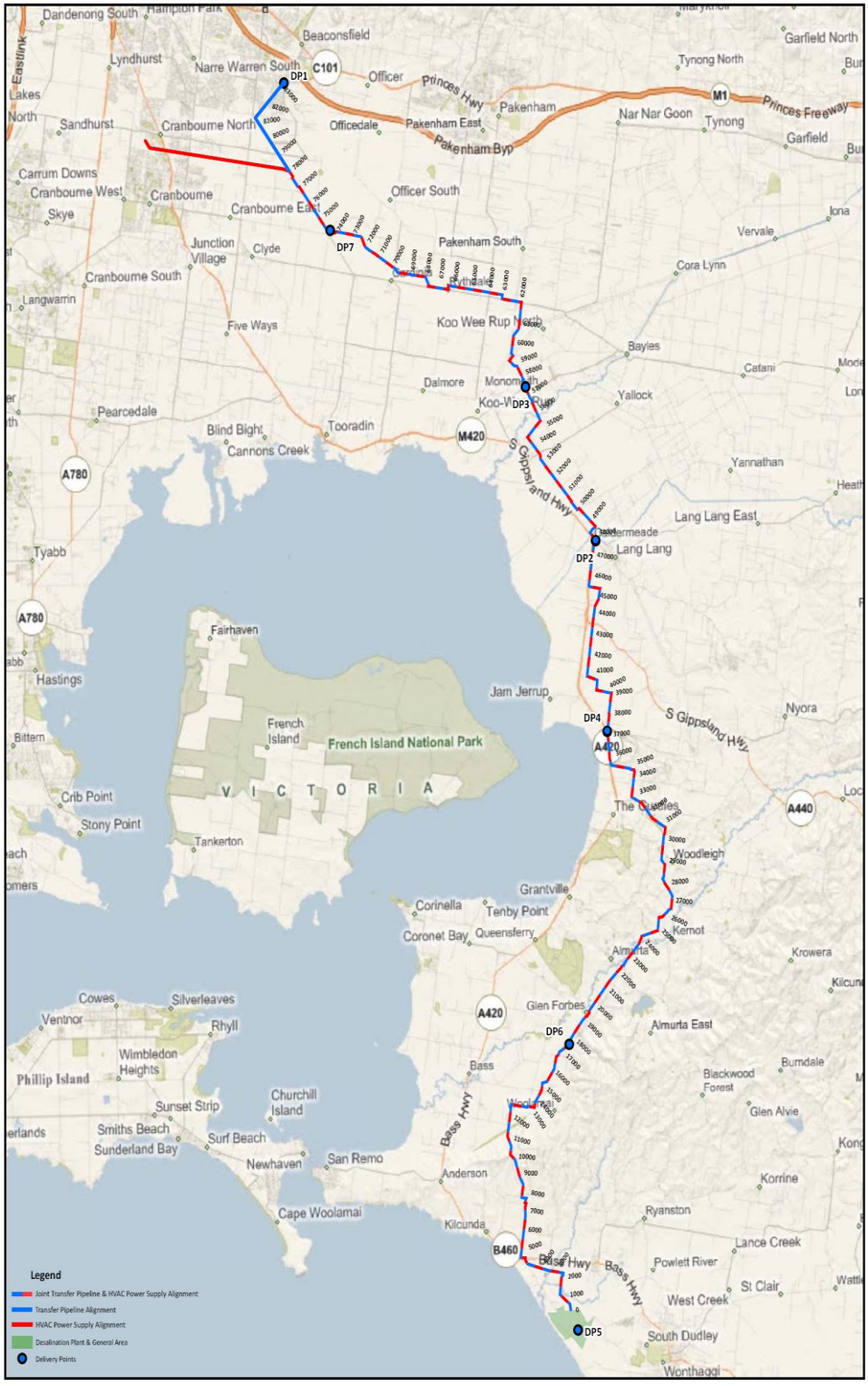

Figure 2: Regional view of Victorian Desalination Project

The following sections provide a brief description of each component of the Project.

3.3.1. Marine intake and outlet structures

The Project requires that structures are constructed in the ocean to deliver seawater to the desalination plant and return the concentrated saline brine stream to the ocean.

There are two intake structures which are designed to control the flow velocity of the water at the intake, and also fitted with screens, to reduce entrainment of fish and other marine biota. Intake heads are connected to the intake tunnel via a vertical conduit referred to as a riser. An underground tunnel then transfers the water to the desalination plant via a pump station.

The concentrate produced as a result of the desalination process contains concentrations of sea salts found naturally in seawater and trace amounts of chemicals added throughout the desalination process. The concentrate is discharged from the plant into the sea via an underground outlet tunnel and then through two outlet diffusers. The intake and outlet structures are located approximately 1150m and 1450m respectively from the plant site in approximately a 20m depth of water.

Four significant marine and coastal protected areas are located in the region and all within approximately 30km of the intake and outlet structures. These are the Bunurong Marine Park, Bunurong Marine National Park, Bunurong Coastal Reserve and Kilcunda-Harmers Haven Coastal Reserve (located immediately offshore from the plant site).

3.3.2. Desalination plant and facilities

The desalination plant will draw saline water from Bass Strait and treat it to potable standards using reverse osmosis technology. The plant has a 200 gigalitres (GL) per year ultimate capacity to meet the State's water supply targets. The quality of the product water has been specified in the Project Deed. The major infrastructure components in the desalination plant include the following:

- Seawater intake tunnels with pumps and screens
- Pre-treatment plant and buildings
- Reverse osmosis plant and buildings
- Clear water storage
- Electrical substation
- Ancillary buildings e.g. chemicals storage.

The desalination plant site is located in a rural area with the towns of Dalyston to the north, Wonthaggi to the east and Kilcunda to the west. The main access roads to the site are the Mouth of Powlett Road and Lower Powlett Road, both which connect to the Bass Highway. The site consists of mostly privately owned, cleared farmland with little native vegetation. An area of public land comprising of vegetated coastal dunes and foreshore reserve lies between the site and Williamson Beach to the South. The Powlett River is located to the north east of the site, and its floodplain extends into the north-east of the site.

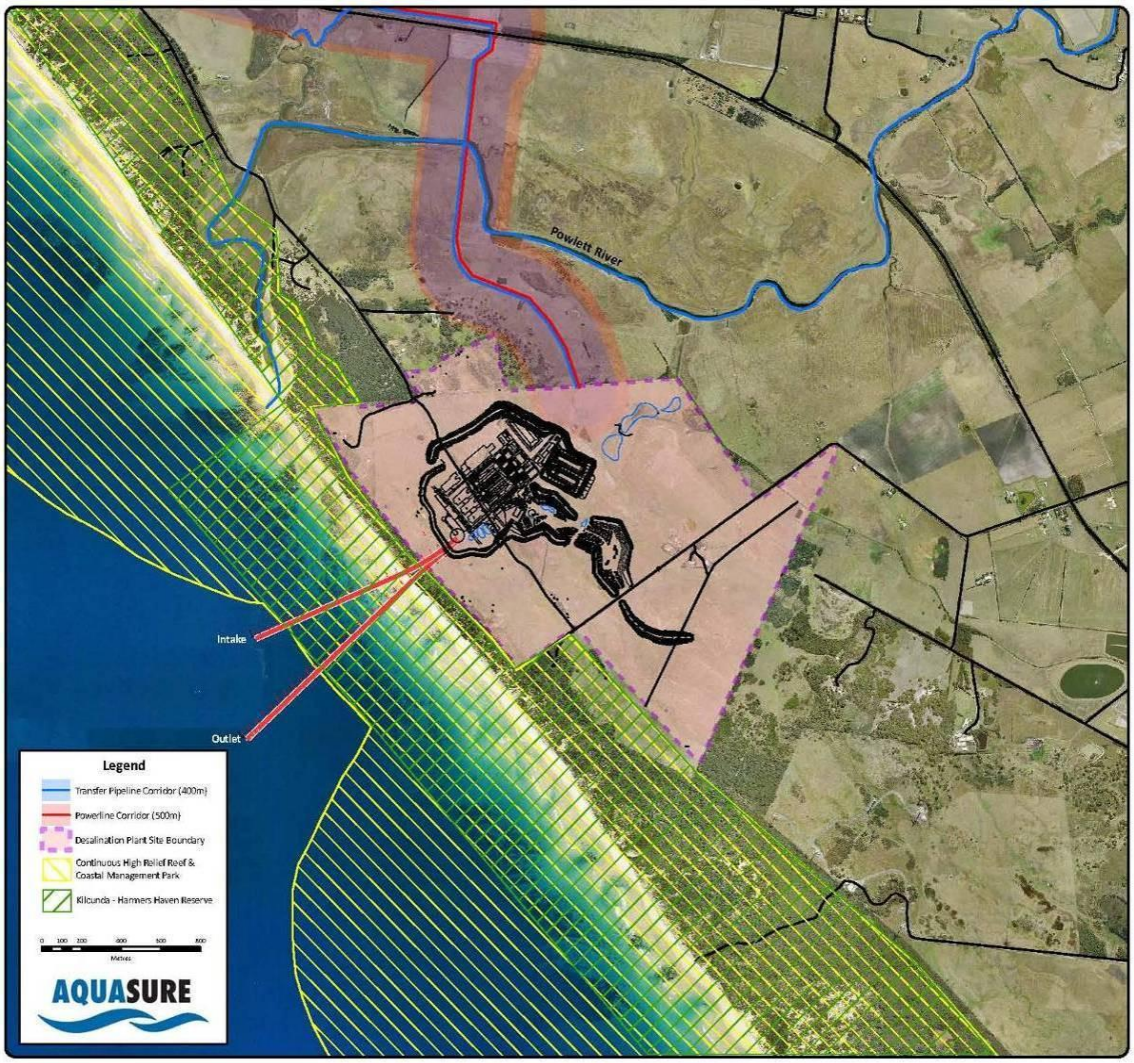

Figure 3: General location of Victorian Desalination Plant and Marine Structures

3.3.3. Utilities

3.3.3.1. Transfer pipeline

The transfer pipeline transports the desalinated water from the plant 84 km north to Melbourne Water's Cardinia-Pearcedale main, in Berwick. From there, the water will be predominantly transferred to the Cardinia Reservoir, south east of Melbourne. There are several intermediate distribution points. The transfer pipeline will be constructed near the rural townships of Wonthaggi, Lang Lang and Koo Wee Rup and will terminate in Berwick. A number of receptors located in proximity to the transfer pipeline corridor, such as schools, residential premises, sports grounds, clinics, hospitals and wetlands are considered to be sensitive locations in regards to works.

In addition it is required to construct a booster pump station approximately 74.5km north of the desalination plant near the intersection of Pound Road and McCormacks Road. The booster pump station houses pumps which only operate when the desalination plant is operating at or above a capacity of 100GL per year. The pumps are located in a concrete lined excavation approximately 5m deep. The building over the excavation is a simple structure made of tilt up concrete slabs.

3.3.3.2. Power supply

The desalination plant planned for Wonthaggi will have an ultimate power demand of about 140MW. The existing electricity infrastructure in the Wonthaggi area is not able to provide this amount of power and so the project will have to provide its own supply of electricity. It is therefore planned to connect the desalination plant at Wonthaggi to the existing electricity grid at Cranbourne – some 88km to the north west – by means of high voltage alternate current (HVAC) underground cable.

There will be intermediate stations at the Booster Pump Station and a mid point site at or near the intersection of Rayner Hoff Drive and the Bass Highway. The intermediate stations will house reactive compensation devices which will look much like power transformers, the purpose of which is to provide for efficient operation of the underground cable. They will be screened from view by earth bunds and vegetative screening.

The construction of the power supply will involve the laying of approximately 88 route km of underground single phase cable at an approximate rate of between 1 and 2km per day. The power supply will be constructed in the same corridor as the transfer pipeline, except for the final 8km at the Cranbourne end where the electricity corridor will divert along an existing electricity corridor to the Cranbourne Terminal Station.

The power supply will be constructed near the rural townships of Wonthaggi, Lang Lang and Koo Wee Rup and will terminate in Cranbourne. A number of receptors located in proximity to the construction corridor, such as schools, residential premises, sports grounds, clinics, hospitals and wetlands are considered to be sensitive locations in regards to works.

3.3.3.1. Fibre-optic cables

Two fibre optic cables will be installed in the power supply trench. One SCADA (supervisory control and data acquisition) cable which to provide communication along the power supply and one DTS (distributed temperature sensing) cable to monitor the temperature of the power supply cables. These cables will follow the power cable alignment from the Desalination Plant to the Cranbourne Terminal Station.

A third fibre-optic SCADA cable will be laid in a separate trench on the eastern side of the pipeline to provide communication along the transfer pipeline. The pipeline SCADA cable will be laid post-pipeline installation in a separate trench, except at crossings where a PVC conduit will be installed to allow the cable to be pulled through post construction. This cable will follow the pipeline alignment from the Desalination Plant to Berwick. The SCADA cables will also provide back up for one another and capacity for community purposes.

3.4. Environmental context and significant environmental aspects risks

The existing conditions and potentially significant environmental risks for each Project component is summarised below, excerpted from the EES Summary Brochure (DSE, 2008).

3.4.1. Marine intake and outlet structures

3.4.1.1. Existing conditions

The marine area is an active water environment, frequently exposed to strong waves and winds. Local currents are dominated by wind-driven longshore currents with low tidal currents that run parallel to the coast. Water quality at the Project area is primarily oceanic, with occasional influences from the Powlett River and Western Port.

The marine area is approximately one kilometre from the Powlett River. The estuary wetland of this river supports a number of protected species.

Four significant protected areas are located along the coast: Bunurong Marine Park, Bunurong Marine National Park, Bunurong Coastal Reserve and Kilcunda-Harmers Haven Coastal Reserve. These areas protect significant marine habitat and species.

The intertidal habitat is largely sandy beach inhabited by infaunal species with scattered sandstone and mudstone reef platforms that support a diverse array of flora and faunal species.

Most of the subtidal habitat (to 2.5 kilometres offshore) is dominated by rocky reefs. The reef community is dominated by kelp in shallower waters and red macroalgal and invertebrates in deeper waters with increasing dominance of invertebrates in deeper waters. A variety of reef fish live in these areas.

Biota that may occur in the area include:

- Phytoplankton and zooplankton
- Seven EPBC protected and three Flora and Fauna Guarantee Act 1988 (FFG) protected whale species
- Three EPBC protected fish species
- Three seal species including the Australian Fur Seal, New Zealand Fur Seal and the Australian Sea Lion
- Thirty-one seabird species including eleven EPBC or FFG listed species, including the Hooded Plover.

Commercial and recreational fishing occurs in the surrounding coastal waters. Commercial fishing operations in the Project area target abalone, rock lobster, finfish, and scallops. The western sector of the South East Trawl Fishery extends to the Project area.

Recreational angling is popular along the coastline encompassing the Project area. The mouth of the Powlett River is a popular area for beach fishing. Locals and visitors swim and surf at Williamsons Beach and recreational boating is common along the coastline.

3.4.1.2. Significant environmental aspects

The potentially significant environmental risks associated with construction of the Marine Structures were identified in the EES as follows:

- removal/damage to reef habitat, sandy habitat and significant reef species due to clearing of the seabed
- introduction of pests and diseases impacting on marine species due to construction divers
- impact on visual amenity
- chemical/hydrocarbon spills or incidents impacting on marine biota and ecosystems and marine parks
- noise and vibration affecting marine biota
- increased access to Williamsons Beach impacting on threatened fauna
- construction limiting marine-based recreation activities.

The potentially significant environmental effects associated with the operation of Marine Structures were identified as follows:

- entrainment of eggs/larvae, fish, penguins, and consequent effects on marine ecosystem interactions due to intake of seawater
- flow on effects from concentrate discharge.

3.4.2. Desalination plant and facilities

3.4.2.1. Existing conditions

The Desalination Plant site is mostly agricultural land, which has historically been used for grazing. A number of small remnant native vegetation patches remain within the farmed land. These patches contain a low diversity of indigenous species and a high weed cover. These patches of vegetation may act as ‘stepping stones’ between habitats for a number of bird species and possibly small mammal species. There are also a number of damp depressions and farm dams in the site which provide habitat for native species.

An area of public land comprising vegetated coastal dunes and foreshore reserve lies between the site and Williamsons Beach. The beach is used for a range of recreational activities all year round. A number of Aboriginal artefact scatters have been found on the site and adjoining coastal dunes, the most significant sites, including middens, occur in the dunes and will not be disturbed by the project. The Powlett River is located to the north-east of the site, and its floodplain extends into the north-east area of the site.

The Desalination Plant site is located within the Gippsland Plain Bioregion. There are a number of different Ecological Vegetation Classes (EVCs) present as remnant vegetation patches within the site area as defined under the Native Vegetation Management Framework (Vic). These include:

- Coast Banksia Woodland
- Swamp Scrub
- Modified Coast Banksia Woodland
- Coastal Dune Scrub/Coastal Dune Grassland Mosaic
- Damp Sands Herb-Rich Woodland
- Aquatic Herbland
- Riparian Scrub.

A total of 118 indigenous and 64 introduced vascular plant species have been recorded in the Project area. This includes one EPBC-listed flora species, River Swamp Wallaby Grass which was recorded in small numbers in low lying parts of the site. One FFG-listed flora species, Merran's Sun-orchid, has potential to occur on the plant site and foreshore reserve but was not recorded during recent surveys.

A total of 114 vertebrate fauna species including birds, mammals, reptiles, frogs and fish species were recorded during field investigations.

Protected species associated that occur within the vicinity of the plant site include a number of EPBC and FFG listed species including:

- Orange-bellied Parrot (EPBC, FFG listed)
- Growling Grass Frog (EPBC listed)
- Dwarf Galaxias (EPBC, FFG listed)
- Southern Brown Bandicoot (EPBC listed)
- Little Egret (FFG listed)
- White-bellied Sea-eagle (FFG listed).

However, none of these species are dependent on the plant site.

3.4.2.1. Significant environmental aspects

The potentially significant environmental risks associated with the construction of the Desalination Plant were identified as follows:

- removal of significant native vegetation
- disturbance of Aboriginal cultural heritage sites
- noise and vibration due to construction activities
- impacts on existing groundwater and surface water due to the possibility of acid sulphate soils and dewatering associated with excavation.

The potentially significant environmental effects associated with the operation of the Desalination Plant are:

- visual impacts of the Desalination Plant

- noise generated from the plant affecting sensitive locations.

3.4.3. Utilities

3.4.3.1. Existing conditions

The utilities would be located within a corridor that traverses the low-lying areas of Corinella, Koo Wee Rup and Lang Lang. Land use in these areas is predominantly agricultural and larger sized rural residential landholdings. There are a number of waterways ranging from rivers, streams and drains along the proposed utilities corridor. Many of these waterways rarely contain water. The utilities would cross a number of major waterways.

Vegetation within the utilities corridor is mostly introduced, with areas of scattered native vegetation at the Holden Proving Ground, along road reserves and next to waterways. The utilities alignment crosses mostly pasture and other areas of introduced vegetation, which have a low likelihood of supporting threatened fauna species. Threatened fauna species which may occur include:

- Giant Gippsland Earthworm (Earthworm habitat has been found along utilities corridor)
- Australian Grayling (exists in waterways crossed by the utilities corridor including Cardinia Creek, Bunyip and Lang Lang Rivers)
- Dwarf Galaxias (known to occur in Yallock Creek in the vicinity of the utilities crossing and is likely to inhabit other waterways intersected by the utilities).
- Growling Grass Frog (inhabits six drains at or close to where the proposed intersect with the utilities would occur)
- Southern Brown Bandicoot (potential habitat within the utilities corridor)
- Orange-bellied Parrot (utilities corridor intersects a very small area of habitat for this species).

There are twenty previously recorded Aboriginal cultural heritage sites within the 400-metre corridor assessed for the utilities; four of these lie within the proposed 30-metre construction easement. An Aboriginal heritage field study identified three new sites within the utilities 30-metre construction corridor. The sandy rises along the Koo Wee Rup Swamp and the low hills of The Gurdies are highly sensitive landforms where it is likely that additional Aboriginal heritage sites could be found in these landforms along the utilities corridor.

3.4.3.1. Significant environmental aspects

The potentially significant environmental risks associated with construction of the utilities were identified as follows:

- disruption or depletion of groundwater impacting on native flora, fauna and surface water ecosystems due to dewatering of excavation areas
- damage or disturbance of surface water ecosystems due to construction across waterways
- damage to Aboriginal and historical artefacts and sites
- interruption to agricultural and property activities within the construction easement
- noise generation impacting on nearby sensitive locations
- potential for encounters with acid sulfate soils.

The impacts of operation of the utilities are expected to be negligible.

3.5. Performance requirements

Environmental PRs were developed during the EES process to specify the performance that the actual project must achieve rather than the process used to achieve it. This performance based requirements approach ensures a balance between:

~ Achieving acceptable outcomes for the community and environmental values

- A delivery mode with sufficient flexibility to accommodate specific challenges and that optimises potential efficiencies in construction and operation.

The performance requirements set the environmental parameters for the Project and form part of the contractual Project Deed which includes PS&PR as Annexure 3.

The Project Deed including PS&PR specifies the environmental management framework to be implemented on the project. This framework is discussed in detail in Appendix S3 of the PS&PR (Environmental Requirements). It identifies the requirement for the preparation of an EMS Manual, Project Environmental Management Plans (EMP) for Design and Construction and Operation and Maintenance, and Component EMPs for each Project area. It also requires the engagement of and defines the roles of the Environmental Management Representative (EMR). The role of the Independent Reviewer & Environmental Auditor (IR & EA) is defined in Clause 8 of the Project Deed. Further details on the role of the IR&EA and EMR are described below in Section 5.

AquaSure has responded to the Project Deed including PS&PR through the development of an environmental management framework and the engagement of an EMR. AquaSure and the State also jointly engaged an IR & EA upon contract close. AquaSure is committed to working openly and collaboratively with key stakeholders to ensure the performance requirements are achieved. Details on AquaSure's response are detailed in Section 5.

4. Project delivery approach

4.1. Project management documentation

The relationship between the Project Management Plan, this EMS and the other project plans is shown in the figure below.

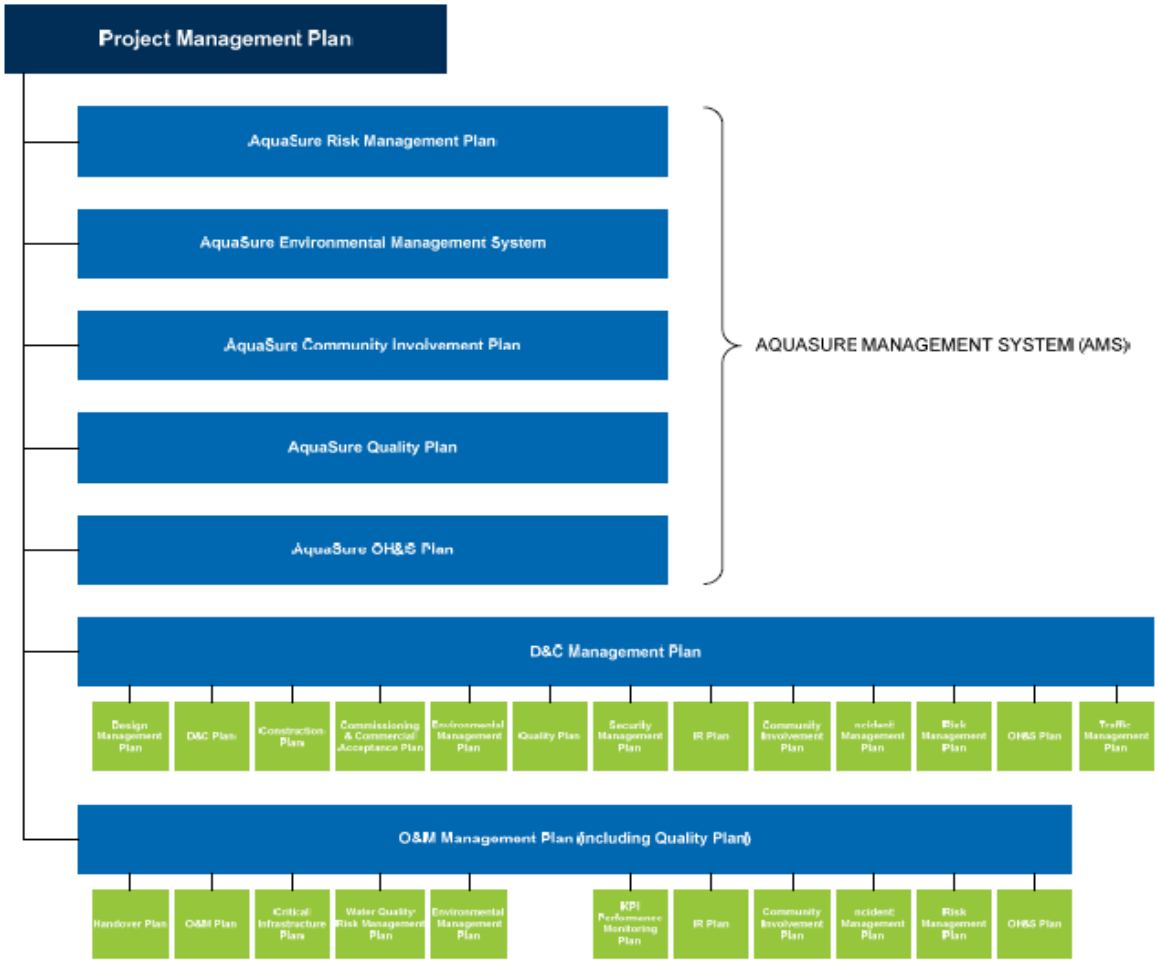

Figure 4: Project management plan structure

4.2. Project phases

The Project has the following phases:

- Design and pre-construction
- Construction
- Testing and Commissioning
- Close-out
- Defects liability
- Operations and maintenance.

The D&C Contractor is responsible for all of these phases, except operations and maintenance which is the responsibility of the O&M Contractor. While AquaSure has delegated responsibility to the Contractors, the approach to environmental management in each phase is summarised below.

4.2.1. Design and pre-construction phase

The following will be implemented during the design and pre construction phase:

- Procurement documentation and evaluation that incorporates the environmental PRs of the Project.
- Design solutions that address the PRs.
- Licences and permits obtained for all activities in an area as required prior to commencement of construction in that area.

In particular it is important that the design encompasses the environmental aspects of operation and maintenance. The D&C Contractor is responsible for design.

The design is divided into design packages. The design development occurs in two stages:

Stage 1: finalised concepts or design solutions for the relevant design element including an explanation of the reasons for the selection and design solutions; and

Stage 2: completed detailed Design Documentation, including typical features and proposed schedules of fixtures, samples and material finishes, and which is sufficient and appropriate for construction of the design package to commence on the basis of that design documentation.

Amongst other requirements, the Stage 1 design documentation must identify and address:

- compliance with the PRs
- an assessment of risk on the design and construction.

Amongst other requirements, the Stage 2 design documentation is a development of Stage 1 and must address any comments received, any changes made and provide any specialist reports and evidence of any approvals required.

The D&C EMP addresses the integration of environmental objectives and targets into the design management process (see Section 6.2.2).

4.2.2. Construction phase

The following will be implemented during the construction phase:

- Implementation of the environmental design developed during the design and pre-construction phase.
- Clear environmental management standards are set, communicated and enforced for personnel, consultants, subcontractors and suppliers.
- Clear environmental accountabilities and responsibilities are established for all key management positions.
- Inspection, monitoring, auditing and reporting is in place to establish performance against the requirements of the D&C EMP.
- All personnel are aware of their environmental responsibilities in so far as they are relevant to the work they are undertaking.

The D&C EMP addresses the construction phase.

4.2.3. Testing and commissioning phase

The following will be implemented during the testing and commissioning phase:

- The Commissioning and Commercial Acceptance Plan will be developed having regard for environmental aspects associated with testing and commissioning activities.
- Environmental risks associated with the higher than normal risk of equipment failure and design and construction errors are identified and managed.

- Specific environmental risks associated with testing and commissioning are identified and addressed.
- Changeover of environmental roles, responsibilities and accountabilities from the D&C Contractor to the O&M Contractor is managed effectively.

The D&C EMP addresses the testing and commissioning phase.

4.2.4. Close-out phase

The close-out phase occurs after Commercial Acceptance. Commercial Acceptance is when most of the D&C activities are complete and the desalinated water supply system is able to be safely operated. The close-out phase is an extension of the construction phase as described in Section 4.2.2. It occurs when construction is largely complete, yet some construction items still require to be completed after the plant has started delivering desalinated water. These items are the close-out works. In addition, where relevant, the changeover of environmental roles, responsibilities and accountabilities from the D&C Contractor to the O&M Contractor is managed effectively.

The D&C EMP addresses the close-out phase.

4.2.5. Defects liability period

The following will be implemented during the Defects Liability Period:

- All personnel are aware of their environmental responsibilities and competent in their environmental roles.
- Inspection, monitoring, auditing and reporting is in place to establish performance against the requirements of the EMP.

The D&C EMP addresses the close-out phase.

4.2.6. Operations and maintenance

The following will be implemented during the operations and maintenance phase:

- Development and implementation of the operating and maintenance protocols that address the environmental aspects of the Project.
- Specific environmental risks associated with shut down and maintenance periods are identified and addressed.
- Clear environmental management standards are set, communicated and enforced for personnel, consultants, subcontractors and suppliers.
- Clear environmental accountabilities and responsibilities are established for all key management positions.
- Inspection, monitoring, auditing and reporting is in place to establish performance against the requirements of the O&M EMP.
- All personnel are aware of their environmental responsibilities in so far as they are relevant to the work they are undertaking.
- RECs are provided for the operational energy use of the plant and pipeline.

The O&M EMP addresses the operations and maintenance phase.

5. Organisational structure and resourcing

Figure 5 shows the management structure of AquaSure during the D&C phase. Figure 6 shows the management structure of AquaSure during the O&M phase.

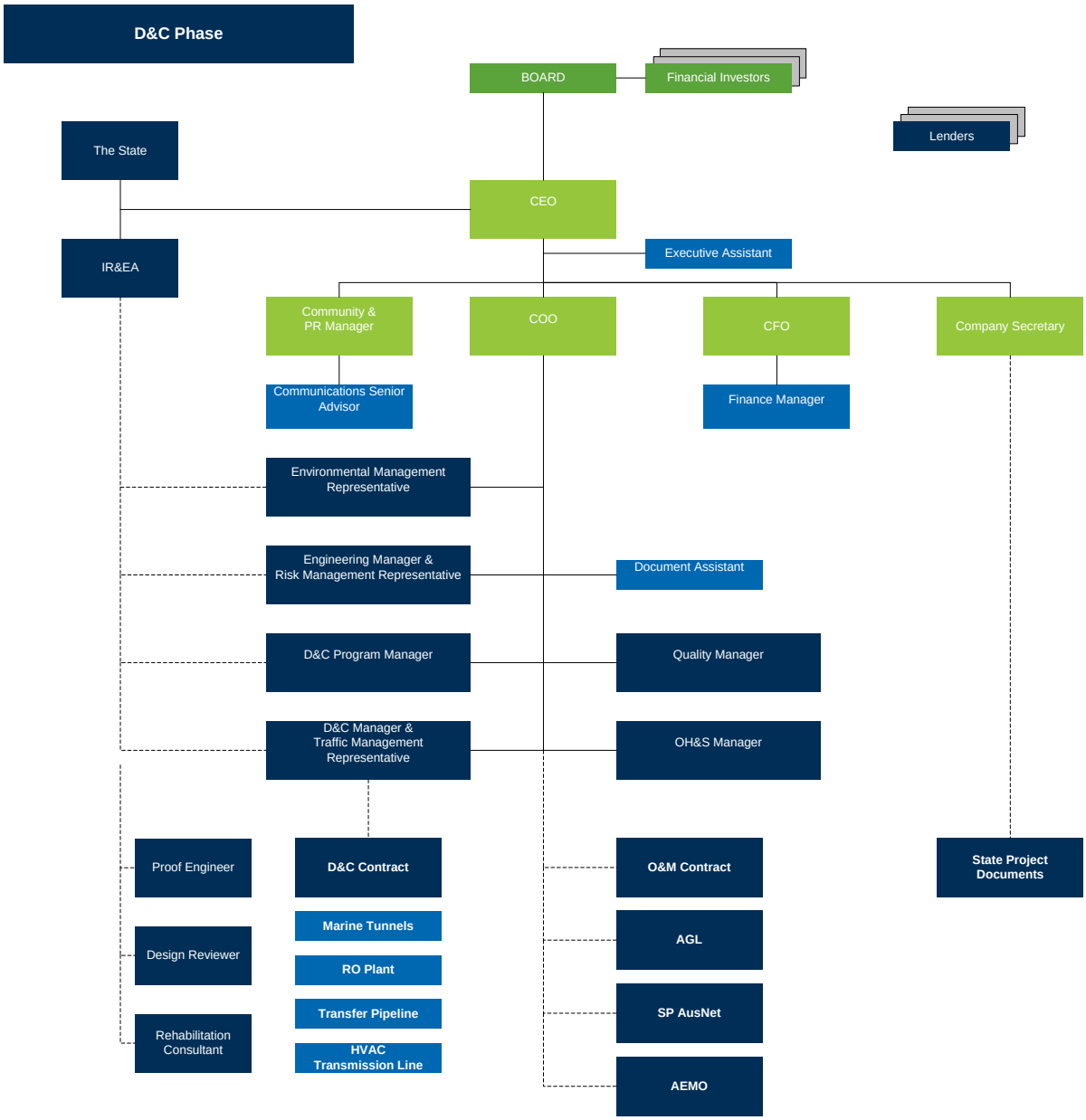

Figure 5: Management structure of AquaSure during the D&C phase

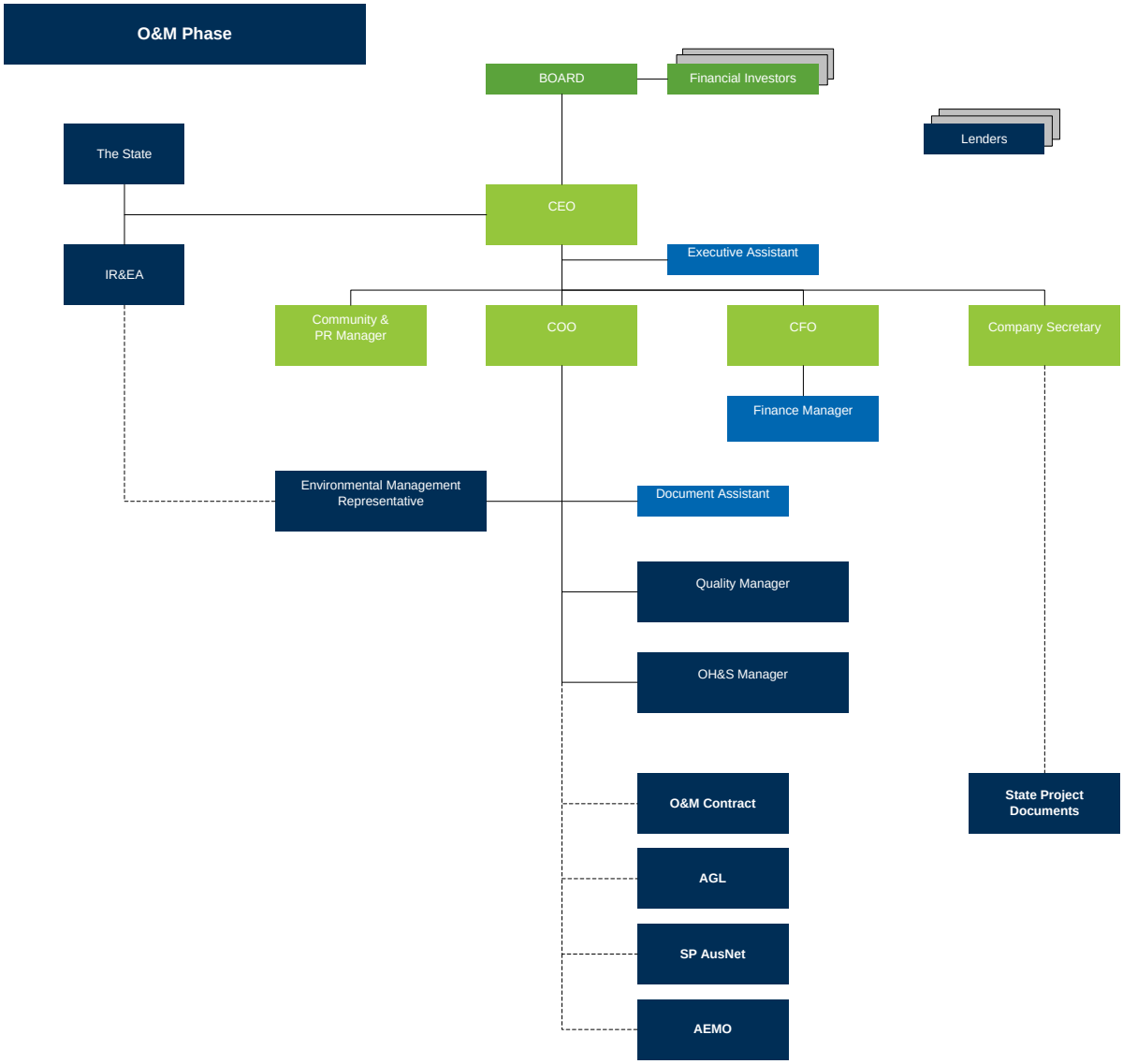

Figure 6: Management structure of AquaSure during the O&M phase

The provision of adequately qualified environmental personnel throughout the duration of the Project is critical to ensure that the performance requirements are achieved.

The EMR has ultimate responsibility for ensuring that all the necessary activities are undertaken to comply with regulatory and contractual requirements and mitigate identified environmental risks through implementation of strategies and plans. The EMR is also a key member of the project leadership team.

The Contractor is accountable to AquaSure for its environmental performance. To achieve the environmental PRs there is close liaison and cooperation between the AquaSure EMR and the Contractor, particularly the designated Contractor representative, the Area Environmental Managers and associated teams.

5.1. Collaborative approach

Throughout every stage of the project, the development and implementation of AquaSure's Environmental Management Framework will be influenced by a number of key stakeholders via approvals or audit and performance review processes. AquaSure recognises the importance of this approach to ensure that performance requirements are met and continuous improvement is achieved.

Figure 6 depicts these stakeholders.

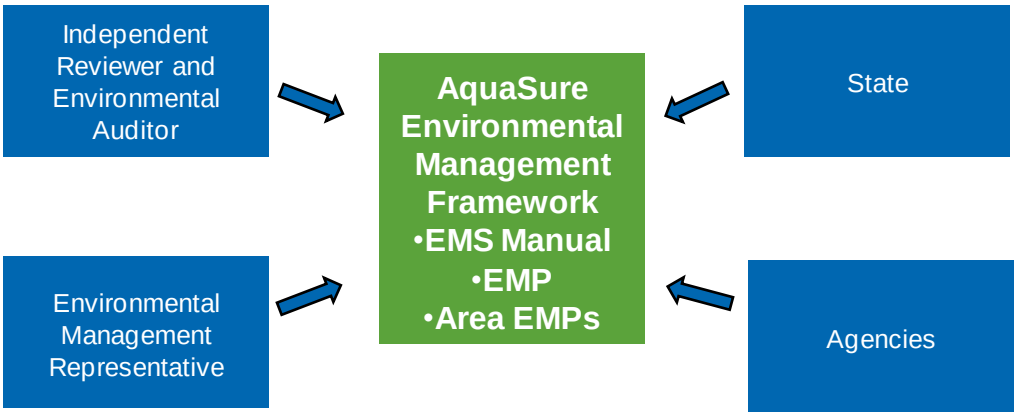

Figure 7: Key stakeholders who influence AquaSure's environmental management framework

Throughout all stages of the Project, comments from relevant government agencies will be sought in the development and continuous improvement of the AquaSure Environmental Management Framework. These government agencies are:

~ DPCD – regarding Minister of Planning's assessment of the EES

~ DSE Biodiversity – regarding terrestrial and marine flora and fauna impacts

~ DEWHA – regarding EPBC Act approvals

~ EPA – regarding pollution issues in relation to land, water, air and noise/ vibration

5.2. AquaSure roles and responsibilities

The Project Management Plan (PMP) describes the roles and responsibilities of AquaSure staff:

- The Chief Executive Officer (CEO) is accountable for facilitating the achievement of the project objectives, including the environmental objectives, while ensuring completion of the project on time.
- The Chief Operating Officer (COO) has responsibility for day to day progress and operation of the project. The COO is also responsible for relationships with regulatory authorities.
- The Community and Public Relations Manager is the key interface between AquaSure, internal and external stakeholders and the community.
- The EMR, required under the PS&PR, as part of the Project Deed. The EMR plays a fundamental role on the project in assessing that the PRs are understood and met by AquaSure and the Contractors. The role of the EMR is defined in Appendix S3 of the PS&PR. The EMR will be responsible for ensuring implementation of the EMP as well as liaison between the State, the Contractor and other affected groups. The roles and responsibilities for the EMR are defined in Table 1.

Table 1: Responsibilities of Environmental Management Representative

Responsibilities	Section of EMS Manual
• liaising with and keeping the State informed on issues relating to environmental compliance affecting the Project and environmental requirements through the D&C and O&M Contracts	• 8.3
• monitor, audit and report on environmental performance including the performance of each of the various EMS Manual, EMP and all subsidiary environmental plans	• 9, 10.1
• monitor the status and development in legal requirements, stakeholder concerns and best practice	• 7.5, 9.2
• review each of the EMPs and the EMS Manual	• 6.3, 9.5, 10.2
• investigate environmental incidents and implement emergency responses and corrective actions	• 8.6

Responsibilities	Section of EMS Manual
• deliver training and awareness programs to all Project team members	• 8.2
• implement a system of corrective actions and continuous improvements	• 9.3
• establish environmental communication channels, including processes for managing external communications and addressing environmental issues raised by stakeholders, including complaints	• 8.3
• recommend practicable changes in order to improve environmental performance	• 9.5, 10.2, 10.3
• provide timely and high quality environmental advice	• 9.5, 10.2, 10.3, 10.1
• The EMR will be responsible for maintaining and updating the EMS Manual in accordance with the AquaSure Project Management Plan	• 6.3, 6.6

5.3. Contractor roles and responsibilities

The Contractor EMPs detail the specific roles and responsibilities of personnel, including Environmental Managers. The day to day management of environmental issues on the project are managed by the Contractor Environmental Managers and Environmental Teams. The EMR and IR&EA work with the Contractor Environmental Managers and Environmental Teams within the context of the Environmental Management Framework for this Project.

5.4. Independent Reviewer and Environmental Auditor

The Project Deed requires the engagement of the IR&EA. The IR&EA is a joint appointment of the State and AquaSure under Clause 8 of the Project Deed. The key functions of the IR&EA with respect to environmental matters are:

- verifying that the design documentation for each design package complies with the requirements of the State Project Documents, if the design package does comply, the IR&EA is to issue a certificate in the form set out in the Certificate Schedule. The Environmental Management Framework (EMS and subordinate EMPs) is a State Project Document and therefore the IR&EA has to verify that each design package complies with the EMP
- carrying out audits on the Project Activities to determine whether they have been undertaken in accordance with the EMS Manual, EMP and the Environmental Requirements. The IR&EA will issue Environmental Audit Reports to the State and AquaSure.

6. Environmental Management Framework

6.1. Overview

AquaSure has developed the Environmental Management Framework to deliver the environmental PRsThe PS&PRs state that AquaSure is required to develop, implement and maintain an overarching Project EMP and discrete EMPs (Component Specific EMPs) consistent with the EMP. Figure 8 shows how the EMS integrates with AquaSure's contractual and regulatory requirements.

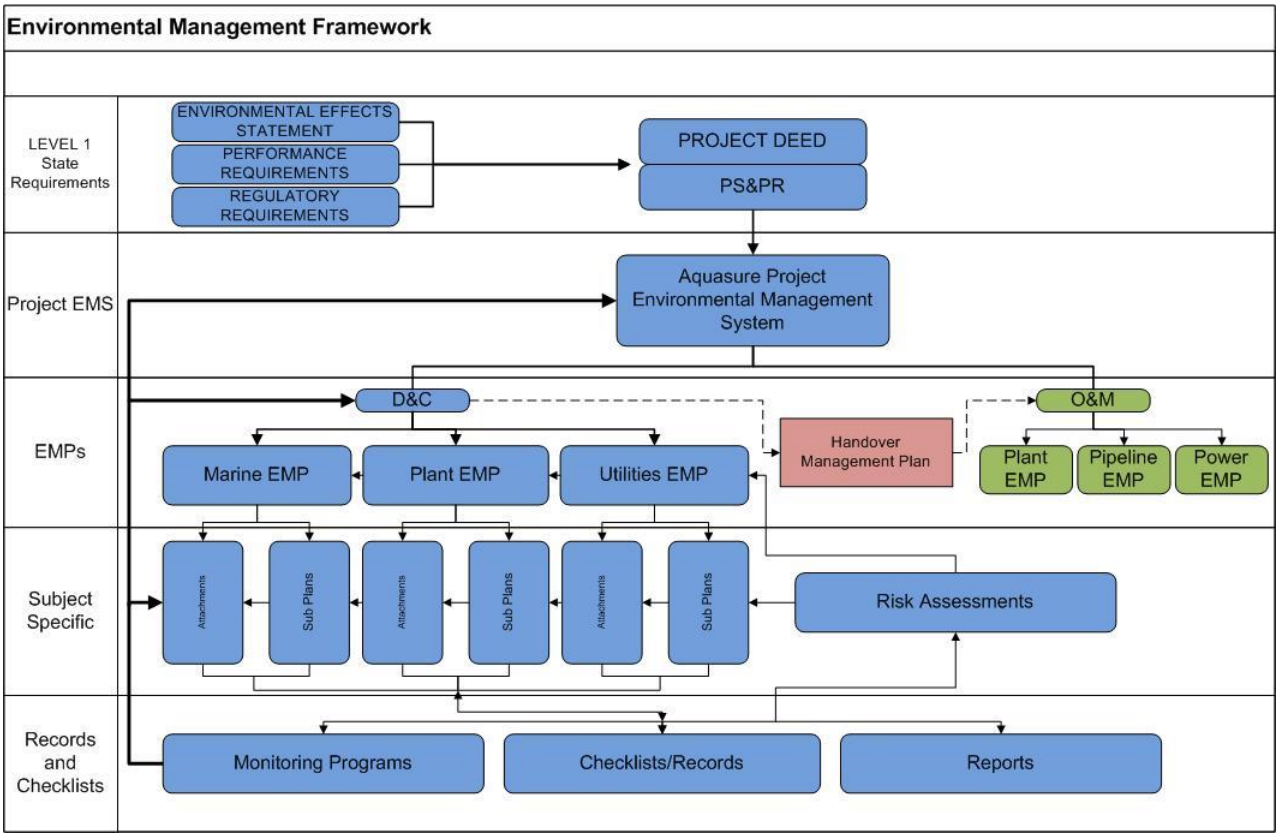

Figure 8: Environmental management framework

The Environmental Management Framework consists of:

- This EMS Manual which sets out:
  - AquaSure's EMS
  - the framework for development of Project specific EMPs by the Contractors
- Project EMP (comprised of D&C EMP and O&M EMP)
- Component specific AEMPs for each designated area of the project.

As shown in Figure 9, the EMS Manual is an AquaSure document prepared in accordance with the AquaSure PMP. The EMS Manual will be maintained by and be the responsibility of the AquaSure EMR. The subordinate Contractor EMP is the responsibility of the AquaSure appointed Contractor. AquaSure has delegated to the Contractor to prepare, finalise, implement and update the project specific EMP (and associated plans) as outlined in Appendix S11 of the PS&PR. The Contractor is responsible for developing and conducting the works associated with its contract with AquaSure, including achieving the environmental PRs.

AquaSure retains the responsibility of ensuring that the framework for development of project specific EMPs is developed in accordance with EMS requirements. Therefore, the Project EMP and component specific AEMPs require review and approval by the AquaSure EMR (see Section 6.3).

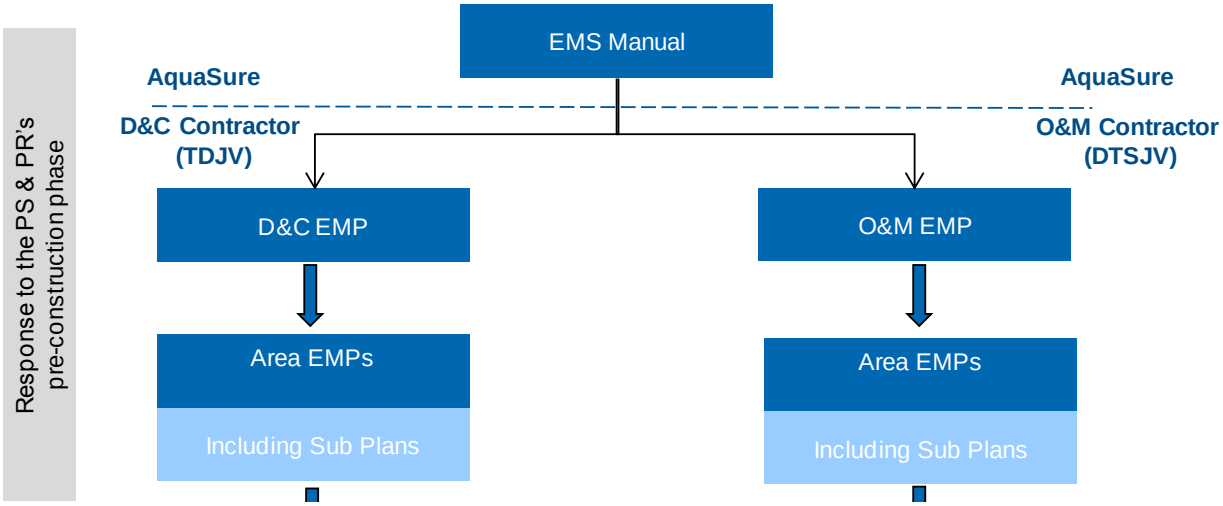

Figure 9: Environmental management plans

The hierarchy of documentation that forms the EMS and EMPs in each project phase shown in the figure below.

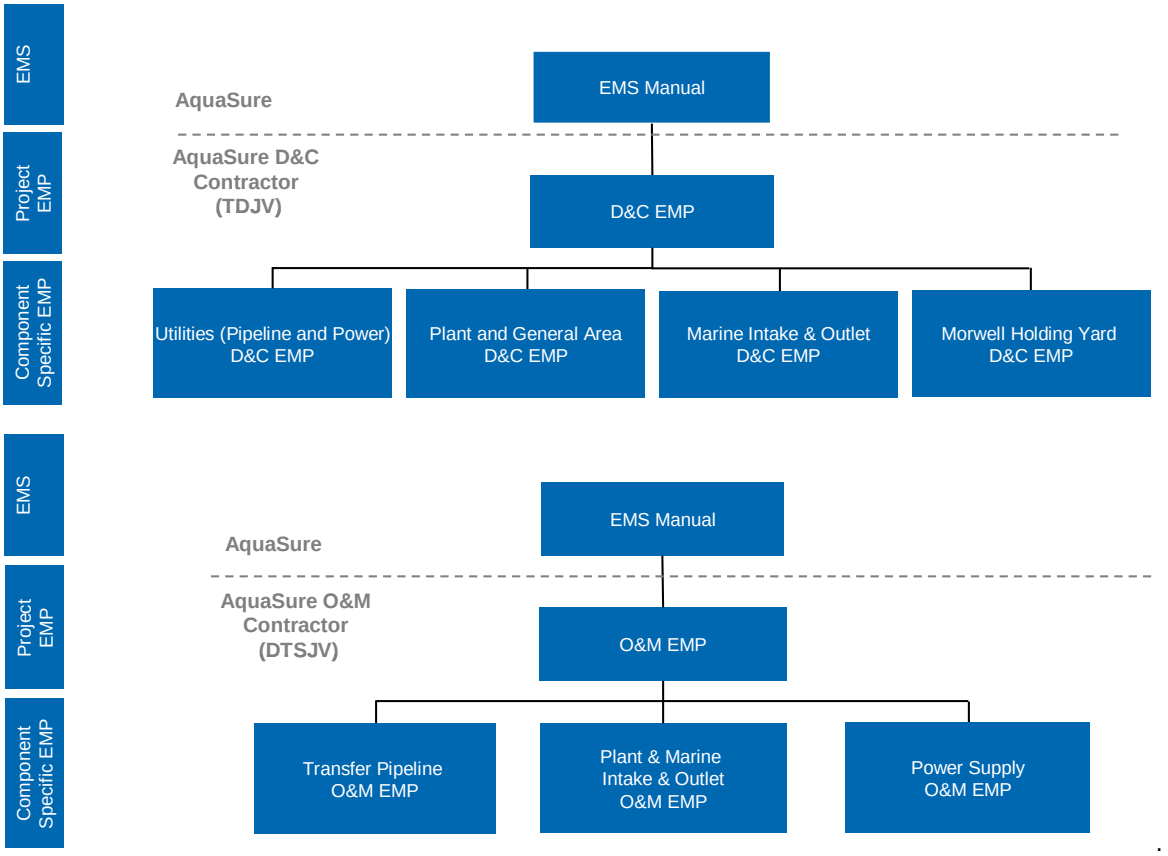

Figure 10: Environmental management document for project phases**

(** Morwell Holding Yard EMP will be prepared prior to facility becoming operational)

A description of each element of the framework including its purpose and objectives and who is responsible are defined in Table 2.

Table 2: Environmental Management Framework Elements

Element	Description and Objective	Purpose	Project Phase	Responsibility
EMS Manual	EMS Manual provides AquaSure with a structured approach to managing environmental outcomes during each stage of the VDP to meet the requirements of the PRs.	The EMS Manual provides the specification to allow AquaSure and its contractors to provide comprehensive management of environmental outcomes and ensure compliance with the PRs. It has been designed to ISO 14001:2004.	Pre-construction	AquaSure EMR
Project EMP	The D&C and O&M Project EMPs identify, manage and communicate the environmental outcomes throughout start-up, design and construction/operation activities to ensure that the Project delivers environmental outcomes in accordance with the PRs.	This will be achieved through identifying the key environmental risks across the project (all areas), define all the legal and other requirements for the project, identifies the regulatory permits/licences required for certain activities and provides the strategies and plans for managing key risks, obligations and legislative requirements, including those required by regulatory authorities.	Pre-construction / Pre-operation	Contractor
AEMPs	The AEMPs allow identification, management and communication of environmental outcomes for each specific area of work to ensure that the area-specific PRs are achieved.	This will be achieved through identifying key environmental risks across each area, outlining all the legal and other requirements for the Project that are relevant to each area, identifying the regulatory permits/licences required for certain activities and provides the strategies and plans for managing all environmental risks and issues within each specified area which are detailed within issue specific environmental sub plans. These AEMPs contain the management strategies focused on minimising the environmental risks imposed by the project.	Pre-construction / Pre-operation	Contractor

Element	Description and Objective	Purpose	Project Phase	Responsibility
Sub Plans	The Sub Plans allow identification, management and communication of environmental outcomes for each specific environmental aspect (eg air quality) to ensure that the issue-specific PRs are achieved.	This will be achieved through identifying key environmental risks across each environmental aspect, outlining all the legal and other requirements for the project that are relevant to each area, identifying the regulatory permits/licences required and provides the strategies and plans for managing all environmental risks and issues within each specified area which are detailed within issue specific environmental sub plans. These sub plans contain the management strategies focused on minimising the environmental risks for specific environmental aspects.	Pre-construction	Contractor

The PRs specified in the PS&PRs have been set as the project objectives and targets for the Project. These are reflected within the D&C and O&M EMPs and AEMPs.

Given that the environmental objectives are specified in the Project Deed and are contractual requirements, the performance criteria are also contained within the Obligations Registers of EMPs and AEMPs for the Project. These registers identify the contractual, statutory and other requirements for the Project and describe how the obligations will be complied with. The PR registers ensure that appropriate management measures and controls are in place to address the PS&PR. PRs are addressed through the Contractor EMPs and the relevant sub plans. These provide the environmental management programmes to address the requirements.

6.2. Documentation

6.2.1. EMS manual

6.2.1.1. Purpose

The EMS Manual is a guidance document that provides structured approach to managing environmental outcomes during all stages of the Project. The purpose of the EMS Manual is to provide the specification to ensure appropriate EMPs are developed and implemented on the Project. This EMS Manual has also been developed to enable AquaSure to comply with international environmental management standard AS/NZS ISO14001: 2004.

The EMS Manual has four primary user groups:

- The AquaSure EMR and Contractor Project delivery team who will use it as a tool for managing environmental outcomes throughout the project and obtain/maintain certification to ISO14001:2004
- DSE and other regulatory authorities who can refer to this manual to gain assurance that AquaSure have the necessary processes in place to manage and champion the Project environmental outcomes
- Independent, external auditors who will be commissioned to regularly verify AquaSure's compliance with ISO 14001
- Independent Reviewer and Environmental Auditor who reviews AquaSure's compliance with the Project Deed.

The requirements described within this EMS Manual represent the minimum standard to be implemented by AquaSure's employees, the D&C and O&M contractors and other AquaSure subcontractors and consultants as applicable to their specific roles and responsibilities.

6.2.1.2. Structure

The EMS Manual provides the specification to allow AquaSure and its contractors to provide comprehensive management of environmental outcomes.

The EMS Manual is structured into the following components:

- **Introduction**: This section establishes the background to the Project including the development of PRs, and how AquaSure has responded to meet these requirements. It also provides a description of the Project.
- **Environmental management framework structure**: As described in this section.
- **Planning**: This section describes the tools available to implement the EMS Manual in planning the Project so that all PRs can be achieved. These include:
  - ISO14001:2004 Compliance Ready Reference (Attachment A).
  - Define the project objectives and targets
  - AquaSure Environmental Policy (Attachment B)
  - List of Technical Reports and Documents to understand the existing conditions
  - Identify and prioritise environmental aspects and impacts through the Environmental Risk Register
  - Identify legal and licence requirements through the Environmental Legislation and Licence Registers
  - Define Project obligations including performance criteria and PRs in the PRs Register
- **Implementation and operation**: This section describes the tools to manage activities and operations so that environmental impacts are effectively controlled or minimized including structure and responsibility; inductions; training; awareness and competence; environmental communications; EMS Manual documentation; document control; Operational control (including procurement and sub-contractor management); and emergency preparedness and response. Tools include:
  - Environmental Training Matrix
  - EMP Preparation procedure (Attachment C).
- **Checking:** This section describes the process and tools available for monitoring and evaluation environmental performance including managing non-conformances and environmental records; and inspection and auditing tools that will be implemented. This includes:
  - Monitoring Inspection, auditing and reporting Schedule
  - Environmental Documents and record retention periods (Attachment D)
  - AquaSure Environmental Audits procedure (Attachment E)
- **Review, reporting and improvement**: This section describes how the environmental management framework is reviewed and by whom.

The tools provided in the EMS Manual provide the minimum standard for the tools to be implemented by the D&C and O&M contractors in establishing, maintaining and implementing the Project EMPs and AEMPs. Contractors may use different tools, subject to approval by the AquaSure EMR.

6.2.2. Project environmental management plans

6.2.2.1. Purpose

There are two Project EMPs:

- D&C EMP addressing the design, construction, testing and commissioning, close out and defects liability period
- O&M EMP addressing the operations and maintenance of the project.

Each EMP is prepared to comply with AS/NZS ISO 14001:2004. Its key purpose is to:

- Ensure compliance with the contractual Project Deed including the PS&PR
- Implement the AquaSure Environmental Policy
- Provide certainty of delivery of the prescribed environmental outcomes for relevant activities
- Implement a system for legislative and contractual compliance
- Establish design, mitigation and management measures to achieve the Environmental Requirements of the Project, having regard to risks the project poses to the environment.
- Ensure that Project design processes incorporate leading practice environmental design and sustainability principles to minimise the potential impacts of construction and operation to the environment and community
- Ensure that construction and operational work method statements effectively manage potential impacts to the environment and community
- Develop, implement and monitor management measures.

6.2.2.2. Structure

Following the requirements of the EMS Manual, the Project D&C and O&M EMPs include the following components:

- **Introduction, purpose and scope**: These sections establish the background to the Project and set the context of the Project D&C phase
- **Environmental management framework structure**: As described in this section.
- **Planning**: This section describes the set up and planning requirements that ensures that all environmental compliance can be achieved. This can be broken into:
  - Identify, plan and track EMS Manual, legal, contractual and other requirements
  - Define the Project objectives and targets
  - Identify and prioritise environmental aspects and impacts through the Environmental Risk Register
  - Identify legal and licence requirements through the Environmental Legislation and Licence Registers
  - Define project obligations including performance criteria and PRs in the PR Register
- **Implementation and operation**: This section describes how and who is responsible for the implementation of the EMP including the maintenance of all attachments.
- **Checking:** This section describes what monitoring, evaluation and auditing is being undertaken to demonstrate that all activities are complying with the requirements of the EMP and subordinate AEMPs. This includes:
  - Demonstrating compliance using the Environmental Inspection Checklist
- **Review, reporting and improvement**: This section describe**s** how and who is responsible for the implementation of the EMP.
  - Establish and maintain programs and compliance to achieve obligations including Monitoring, Inspection Auditing and Reporting schedule, Environmental Training Matrix and List of Technical Reports and Documents

6.2.3. Area environmental management plans

6.2.3.1. Purpose

The D&C and O&M EMPs are supported by separate and subordinate area environmental management plans (AEMPs) for:

- Marine intake and outlet structures
- Desalination plant and activities within the general area

- Utilities (transfer pipeline and power supply)

A further AEMP will be developed for the holding yard proposed at Morwell if required.

Each AEMP is designed to contain only information specific to the area of works. The purpose of each AEMP is to:

- Ensure compliance with the Project Deed including PS&PR
- Implement the AquaSure Environmental Policy
- Provide certainty of delivery of the prescribed environmental outcomes for relevant activities including identification of environmental risks and definition of clear risk pathways to be managed
- Implement a system for legislative and contractual compliance
- Establish design, mitigation and management measures to achieve the Environmental Requirements of the Project, having regard to risks the Project poses to the environment.
- Ensure that Project design processes incorporate leading practice environmental design and sustainability principles to minimise the potential impacts of construction and operation to the environment and community
- Ensure that construction and operational work method statements effectively manage potential impacts to the environment and community
- Develop, implement and monitor management measures.

The AEMP establishes the environmental management controls to be implemented by the project team, consultants and subcontractors when carrying out the Project.

6.2.3.2. Structure

The AEMP includes the following components:

- **Introduction, purpose and scope**: These sections establish set the context of the Project design and construction or operational phase specific to the relevant area
- **Environmental management framework structure**: This section describes how the EMS and EMPs interrelate.
- **Planning**: This section describes the set up and planning requirements specific to the area to ensure that environmental compliance can be achieved. This can be broken into:
  - Identify, plan and track EMS Manual, legal, contractual and other requirements
  - Define the project objectives and targets
  - Identify and prioritise environmental aspects and impacts through the Environmental Risk Register identifying clear risk pathways and management actions
  - Identify legal and licence requirements through the Environmental Legislation and Licence Registers
  - Define project obligations including performance criteria and PRs in the PR Register
  - Specific environmental sub plans which nominate the appropriate issues and range of management and mitigation measures specific to each set of activities
  - For construction activities, specific site environmental plans which diagrammatically identify the environmental issues and controls and management measures from all environmental sub plans specific to a particular area
- **Implementation and operation**: This section describes how and who is responsible for the implementation of the AEMP including the maintenance of all attachments.
- **Checking:** This section describes what monitoring, evaluation and auditing is being undertaken to demonstrate that all activities are complying with the requirements of the AEMP.
- **Review, reporting and improvement**: This section describes how and who is responsible for the implementation of the EMP.

- Establish and maintain programs and compliance to achieve obligations (Monitoring, Inspection Auditing and Reporting schedule, Environmental Team Training matrix and Environmental Documents

6.2.4. Sub plans

6.2.4.1. Purpose

The Sub Plans allow identification, management and communication of environmental outcomes for each specific environmental aspect (eg air quality) to ensure that the issue-specific PRs are achieved for a particular Area.

6.2.4.2. Structure

The Sub Plan includes the following components:

- **Purpose and scope -** establishes the context of the Project D&C or O&M phase specific to the relevant area
- **Objectives and targets** – establishes the performance requirements and standards to be achieved
- **Legal, regulatory, licence, permits and approval requirements –** identifies the applicable regulatory requirements
- **Existing conditions and issues** – identifies the surrounding environmental quality and circumstances
- **Environmental risks** – identifies sensitive receptors and potential sources of risk from the Project.
- **Control, management and mitigation** measures – sets out Project management and mitigation measures, timing and responsibility
- **Evaluating performance and** reporting – sets out inspection, monitoring, auditing and reporting requirements
- **Contingency** measures – identifies potential incidents, preventative and response measures
- **References** – identifies project, technical and legislative documents used to prepare the sub plan, including relevant Reference Documents.

6.3. Authorisation

Without limiting AquaSure's obligation to notify any revisions or amendments to the EMS) Manual to the State and IR & EA and AquaSure overall responsibility for the EMS Manual, revisions or amendments to this EMS Manual, subsidiary EMPs are subject to the authorisation process set out in the tables below.

Table 3: EMS Manual authorisation

Action	Responsibility	Initial Issue	Major Revision	Minor Revision
Consultation with relevant government agencies	AquaSure EMR	✓	✓	✓
Consultation with the Contractor	AquaSure EMR	✓	✓	✓
Approval	AquaSure EMR	✓	✓	✓
Approval	CEO, AquaSure	✓	✓	✓
Consent	The State	✓	✓	✓
Review and Assent	Independent Reviewer and Environmental Auditor	✓	✓	✓

Table 4: EMP authorisation (including AEMPs and Sub Plans)

Action	Responsibility	Initial Issue	Major Revision	Minor Revision
Consultation with relevant government agencies	Contractor	✓	✓	✓
Consultation with AquaSure	Contractor	✓	✓	✓
Approval	Project Director, Contractor	✓	✓	✓
Approval	AquaSure EMR	✓	✓	✓
Consent	The State	✓	✓	✓
Review and Assent	Independent Reviewer and Environmental Auditor	✓	✓	✓

Major revisions are required to be submitted to the State for consent. Major revisions to this EMS, the EMPs or attachments or subsidiary AEMPs will occur where there is a significant change to environmental requirements, methodology and/or scope that change the approach to the works. This includes comments from relevant government agencies that will be sought throughout the Project in the development and continuous improvement of the EMS Manual and EMPs.

Minor revisions are deemed as those that are not substantial and that do not change the approach to the works and may include changes to the EMS Manual or EMPs which:

- Provide clarification or improvement to environmental management practices
- Add / modify activities and associated controls such that there is no increase in level of environmental risks
- Add new obligations and associated controls e.g. for a new environmental permit.

All revisions deemed to be minor by AquaSure will be discussed with the State on a case by case basis, to confirm agreement on the classification and need for involvement in the consent process.

The subsequent process for the development of revisions, amendments and additions to the EMS Manual and EMPs shall take into account the time required for this consultation and authorisation process, prior to the commencement of any work activities.

6.4. Reference documents

The EMS Manual and the EMPs and associated documents must comply with the Reference Documents. These are set out in Appendix S2 to the PS&PR. The environmental management document must comply with the current version at the time. For design documentation, this is the version current at the Stage 2 design documentation (see Section 4.2.1).

The relevant Reference Documents must be identified in:

- For design – Stage 1 design package
- For construction – relevant sub plan

The requirements of the reference document must be met unless the PRs specify a different standard or level of service, in which case the PRs will prevail.

The hierarchy of reference documents is:

(i) Australian Drinking Water Guidelines;

(ii) Australian Codes of Practice including Best Practice Guidelines and EPA Publications;

(iii) VicRoads publications (as applicable to roads, bridges and shared use paths);

(iv) Australian Standards;

(v) AUSTROADS publications;

(vi) International standards or codes;

(vii) AquaSure's Reference Documents (submitted at the time of tender in Appendix B2 to the PS&PR); and

(viii) other Reference Documents.

If a reference document provides for a 'desirable' and an 'absolute' design limit, the desirable design limit is to apply unless other design limits are approved by the State.

6.5. Master documents

6.5.1. EMS manual

The master of this document is stored as an electronic PDF file attached to the record located within the Project's document management system along with all related management and associated documentation.

Document management system	G: drive on AquaSure server
EMS	G: drive on AquaSure server

If necessary, hard copies are to be derived from the signed electronic master and are deemed 'uncontrolled'

Master documents that have been superseded are identified and located within the controlled documents/ drawings file of the above mentioned system.

6.5.2. EMPs

The Contractor is responsible for maintaining the master of the EMPs in its document management system along with all related management and associated documentation. Masters that have been superseded must be identified and located within the controlled documents/ drawings file of the above mentioned system.

6.6. Control of documents

6.6.1. EMS manual

This EMS Manual and associated documents are controlled in accordance with “Document and Record Management” AQS-SYS-PR001.

6.6.2. EMPs

The EMPs and associated documents will be controlled by a Contractor document control procedure consistent with clause 4.4.5 (Control of documents) of ISO 14001.

6.7. Confidentiality

Any management plan/attachments/references associated with this EMS are copyright protected and will not be copied or reproduced without the express permission of an AquaSure authorised representative.

6.8. Distribution

6.8.1. EMS manual

The AquaSure EMR ensures that the current version of this document is available to all AquaSure staff and the Contractor, and issues controlled or uncontrolled copies to applicable external organisations where necessary.

Issue details are recorded in the AQS document management system. When issued, it is the responsibility of the user to replace superseded material with the current issue.

6.8.2. EMPs and associated documentation

The Contractor Project Director ensures that the current version of the EMPs is available to all Contractor personnel and issues controlled or uncontrolled copies to applicable external organisations where necessary.

Issue details are recorded in the Project Document Register. When issued, it is the responsibility of the user to replace superseded material with the current issue.

The Contractor must provide full and current access to the AquaSure EMR of all:

- EMPs and associated documentation
- documents and records relevant to environmental management.

7. Planning

This section of the manual describes the “planning” phase of the EMS Manual and how this will be implemented. In this context, the EMS Manual provides the Contractor with the tools to:

- Prepare and maintain EMPs
- Identify and prioritise environmental aspects and impacts that require management
- Identify legal and other regulatory requirements that need to be considered
- Establish environmental objectives and targets
- Establish and maintain programs for achieving these objectives and targets.

7.1. AquaSure environmental policy

AquaSure understands that managing its environmental outcomes is a key component in achieving sustainable development outcomes for the VDP, local and regional economies, and the people directly and indirectly affected by the Project.

AquaSure has established an Environmental Policy (Attachment B) which describes the AquaSure commitment to seeking best value solutions for managing its environmental outcomes, complying with its applicable legal requirements and other obligations, and seeking to continually improve the project’s environmental performance.

The Environmental Policy will be available to the public via the AquaSure website and other appropriate media. It will also be prominently displayed at all AquaSure work sites and communicated to staff and other interested parties via inductions and ongoing awareness and training programs.

This policy is issued under the authority of the AquaSure CEO and will be reviewed every two years or sooner if warranted. The EMPs will provide the tools for the Contractors and subcontractors to fulfil this policy.

7.2. Objectives and targets

7.2.1. State

The EES and the State defined the Project objectives and targets. The relevant environmental objectives for the Project are listed as:

- To minimise the environmental impact of the Project through design and appropriate risk management and mitigation measures and in particular, to minimise adverse impacts on the coastal and marine environment from construction activity, visual intrusion, noise and waste discharge and disposal.
- To protect the beneficial uses of the coastal and marine environment, including the landscape and recreational values of the adjacent coastal reserve.

These objectives form the core of the contractual Project Deed environmental requirements including PS&PR.

7.2.2. AquaSure

AquaSure’s overarching environmental objective is to:

- comply with the environmental standards established for the Project through design and appropriate risk management
- optimise energy efficiency through project design and offset any impact through the purchase of renewable energy credits for 100% of the electricity used at the Desalination Plant and Transfer Pipeline
- protect the beneficial uses of the coastal and marine environment

such that AquaSure is recognised as a good environmental citizen.

The PRs specified in the PS&PRs have been set as more detailed project objectives and targets for the Project.

The fundamental output from the EES process was the establishment of the PRs for the Project. These requirements establish the Environmental Requirements which are included in Appendix S3 of the Project Deed. These requirements define the minimum environmental performance standards for the Project, to ensure that the Project will deliver on the environmental expectations of the community and key stakeholders. They therefore define the Project objectives and targets.

These objectives and targets guide the environmental outcomes on the Project and are integrated throughout all stages of the Project.

7.2.3. Contractor

The Contractor is responsible for identifying and achieving the objectives and targets (PRs) associated with their activities, consistent with clause 4.3.3 (Objectives, targets and programme(s)) of ISO 14001.

Section 7.5.2.3describes the Obligations Register for the Project, which identifies the method of compliance to achieve the objectives and targets. This has been populated and can be found in the Project EMPs and AEMPs.

The Contractor is responsible for maintaining this register.

7.3. Existing environmental conditions and issues

The Contractor must identify and regularly review the issues, risks and opportunities which affect the environmental outcomes of the Project.

This involves the environmental aspects and impacts associated with activities, products, and services that AquaSure can control or influence. The means by which this can be done includes, but is not restricted to:

~ Review of the EES and associated documents (e.g. Minister's assessment)

~ Review of tender and contract documents

~ Review of other technical and non-technical references, studies, data, reports, and other sources of public media, including the reference documents described in Section 6.4

~ Review of design and construction drawings, methodologies, and risk assessments

~ Collective knowledge, professional experiences and judgments of the AquaSure team

~ Requirements, management systems and contributory insights of consortium members.

A list of technical reference documents used for identifying and assessing environmental risks and opportunities will be included in the respective D&C EMP and O&M EMP. The reference list must include:

- Bibliographic citation
- Revision status / date
- Relevance to the project

7.4. Environmental aspects and impacts

7.4.1. EES risk assessment

The EES environmental risk assessment process is described in detail in Volume 1, Chapter 5 of the EES and in the Risk Assessment Report (Maunsell 2008, Technical Appendix 6 of the EES). Key aspects of this process are summarised below:

~ The potential impact pathways associated with each Project activity were identified and assigned a consequence rating to the impact if it materialised. A single action or activity may have a number of impact pathways, for example trenching through a waterway may affect native flora and fauna, surface water and groundwater users.

- A consequence level was assigned after taking into account Project controls that would be in place to reduce risk. Project controls are defined as existing processes, policies, devices, practices or other actions that are in place to minimise the negative impacts of the Project D&C activities. For the EES reference project the controls included the requirements of applicable legislation and policy, operating procedures required for equipment and machinery and the design features of the reference project. The risks detailed in the EES process do not take into account the PRs as these were developed from the iterative process during the panel inquiry and finalised in the Minister's assessment. These PRs are detailed in the Obligations Register.
- Once a consequence rating has been developed for an impact pathway, the likelihood of the impact occurring was also identified.
- The risk rating is then developed as a combination of consequence and likelihood.

The EES environmental risk assessment was appropriately undertaken on the reference project developed in the EES and not the finalised project design as developed by AquaSure. Therefore AquaSure has required the Contractor to complete an additional and specific project environmental risk assessment in relation to the TDJV project design, using the EES risk assessment as a reference point. Details regarding this risk assessment process are provided in the following sections.

7.4.2. AquaSure

The role of AquaSure in delivery of the Project is described in section 3. Roles and responsibilities of key AquaSure staff in establishment and maintenance of appropriate environmental performance to meet the Project Deed and other regulatory obligations is summarised in section 5.2, with further detail provided in the AquaSure Project Plan.

Environmental aspects and impacts of AquaSure functions, and associated risk assessment, are provided in the AquaSure Risk Register Part C. The risk assessment process is developed in accordance with AquaSure "Risk Management Plan" AQS-RIS-PL001, for identified environmental aspects and impact associated with these activities. The identification of these aspects and impacts will be undertaken and maintained by the EMR or suitably qualified and experienced environmental professional.

The AquaSure EMR is responsible for providing input to the AquaSure Strategic Risk Register (Part B), in accordance with the AquaSure "Risk Management Plan" AQS-RIS-PL001.

In providing input to the Risk Register, the AquaSure EMR will take into account:

- The D&C and O&M environmental risk registers
- The status of the PRs
- The views of key stakeholders.

7.4.3. Contractor

The Contractor is responsible for identifying and managing the significant environmental aspects of their activities, consistent with clause 4.3.1 (Environmental aspects) of ISO 14001. The Contractor will maintain an environmental risk register. The Environmental Risk Register must be contained in the relevant EMP.

A risk assessment is required for each of:

- Project EMP
- AEMP

The Environmental Risk Register must include:

- Area and activity/service
- Potential Hazard (Environmental Aspect)
- Asset at Risk (Potential Impact)
- Probability

- Consequence
- Inherent Risk (Before Controls)
- Controls: current or planned prior to work
- Control effectiveness
- ResidualRisk (After Controls)

In accordance with clause 4 (b) of Annexure S3 PS&PR the environmental risk assessment must details the preventative measures required to minimise the risk of incidents and emergencies.

The purpose of the Environmental Risk Register is to detail the construction/operation activity or methods to be used on the Project, the potential hazard (environmental aspect) and the environmental risks (potential impacts) to determine an inherent environmental risk associated with the activity. The register then lists an appropriate control measure to be implemented to lower this inherent risk to an acceptable level. Where appropriate, the specific AEMPs are listed as a control measure and this activity will be further described and detailed in the relevant AEMP Environmental Risk Register.

The Contractor must review the risk register at a minimum every six months during the construction stage and annually during the operational stage. The review takes account of any new phases of work, new procedures or issues raised by stakeholders. This may also be done at other times such as when new aspects or impacts are identified or new activities proposed.

The Contractor will conduct a risk assessment for each activity to determine the severity and likelihood of an impact on the environment and to prioritise its significance in accordance with ISO 31000:2009 Risk management -- Principles and guidelines. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of community and other key stakeholders. It also builds on the information generated through the EES risk assessment.

A summary of the minimum requirements for the risk assessment tools and circumstances for their use for pre-construction and Construction and Operational phases are shown in Table 5.

Table 5: Environmental risk and opportunity assessment tools

No.	Tool	When used	Responsibility to use/maintain	ISO 31000
1	Project Environmental Risk Assessment Register	A risk management tool consistent with ISO 31000 that is included in the D&C EMP and O&M EMP that captures all risks related to activities undertaken across the pPoject.	Contractor	Y
2	Area Environmental Risk Assessment Register	A risk management tool consistent with ISO 31000 included in the AEMPs. It captures all risks related to activities undertaken within each area of the Project.	Contractor	Y

The Contractor will retain records associated with identifying and assessing the significance of environmental aspects and impacts. These records could include annual reports, strategic plans, minutes of environment team meetings and workshops.

The Contractor will establish and implement risk assessment methods for identifying and managing the environmental aspects of specific activities. This can include tools such as:

- Work method statements (WMS) - a high level, activity-specific risk assessment and planning tool. WMS detail all steps involved in an activity to be undertaken along with their respective risk control measures.
- Job Safety and Environmental Analysis (JSEA) – a tool to identify risks in hands-on type activities

7.5. Legal and other requirements

7.5.1. AquaSure

AquaSure has access to Lawlex and Standards Australia in order to maintain access to applicable legal and other relevant requirements. The AquaSure EMR is responsible for confirming how these requirements apply to the environmental aspects of the Project.

The AquaSure EMR has access to the Contractor's legal and obligations registers and therefore has current access to all of the licences, permits and approvals.

7.5.2. Contractor

The Contractor will establish and maintain registers of legal, contract and other obligations as specified in this EMS Manual as follows:

- Environmental Legislation Register
- Licences, Permits and Approvals Register
- Environmental Obligations Register.

The Contractor will:

- Ensure current and new obligations are recognised and captured in these registers as they arise, and ensure that subsequent amendments to EMPs or other management tools are made to ensure relevancy and compliance
- Ensure that superseded and out-dated requirements are removed from the respective EMPs and management tools
- Be responsible for communicating and implementing means to demonstrate compliance with current and new legal and other requirements to members of the team who are accountable for, or can influence, AquaSure's ability to comply with those requirements
- Notify AquaSure when a new or revised approval, licence or permit is issued.

The D&C EMP and O&M EMP will define the means by which the Contractor will be kept informed of changes to legislation and other obligations, consistent with clause 4.3.2 (Legal and other requirements) of ISO 14001.

Issues relating to problems with compliance with statutory approvals must be notified promptly to AquaSure, in addition to the reporting requirements in Section 10.1.3

7.5.2.1. Legal requirements and regulatory framework

The Legislation Register will:

- Identify all relevant International, Commonwealth, State and Local Government legislation, Codes of Practice, and Australian Standards (or those which have the potential to be relevant if a realistic change in scope or method occurred)
- Identify its relevance to the project (particularly if it is relevant to an AquaSure governance or management requirement, or if an operational requirement preferably linked to affected areas and/or activities)

Where a legal requirement is relevant to specific operational activities or areas, the requirement will be captured by both the D&C EMP and the O&M EMP as well as affected AEMPs. To prevent duplication and ensure linkage between the D&C and O&M EMPs and AEMPs, the compliance descriptions in the D&C and O&M EMPs can be generic and simply refer to the affected AEMPs while the AEMPs would define the specific compliance measures to be implemented within each area/activity.

The Legislation Register is contained in each of the D&C EMPand the O&M EMP..

7.5.2.2. Licence, permit and approval requirements

The Licence, Permit and Approvals Register will:

- Identify and track all regulatory approvals known will be needed throughout the life of the respective construct or operate stage
- Collate planning information about who and how each approval can be obtained
- Track the expiration dates of approvals to ensure approvals remain in place
- Provide contact details with relevant regulatory authorities

Identify the timeframes and information needed for obtaining the approval.

The Licence, Permit and Approvals Register is contained in each of the D&C EMP, O&M EMP, and all AEMPs.

7.5.2.3. Obligations Register

The D&C and O&M EMPs will describe how the Contractor will achieve the PRs, consistent with clause 4.3.3 (Objectives, targets and programmes) of ISO 14001.

The Environmental Obligations Register will identify:

- relevant tender/contract requirements, approval conditions, and other environmental obligations not captured in the legislation register
- relevant PRs
- the obligation's relevance to the Project (particularly if it is relevant to an AquaSure governance or management requirement, or if an operational requirement preferably linked to affected areas and/or activities)
- the means by which the requirement will be complied with (e.g. a requirement to regularly obtain water quality data during construction will be implemented via a water quality Sub Plan of the AEMP)
- the means/tools by which AquaSure will regularly demonstrate compliance with the requirement (e.g. using above water quality example, provide monthly reports to client and other nominated stakeholders).

The Environmental Obligations Registers are contained in each of the D&C EMP, O&M EMP, and all AEMPs.

Where an obligation is relevant to specific operational activities or areas, the requirement would be captured by both the D&C EMP and the O&M EMP as well as affected AEMPs. To prevent duplication and ensure linkage between the D&C and O&M EMPs and AEMPs, the compliance descriptions in the D&C and O&M EMPs can be generic and simply refer to the affected AEMPs while the AEMPs would define the specific compliance measures to be implemented within each area/activity.

8. Implementation and operation

This section of the EMS Manual describes how AquaSure will manage activities and operations so that environmental impacts are effectively controlled or minimised. The following support mechanisms are outlined to ensure that environmental commitments will be met:

- Structure and responsibility
- Inductions, training, awareness and competence
- Environmental communications
- EMS Manual documentation
- Document control
- Operational control (including procurement and sub-contractor management)
- Emergency preparedness and response.

8.1. Organisation structure, resources, roles, responsibilities and authorities

8.1.1. General

Organisation charts for relevant stages of the Project will be available at offices and referred to in inductions for both AquaSure and the Contractor.

All organisation charts are reviewed and updated on an as-needs basis to reflect any changes to the management structure. In the event of absences, delegation of authority is to the next upward level as shown on the chart, unless specifically agreed otherwise by the CEO or Contractor Project Director.

Relevant managers are responsible for defining and communicating relevant environmental responsibilities and accountabilities for employees within their area of responsibility.

All employees and subcontractors are responsible for performing and managing their activities and operations according to the requirements in this EMS Manual and EMPs. Individual responsibilities will vary with the work performed and its potential impact on the environment.

8.1.2. AquaSure

The AquaSure organisational structure andresponsibilities and resourcing is described in Section 5. The AquaSure CEO is responsible for ensuring the availability of resources essential to establish, implement, maintain and improve the EMS. Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources.

8.1.3. Contractor

The Contractor responsible for:

- Defining, documenting and communicating roles, responsibilities and authorities in order to facilitate effective environmental management
- Appointing a manager accountable for maintaining each EMP
- Making resources available to establish, implement, maintain and improve the EMPs

  Consistent with clause 4.4.1 (Resources, roles, responsibility and authority) of ISO 14001.

The Contractor Project Director is responsible for establishing, approving and communicating an organisation structure that is best suited for the delivery of the Project's environmental objectives. Detailed environment organisational charts for D&C and O&M are contained in the D&C and O&M EMPs.

8.1.3.1. Levels of authority

Levels of authority for the different roles and responsibilities are to be defined in the D&C and O&M EMPs.

8.1.3.2. Environmental roles and responsibilities

Key D&C and O&M roles with environmental responsibilities for the project include:

~ All project personnel

~ Project Director

~ Environment Managers

~ Area Environment Managers

~ Environmental Officers

A detailed description of the environmental responsibilities of each of these positions is to be provided in the D&C and O&M EMP.

8.2. Competence, training and awareness

8.2.1. AquaSure

To ensure that the EMS Manual is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are appropriately trained however this does not detract from the AquaSure EMR's overall responsibility for this requirement. All personnel are to be trained so that they are aware of the expectations and potential consequences that their job could have on the environment.

The PMP outlines the required responsibilities of key AquaSure personnel.

The AquaSure EMR is responsible for:

- ensuring that AquaSure staff, including associates and visitors where applicable, are:
    - inducted into the requirements of this EMS Manual and their roles and responsibilities
    - made aware of the significant environmental aspects of their work, the environmental benefits of improved personal performance and the potential consequences of departure from specified procedures.
- ensuring that appropriate training and awareness programs are delivered to all D&C and O&M project team members. This is achieved by specifying the requirements in this EMS, approving materials used for training and auditing implementation. The Contractor, particularly the Environmental Managers, are required to assist the AquaSure EMR where appropriate to effectively fulfil the requirement. The key competencies of the AquaSure EMR role include:
- appropriate environmental qualifications
- extensive experience in environmental management of infrastructure projects, including compliance with applicable environmental standards
- knowledge of applicable environmental regulatory framework

  These core competencies have been assessed by an selection process carried out as part of the Project start up phase.

8.2.2. Contractor

The Contractor is responsible for establishing and implementing competence, training and awareness consistent with clause 4.4.2 (Competence, training and awareness) of ISO 14001. This section outlines AquaSure's requirements for this management system element.

The requirements include:

- Identifying training needs and skill gaps
- Developing and sourcing appropriate training programmes
- Scheduling and delivering training
- Maintaining qualifications/skills and records.

8.2.2.1. Identifying training needs and skill gaps

Several levels of training activity are managed within the Project. Training will be developed to incorporate the requirements of the contract and will include:

~ Site induction (including subcontractors and, where applicable, visitors). The induction will contain content on the environmental aspects, risks, management and mitigation measure for the Project .The induction will include appropriate information on the significant environmental risks (high and extreme risks) for the Project as defined in the Environmental Risk Register.

~ Familiarization with the environmental performance criteria, minimum procedural requirements and other environmental management measures to be met

~ Emergency and incident response training

~ Non compliance and preventative action training

~ Monitoring, reporting and auditing obligations

~ Ongoing training and awareness activities throughout the Project Term

~ Competency based training (e.g. erosion sediment control for construction work)

~ On-the-job training (e.g. tool box talks, training in system procedures, construction work method statements and JSEA's particularly those which include significant environmental risks (high and extreme risks) for the project as defined in the Environmental Risk Register.

~ Consortium member specific training (e.g. training to use HSE Reporting System, non-compliance, monitoring, reporting and auditing obligations)

~ Employee awareness programs providing case studies of relevant innovations and case studies demonstrated in the industry (optional).

The D&C EMP, O&M EMP and subsidiary AEMPs will nominate appropriate minimum training and awareness requirements for employees and subcontractors. The training matrix will include:

- Categories of personnel (staff, subcontractors, suppliers and consultants)
- Training required (mandatory and desirable).

8.2.2.2. Developing and sourcing appropriate training programmes

The AquaSure EMR, or delegates, will be responsible for ensuring the development of existing training programmes and will source materials from consortium members or external providers in preference to developing in-house material and programmes. The Contractor Environment Managers will be responsible for assisting the AquaSure EMR in ensuring development of inductions and training programmes.

All training materials will be submitted to the AquaSure EMR for approval.

8.2.2.3. Scheduling and delivering training

The AquaSure EMR is responsible for ensuring delivery of training and awareness programs to the project team. The AquaSure EMR has delegated this role to the Contractor.

The Contractor may engage suppliers, consultants and subcontractors to conduct special or specific project activities from time to time.

Scheduling and delivering environmental training during design and construction stages will be undertaken in a manner described within the Contractor Management Plan.

8.2.2.4. Maintaining qualifications/skills and records

Records and means to maintain competencies, skills and qualifications will be in accordance with the Contractor Management Plan for the respective design, construction and operational phases.

The following details must be included in environmental training records:

- Name of project personnel attending the training
- Type of training attended
- Date of attendance
- Name of trainer
- Name of the organisation providing the training
- Refresher training requirements.

8.3. Communication

Effective and well-planned communications is one of the keys to the project team achieving its environmental objectives.

8.3.1. AquaSure

The “Project Management Plan” AQS-PRO-PL-001 sets out the interfaces within the Project and with key stakeholders.

Internal communications and communications with statutory authorities regarding environmental issues and outcomes are facilitated by the AquaSure EMR, through:

~ Regular meetings with senior management

~ Fortnightly meeting with the Contractor

~ Fortnightly Environmental Working Group meetings with the key stakeholders including the State and the Contractor

~ Monthly meeting with the IR&EA

~ Attendance at a bimonthly meeting of environmental agencies, convened by the State

~ Regular meetings with key stakeholders including DSE and EPA

~ Distribution of a monthly environment report.

Meetings will be held as a minimum fortnightly during construction and monthly during operations.

AquaSure will not generally communicate specific details externally about its significant environmental aspects beyond the information included in the subordinate EMPs, except in those circumstances when:

~ Obligated by law

~ AquaSure deems it appropriate from time to time.

Any external types of communication, including responding to external interested parties, must be agreed with DSE and be carried out in accordance with the AquaSure “Community Involvement Plan” The AquaSure EMR will support the AquaSure Community and Public Relations Manager to establish environmental communication channels, including processes for managing external communications and addressing environmental issues raised by stakeholders including complaints. Strict requirements apply to the handling of complaints to ensure the cause of all justified complaints are rectified as soon as practically possible.

8.3.2. Contractor

The Contractor is responsible for establishing and implementing communication consistent with clause 4.4.3 (Communication) of ISO 14001.

Internal communications will include:

- Regular meetings including senior management, site and tool box meetings
- Distribution of a monthly environment report
- Periodically releasing information handouts and posters detailing specific environmental aspects.

Details on Internal Communications are provided in the D&C and O&M EMPs and respective AEMPs.

All external communications will be conducted in accordance with the AquaSure Community Involvement Plan (CIP) and the D&C & O&M Community Involvement Plans (DC-CIP and OM-CIP respectively).

Details on external communications, including management of enquiries and complaints, are provided in the D&C and O&M EMP and respective AEMPs.

8.4. Control of environmental documents

Documents will be controlled as set out in Section 6.6.

A range of environmental documents and their corresponding minimum retention periods have been nominated in Attachment D.

8.5. Operational management control

The key operational management controls for managing the environmental aspects of the VDP are implemented through the Sub Plans, or other relevant controls, of the Contractors' EMPs. Elements relating to public communication are addressed in the Community Involvement Plan. Figure 4 sets out the management plan structure.

8.5.1. AquaSure

As set out in Section 6, AquaSure has delegated respectively the Contractor to prepare, finalise, implement and update the Project specific D&C EMP (and associated plans) and the O&M EMP (and associated plans), including the operational controls. All EMPs are reviewed and approved in accordance with Table 4.

The procedure for preparing EMPs is attached in Attachment C. The broad purpose of an EMP is to:

- Identify the requirements of the approval documents to be complied with
- Provide specific protection controls that can be applied on-site to minimise environmental impacts
- Provide specific mechanisms for compliance with relevant approvals, licences, permits, consultation agreements and legislation
- State performance indicators for activities that are important to the environmental performance of the Project component
- Outline a monitoring and inspection regime to check the adequacy of controls as they are implemented during construction
- Clarify the roles and responsibilities of personnel relevant to the EMP.

8.5.2. Contractor

The Contractor will use a variety of operational controls to manage the environmental outcomes of the Project. Controls comprise a host of management controls (e.g. theme-based environmental sub-plans, JSEAs, work method statements) and operational controls (e.g. sediment basins, deploying fauna spotters, providing spill kits).

The operational controls will be consistent with clause 4.4.6 (Operational control) of ISO 14001.

EMPs will succinctly and precisely described the controls appropriate to their scope in a manner which enables project teams to easily understand and practically implement wherever possible.

The process for considering environmental hazards and risks must be described. This includes an assessment of post-control risks.

8.5.2.1. Project changes

There are two types of changes:

- Project changes that are within the terms of the Project Deed
- Project changes that are outside the terms of the Project Deed.

Project changes are likely to relate to altered design or construction methodologies. For project changes within the terms of the Project Deed (e.g. altered design or construction methodology from that described in the approvals documentation), the Contractor is responsible for reviewing and revising the risk assessment (see Section 7.4.3), and relevant aspects of the EMP, relevant AEMPs and sub plans, subject to relevant approvals by the EMR. Design changes will be recorded in accordance with the Contractors Design Management Plan. The Contractor is responsible for obtaining any additional or revised approvals required for the change. The change will be reported in accordance with Section 10.1.

The process for Project changes that are outside the terms of the Project Deed is set out in clause 58.1 of the Project Deed. The Contractor is responsible for advising AquaSure of any amendments sought that are outside the terms of the Project Deed. In requesting the amendment, the Contractor must set out:

- the amendment and the relevant reasons for the amendment
- the response of relevant external parties (such as regulatory authorities) to the relevant documents regarding the amendment
- the impact or potential impact of the amendment on compliance with the PRs and environmental legislation
- copies of any documents relevant to the request for amendment.

The AquaSure EMR will review the environmental aspects of the proposed amendment and advise the AquaSure CEO on these aspects. Where relevant, AquaSure will submit the amendment to the State for approval, in accordance with the Project Deed.

8.5.2.2. Subcontractor management

Environmental management requirements and responsibilities for subcontractors are to be included in the EMPs and Subcontractor Agreements.

8.6. Incident and emergency preparedness and response

8.6.1. AquaSure

AquaSure's direct activities are office-based and unlikely to result in an environmental incident. Significant environmental incidents and emergencies may occur as a result of the D&C and O&M activities.

The AquaSure EMR will review environmental incident investigation reports and participate in managing, responding to and investigating incidents as set out in the Contractor Area Environmental Incident Response Plans (EIRPs).

AquaSure’s role in response to a significant incident (including environmental issues) is described in AQS Crisis Management Overlay, activated through the TDJV Crisis Management Plan TDV-0-CR-PL-0006-00.

8.6.2. Contractor

The Contractor is responsible for establishing, implementing and testing incident response emergency preparedness and response consistent with clause 4.4.7 (Emergency preparedness and response) of ISO 14001.

The role of AquaSure, including the AquaSure EMR, in managing, responding to and investigating incidents will be documented in the Contractor EIRPs, subject to approval by the AquaSure EMR.

Potential environmental emergencies and incidents are identified through a risk assessment process documented within the respective EMPs. In accordance with clause 4 (b) of Annexure S3 PS&PR the environmental risk assessment details the preventative measures required to minimise the risk of incidents and emergencies.

The Contractor will develop Area specific EIRPs which will provide:

- An assessment of the types of incidents and emergencies that might impact on the environment and their potential causes and consequences
- Preventative measures required to minimize the risk of incidents and emergencies which may be incorporated into the AEMP
- Processes for systematically notifying, responding to and managing environmental emergency situations
- Pertinent contact information for emergency and regulatory authorities (e.g. telephone numbers for EPA, Fire Brigade, SES etc)
- Names of key project response personnel and contact details (including after hours telephone numbers)
- Project personnel responsibilities
- Location of on-site information on hazardous materials and dangerous substances, and spill containment equipment or structures
- Procedure to follow to minimise/control the emergency/Incident eg spill management
- Procedures for notifying the on-site staff, contractors, regulatory agencies and public if required.

All personnel have the responsibility to report any incident. Staff with specific responsibilities are clearly identified in the EIRP and AEMPs. All incidents and complaints will followed up and investigated to ensure that all agreed actions are appropriately followed up and closed-out, and that essential information is recorded.

All environmental incidents are reported in accordance with the incident management plans for construction and operational stages respectively. All records of environmental incidents are also maintained for the Project in accordance with the respective incident management plan.

In accordance with clause 4 (f) of Annexure S3 PS&PR the location of on-site information on hazardous material and dangerous substances and location of spill containment equipment or structures is required to be detailed in each EMP and relevant AEMP/ JSEA.

9. Checking

This section provides a description of the:

~ Manner in which environmental performance is monitored and measured

~ Approach used for managing non-conformances and system improvements

~ Manner in which environmental records are managed

~ Manner in which environmental inspections and audits are conducted.

The Contractor will develop a monitoring, inspection, reporting and auditing schedule for inclusion in the D&C EMP, O&M EMP and Area EMPs. The schedule will include:

- Scope
- Frequency
- Responsibility
- Form used
- Reporting procedure.

9.1. Monitoring and measurement

9.1.1. AquaSure

The responsibility for monitoring and measuring is delegated to the Contractor. The role of the EMR in overviewing these monitoring activities is summarised in Table 1 of section 5.2.

The monitoring program developed and implemented under the D&C EMP must be approved by the EMR.

9.1.2. Contractor

The Contractor is responsible for implementing monitoring and measurement consistent with clause 4.5.1 (Monitoring and measurement) of ISO 14001.

The respective D&C EMP and O&M EMP will include means for:

~ Tracking progress of achieving objectives and targets

~ Tracking the implementation of new legal or other requirements.

The monitoring and measuring requirements for the Project will be detailed in the relevant AEMP and specific procedures will be developed for each type of monitoring to be undertaken. These identify specific outcomes that are to be monitored, their location, frequency, reporting requirements and associated responsibilities. A monitoring program providing a centralised database of all environmental monitoring requirements will be maintained by the Contractor in the Project EMP.

All environmental measurement or monitoring equipment used on the program will be calibrated and maintained in accordance with the manufacturers' specifications and as described in the specific monitoring and measuring procedures.

The results of all monitoring and measuring results will be reported in accordance with Section 6.

9.2. Evaluation of compliance

9.2.1. General

9.2.1.1. Certificate of compliance

A Certificate of Compliance to the State and IR&EA is required, in accordance with clause 13.9(a) of the Project Deed, confirming that AquaSure is satisfied that the Project activities have been undertaken in accordance with the EMP and Environmental Requirements. The Certificate is due on the first business day of the period, with the following frequency:

- monthly until Commercial Acceptance
- quarterly after Commercial Acceptance

The Contractor will provide a Certificate of Compliance to AquaSure and the IR&EA, in accordance with clause 13.9(a) of the D&C Contract and O&M Contract in advance of AquaSure's certificate.

A Certificate of Compliance may be issued where the organisation has met the requirements to develop and implement Plans of Environmental Remediation in response to IR&EA audits, as set out in clauses 13.9(h), 13.9(j) and 13.9(k), as follows:

- If an IR&EA Environmental Audit Report includes an opinion that the EMP or Environmental Requirements have not been complied with, within 5 Business Days after receipt of that report, the organisation (AquaSure or the Contractor) has provided to AquaSure (for the Contractor) the State (for AquaSure) and the IR&EA a plan and program for the rectification or remediation of any non-compliance and to ensure future compliance (Plan for Environmental Remediation).
- To the extent that the Plan for Environmental Remediation does not satisfactorily address the IR&EA's concern and subject to the bullet point below, the organisation must continue to consult with IR&EA and amend its Plan for Environmental Remediation until the IR&EA is satisfied with the Plan for Environmental Remediation.
- When the IR&EA notifies the organisation that the Plan for Environmental Remediation is satisfactory, the organisation must comply with the Plan for Environmental Remediation and, when the organisation (AquaSure or the Contractor) believes it has rectified the non-compliance, provide a certificate, confirming that the non-compliance has been rectified in accordance with Plan for Environmental Remediation.

9.2.1.2. Evaluation of Compliance

In evaluating whether a Certificate of Compliance can be issued for the Project activities, Aquasure will consider the following:

- Reports
- Obligations Register
- Monitoring and inspection results
- Results of environmental audits, including IR&EA, AquaSure, Contractor and independent audits
- Details of non-conformances and corrective/preventive actions/improvements
- Status of Plans of Environmental Remediation
- Incident reports
- Results of management reviews
- Correspondence
- Outcomes of meetings and site visits.

A record of the key documents and evidence reviewed in evaluating compliance will be maintained.

9.2.2. AquaSure

AquaSure will provide a Certificate of Compliance, as set out in Section 9.2.1, to the State and the IR&EA confirming that AquaSure is satisfied that the project activities have been undertaken in accordance with the EMP and Environmental Requirements.

The AquaSure EMR will provide advice to the AquaSure CEO on the Certificate of Compliance required. The Certificate of Compliance will be authorised by the AquaSure CEO.

9.2.3. Contractor

The Contractor is responsible for evaluating compliance, consistent with clause 4.5.2 (Evaluation of compliance) of ISO 14001.

The Contractor will provide a Certificate of Compliance, as set out in Section 9.2.1, to AquaSure confirming that the Contractor is satisfied that the project activities have been undertaken in accordance with the EMP and Environmental Requirements.

The Contractor will provide a monthly report to the AquaSure EMR as set out in Section 10.1.

As described in Section 7.5 of this EMS Manual, the means by which the Contractor will comply with each obligation is described within the corresponding EMP's Legislation Register and Obligations Register. These registers will also describe the means by which project teams will regularly demonstrate compliance with each relevant obligation, making specific reference to the inspections form, environmental programs or other checklist to be used in the field.

Inspections and reviews will occur on a frequency nominated in the EMPs and described in a Monitoring, Inspection, Auditing and Reporting Schedule as described in Sections 9 and 10.

This schedule will form the basis of the environment performance reports that will be issued to stakeholders.

Further information on the means for EMPs to evaluate compliance is shown in the EMP Preparation procedure (Attachment C).

Mechanisms for rectifying any non-compliances identified will be as per Section 9.3 below.

9.3. Non-conformity, corrective and preventative actions

A non-conformance is an incident/s that is a failure to comply with environmental legislation or with the intent or objectives of the EMS Manual and/or EMP requirements. Once a non-conformance has been identified, corrective and/or preventive action will be initiated. Also, any EMS Manual improvement opportunities, identified as a result of incidents or emergencies, monitoring and measurement, audit findings or other reviews, will be documented. These may also lead to corrective or preventive actions. All employees have the authority to raise a non-conformance or preventative action should they occur.

9.3.1. AquaSure

Non-conformances will be managed in accordance with the AquaSure procedure "Non Compliance, Corrective and Preventive Action" AQS-SYS-PR003. Where an AquaSure employee identifies a non-conformance or hazardous situation on site, this shall be promptly notified to the Contractor in accordance with this procedure.

9.3.2. Contractor

The Contractor is responsible for establishing and maintaining procedures for nonconformity, corrective and preventive actions consistent with clause 4.5.3 (nonconformity, corrective action and preventive action) of ISO 14001. These are to be documented in the EMPs. Priorities for response shall be determined based on the risk to the environment. As guidance, an extreme priority action should be allocated to prevent immediate risk to the environment. Low priority actions should be allocated to prevent long-term recurrence of the inappropriate situation.

All corrective actions from reviews, audits or incidents or new controls to be implemented shall be recorded in the Contractor reporting and action database to ensure all actions have been assigned to the responsible person(s) and actions have been tracked and closed out in the appropriate timeframe. The database will be used track and manage corrective actions and continuous improvements.

Implementation of corrective actions or controls shall adhere to the following timeframes:

~ Extreme Priority Actions completed immediately

~ High Priority Actions completed within 7 days

~ Normal Priority Actions completed within 7 – 14 days

~ Low Priority Actions completed within 14 – 21 days.

The response to incidents will be managed in accordance with each respective AEMP (See EIRPs). The method for notification and escalation to AquaSure personnel will adhere to the EIRP. Specifically, Class 1 environmental incidents will be reported to DSE and EPA within 30 minutes of the incident occurring, all other regulatory authorities requiring notification will be contacted within 24 hours. For a class 2 incident DSE, EPA and all other regulatory authorities requiring notification will be contacted within 24 hours of the incident occurring.

Accountabilities for tracking closure of non-conformances will be nominated in the EMPs.

Where appropriate, work on non-conforming activities on-site may be stopped by the Contractor Environment Managers, Environment Officers, Managers or their nominees. This stoppage will remain in force until corrective actions are implemented or authority is given to continue.

9.4. Control of records

9.4.1. AquaSure

AquaSure records will be managed in accordance with the AquaSure procedure “Document and Record Management” AQS-SYS-PR001.

9.4.2. Contractor

The Contractor is responsible for controlling records consistent with clause 4.5.4 (Control of records) of ISO 14001. This will be documented in the EMPs. The EMPs will also identify how long these records need to be retained if variations to the retention times noted in Attachment D exist.

Where appropriate, the following environmental records will be maintained and are managed as ‘quality records’:

~ Legislative updates

~ Licences and permits

~ Environmental training and induction activities

~ Monitoring results – e.g. dust, noise etc

~ Details of non-conformances and corrective/preventive actions/improvements

~ Incident or complaints reports

~ Results of environmental audits

~ Results of management reviews

~ Inspection, calibration and maintenance activities

~ Records of hazardous material waste sent for off-site disposal

~ Correspondence.

All records are to be:

~ Legible and clearly identifiable

- Traceable via referencing to a specific requirement, procedure or EMP.

The Contractor Environment Managers are responsible for maintaining environmental records for the project unless delegated as documented in respective EMPs.

All environmental documents, records and written communication will be managed in accordance with the document management requirements set out in the Contractor Management Plans.

9.5. Audits

9.5.1. AquaSure

AquaSure audits of the EMS Manual will be managed in accordance with the AquaSure procedure “Internal and External Audits” AQS-SYS-PR002. These audits will include 6 monthly internal audits of the conformance of the EMS Manual with the requirements of ISO14001.

In accordance with Section 2 (d) (i) of Annexure S3, PS&PR, the AquaSure EMR will regularly audit environmental performance including the Contractor’s performance in relation to this EMS Manual and the EMPs (including AEMPs and sub plans). Audits of the Contractor will be conducted in accordance with the AquaSure Environmental Audits procedure (Attachment E). Audits are used as a systematic and documented method of verifying environmental performance and compliance.

As a guide, the AquaSure EMR will undertake the following audits (as a minimum):

- Quarterly - the scope of the audit will assess the level of implementation of the D&C and selected AEMPs through document review and on-site assessment
- Monthly - the scope of these audits will include an audit focusing on high risk activities to ensure that environmental controls and procedures outlined in the D&C and AEMPs are being implemented

The environmental auditing procedure defines the process for:

- Establishing an audit schedule
- Planning audits
- Conducting audits
- Reporting audit findings.

The purpose of the auditing process is to ensure:

- Compliance with the PRs
- Compliance with environmental regulatory requirements not specified in the PRs
- The EMS Manual is effectively implemented
- Compliance with the AS/NZS ISO 14001:2004 standard
- A process of continual improvement is maintained, including reports at the annual management review meeting.

Audits may be routine or random. An audit schedule will be prepared based that is consistent with the monitoring program in the EMP. The audit schedule will be developed in discussion with relevant Government Agencies, particularly DSE and EPA, in accordance with clause 7(b) of Appendix 3 to the PS&PR. The audit frequency will depend upon the status and importance of the process or activity to be audited, as well as the results of any previous audits. The scope of the audit may include any activity that contributes to the impacts listed in the environmental aspects and impacts registers.

Representatives of the State and the IR&EA may be present during any audit, in accordance with clause 14.6(c) of the PS&PR.

AquaSure will deliver copies of audit reports of Project EMPs to the State and the IR&EA within 5 Business Days of the report’s completion, in accordance with clause 14.6(c) of the PS&PR.

Where an audit identifies any corrective actions that require modification to the EMS Manual, the AquaSure EMR will modify the EMS Manual or procedures as required as described by Section 9.3.

9.5.2. Contractor

The Contractor will facilitate audits by other parties including the AquaSure EMR, the IR&EA and the State

9.5.2.1. EMR audits

The Contractor will respond to audit reports of Project EMPs received from the AquaSure EMR within the time specified by the AquaSure EMR. The Contractor must formulate a plan of action to follow-up the findings and recommendations of the audit, including:

- Describing the planned corrective action/s for each finding
- Nominating a time frame to complete the corrective actions
- Nominating the responsible persons to carry out the corrective actions.

It is the Contractor's responsibility to:

- Implement remedial/corrective actions within the agreed timeframes
- Notify the EMR of close-out
- Provide evidence of completion where agreed.

The EMR will review the close out of the audit findings.

9.5.2.1. Internal audits

The Contractor is responsible for conducting internal audits consistent with clause 4.5.5 (Internal audit) of ISO 14001. This will be documented in the EMPs.

Internal auditing of EMPs and associated documentation will occur on a frequency approved by the AquaSure EMR and described in a MIRA Schedule. The audits may be conducted by the AquaSure EMR, the Contractor Environmental Managers (or nominated delegate) as defined in the respective EMPs.

If the AquaSure EMR conducts an audit on an EMS component, that is also scheduled to be audited by the Contractor, the EMR's audit may suffice as the Contractor audit, with the consent of the EMR.

9.5.3. External auditing

External audits of the AquaSure EMS will also be carried out by appropriately qualified external auditors to ensure compliance with AS/NZS ISO 14001:2004 standard.

In addition, the IR&EA or the State may audit any part of the project or EMS Manual or other environmental documentation with reasonable notice for the purposes of confirming compliance with Project Environmental PRs.

The AquaSure EMR will facilitate audits by other parties, including the IR&EA and the State.

Where the IR&EA provides a draft environmental audit report to AquaSure, the AquaSure EMR and, if relevant, the Contractor will review the report and provide comments to the IR&EA within 5 business days.

If an environmental audit report from the IR&EA includes an opinion that the EMP or Environmental Requirements have not been complied with, within 5 business days after receipt of that report, AquaSure must provide to the State and the IR&EA plan and program for the rectification or remediation of any non-compliance and to ensure future compliance (Plan for Environmental Remediation). Where the report relates to a Contractor EMP or responsibility, the Plan for Environmental Remediation will be prepared by the Contractor and submitted via AquaSure, in accordance with clause 13.9(h) of the Deed

Should the Plan for Environmental Remediation not satisfy the IR&EA's concern, AquaSure/the Contractor will continue to consult with the IR&EA and amend the Plan until it satisfies the IR&EA's concern.

AquaSure/the Contractor will implement the Plan for Environmental Remediation and provide a certificate once the issue has been rectified and the Plan closed out.

10. Review, reporting and improvement

10.1. Reporting environmental performance

10.1.1. General

A monthly report to the State is required, in accordance with clause 16.1 of the PS&PR, including:

- Significant environmental issues and the response of the organisation to these issues (including project changes)
- Record of environmental compliance record with all environmental conditions of any approval under any environmental law and with the environmental requirements of the Project Deed
- Environmental incidents and complaints including summary of main areas and issues of complaint or the cause of the incident, action taken, response given and intended strategies to reduce complaints or incidents of a similar nature
- Applications for consents, licences and approvals, and responses from all relevant authorities
- Environmental performance against performance standards and legal and other obligations
- Details and analysis of environmental monitoring results.

An annual report to the State is required, in accordance with clause 16.2 of the PS&PR, including:

- any benthic surveys undertaken
- concentrate water quality, in a format compatible with submission to the EPA in fulfilling the EPA reporting requirements as required under the EPA Works Approval and any site licence granted by the EPA and consistent with the requirements of Appendix S3 (Environmental Requirements), including a list of all chemicals added to the seawater.

AquaSure must provide a copy of any report submitted in connection with an Approval relating to the environment (including EPA Works Approval, EPBC Approval and the EES Assessment) to the State.

10.1.2. AquaSure

The AquaSure EMR will provide input to the monthly and annual reports. AquaSure will submit the report to the State and, during the term of appointment of the IR&EA, to the IR&EA. The report will be signed by an authorised representative of AquaSure.

10.1.3. Contractor

The Contractor will provide monthly and annual reports to AquaSure including the details set out in Section 10.1.1.

The Reporting Schedule in relevant EMPs will describe reporting requirements and accountabilities, including statutory reporting obligations. The D&C and O&M EMPs and AEMPs define reporting requirements for each stage of the Project.

The Contractor must provide a copy of any report submitted in connection with an Approval relating to the environment (including EPA Works Approval, EPBC Approval and the EES Assessment) to AquaSure.

10.2. Management review

The EMS Manual, an EMP or associated controlled documents must be reviewed and updated if at any time it:

- does not adequately address the matters it is intended to address
- is causing non-conformity or is otherwise necessary to comply with the Project Deed

- has to be changed because of an audit
- no longer represents current or appropriate practice
- is otherwise required by the Project Deed to be updated.

10.2.1. AquaSure

Management reviews are critical to the continual improvement process. They ensure the continuing suitability, adequacy and effectiveness of the EMS Manual and its implementation. AquaSure and the AquaSure EMR will be responsible for ensuring that management reviews are held to review environmental performance.

A management review will be conducted by a nominated management team including:

~ AquaSure EMR

~ AquaSure Chief Executive Officer

~ Contractor representative (Director level)

A management review is to be held at six monthly intervals. This may result in improvements to the EMS Manual, EMPs or procedures, better policy commitment and continual improvement. The AquaSure EMR will be responsible for ensuring that changes are incorporated into the EMS Manual and ensuring that the Contractor Environment Managers update the EMP and AEMPs in accordance with these changes.

The management review will include a review of the following:

~ Achievement of the Environmental Policy commitments

~ Status/effectiveness of EMS Manual implementation

~ Potential improvements to the EMS Manual

~ Adequacy of resources/organisational changes

~ Review of Environmental Aspects, Impacts and Risks Register

~ Review of environmental objectives and targets

~ Review of project monitoring, inspection and reporting results and programme

~ Review of environmental training programme, delivery and training register

~ Review of audit results and evaluation of compliance

~ Review of any non-conformances or corrective actions

~ Communications from external interested parties, including complaints

~ Follow-up actions from previous management reviews

~ Changing circumstances, including developments in legal and other requirements related to its environmental aspects

~ Recommendations for improvement.

These items are the minimum inputs to the management review. The review will include agreed EMS Manual and other environmental management system element changes with assigned responsibilities.

10.2.2. Contractor

The Contractor is responsible for conducting management reviews consistent with clause 4.6 (Management review) of ISO 14001. This will be documented in the EMPs.

A management review will be conducted by a nominated management team including:

~ AquaSure EMR

~ Contractor Project Director

- Contractor Environment Managers

A management review is to be held at six monthly intervals. The review will be documented and will include agreed EMP and other environmental management system element changes with assigned responsibilities.

Changes to the EMPs and associated documents shall be reviewed and approved in accordance with Section 6.3.

10.3. Continual improvement

10.3.1. AquaSure

The AquaSure EMR is responsible for ensuring that best practices and lessons learnt on key environmental themes and opportunities are captured and distributed to relevant stakeholders (e.g. parent companies).

Best practices and lessons learnt can be captured by compiling:

- Environmental costing reviews
- Case studies on technical solutions to challenges
- Newsletter articles
- Industry award applications
- Technical papers
- Photographs
- Toolbox talks and information posters
- Training materials
- HSE alerts.

The AquaSure EMR is responsible for communicating recorded best practices and lessons learnt to AquaSure staff and to the Contractor.

This information may be used in future updates of the EMS and EMPs, and AEMPs as appropriate.

The AquaSure EMR will be responsible for engaging the State on a routine basis (at least 6 monthly) in a review of the overall environmental performance of the project as part of the continual improvement process.

10.3.2. Contractor

The Contractor is responsible for ensuring that best practices and lessons learnt on key environmental themes and opportunities are captured and distributed across the areas of the project and to the AquaSure EMR.

The processes for achieving continual improvement will be documented in the EMPs.

ATTACHMENT A –COMPLIANCE READY REFERENCE

AS/NZS ISO14001:2004 Clause	AquaSure EMS Manual Reference
4.1 General Requirements	Section 1, 2, 3 and EMP Preparation Procedure
4.2 Environmental Policy	Section 7.1
4.3.1 Environmental Aspects	Section 7.4
4.3.2 Legal and other Requirements	Section 7.5
4.3.3 Objectives, Targets and Programs	Section 7.2
4.4.1 Resources, roles, responsibility and authority	Section 5, 8.1
4.4.2 Competence, training and awareness	Section 8.2
4.4.3 Communication	Section 8.3
4.4.4 Documentation	Section 6
4.4.5 Control of Documents	Section 6, 8.4
4.4.6 Operational Control	Section 8.5
4.4.7 Emergency Preparedness and Response	Section 8.6
4.5.1 Monitoring and Measurement	Section 9.1
4.5.2 Evaluation of Compliance	Section 9.2
4.5.3 Non-conformity, Corrective Action and Preventative Action	Section 9.3
4.5.4 Control of Records	Section 9.4
4.5.5 Internal Audit	Section 9.5
4.6 Management Review	Section 10.2

Project Scope and Project Requirements Appendix S3 Environmental Requirements Clause	AquaSure EMS Manual Reference
1 General Requirements	Whole manual
2 Environmental Management System and Environmental Management Representative	Section 1, 5.2
3 Environmental Management Plans (EMPs)	Section 6
4 Emergency/Environmental Incident Procedures	Section 8.6
5 Training	Section 8.2
6 Control of Associates	Whole manual and Section 8.2
7 Reporting and Auditing Requirements	Section 9.5, 10.1

ATTACHMENT B – AQUASURE ENVIRONMENTAL POLICY

ATTACHMENT C – EMP PREPARATION PROCEDURE

ATTACHMENT D – ENVIRONMENTAL DOCUMENTS AND RECORD RETENTION PERIODS

A variety of environmental documents and records produced by AquaSure must be controlled to meet requirements described in ISO14001:2004, the EMS Manual and AquaSure's document control protocols in the respective D&C and O&M Management Plans. Minimum retention periods required for environmental documents and records comprise:

Type of document or record	Minimum retention period
Audit Reports and Action Plans	7 yrs
Business Review Reports and Action Plans	7 yrs
List of Environmental Monitoring Equipment and Calibration Records	7 yrs
Correspondence In/Out (Regulators)	7yrs
Environmental Policies	Y
Environmental Management Plans	7 yrs
Environmental Review records (e.g. meeting minutes)	7 yrs
EMS Performance Reports	7 yrs
HSE Committee Meeting Minutes	-
Incident and Non-conformance records (Thiess HSE Reporting System)	(7 yrs)
ISO14001 Certificates	Y
Procedures	7 yrs
Photos	7 yrs
Records promoting best practices, lessons learnt	Y – Consortium members
Environmental Risk Registers and Assessments (JSEAs, work procedures, WABs)	7 yrs
Environmental Obligations Registers	7 yrs
Training Records (Env)	7 yrs

Items marked 'Y' are to be archived within the project filing system.

ATTACHMENT E – ENVIRONMENTAL AUDIT PROCEDURE