Appendix B Compliance with EIS Guidelines

Summary of compliance with EIS guidelines

Reference	Issue	PSG requirement	Section of EIS
1	Introduction	Title of the proposal	1.1
		Proponent details	1.6
		Contact person's details	1.6
		Activity operator details (if the operator will be a different entity to the proponent)	1.6
		General background information on the proponent, such as relevant development and operational experience.	1.6
		General background information on the proposal, including the current status of the proposal, an overview of the principal components of the proposal including the proposed maximum capacity of the wastewater treatment plant, the proposal location, anticipated establishment costs, likely markets for the product, and the possibilities for future expansion.	1.2 1.3
		An examination of how the proposal relates to any other proposals that have been or are being developed, or that have been approved in the region affected by the proposal.	6.15
		Environmental legislation, standards and guidelines that will be applicable (such as policies, regulations and industry codes of practice).	1.5
		Other relevant Commonwealth, State and Local Government policies, strategies and management plans with which the proposal would be expected to comply.	1.5
2.1	General	A detailed description should be provided of key physical components of the WWTP, including their function, composition, size, capacity, operational life, technical and performance requirements, inter-relationships, and operation and maintenance.	2.2
		Major items of equipment (including pollution control equipment) and onsite facilities should be described. Detailed technical information on major items of equipment may be included in appendices.	2.2
		The wastewater treatment process should be described in a step-by-step manner using explanatory diagrams and flow charts, where appropriate, to complement the text.	2.2
		An overview of typical inflows, treatment capacity, and effluent flow rates for relevant scenarios should be presented, including peak and off peak tourism rates and annual flows.	2.2.1
		Chemicals required for the treatment process should be specified. Quantities and characteristics should be detailed.	2.2 6.8.2
		Energy requirements for the proposal should be outlined and the means of meeting this demand described.	2.2
		Discussion of the processes for reception of tankered waste if appropriate and describe reception facilities and associated traffic movements.	2.2.1

Reference	Issue	PSG requirement	Section of EIS
		An overview of waste handling including biosolids treatment, classification, and end use, if applicable.	2.2.6
		Describe current approvals or regulatory conditions, and the regulatory history of the wastewater treatment plant.	1.4
2.2	Definition of the Land	A definition of the land on which the activity will take place must be provided, noting that the proposed activity is confined to the Bicheno WWTP and discharge point only.	1.3
		A plan is required clearly showing the boundary of the land in relation to cadastral boundaries and topographic features.	Figure 1-1
2.3	General location map	The location of the proposal site and discharge point(s).	Figure 1-3
		The location of any existing monitoring locations.	Figure 6-11
		Topographical features, aspect, and direction of drainage.	Figure 1-1
		Road access to and from the site.	Figure 1-1
		Location of waterways and drains (including ephemeral).	Figure 1-1
		The distance(s) to any nearby sensitive uses (such as residences).	Figure 1-1
		Electricity transmission lines.	Figure 1-2
		Boundaries of the property on which the proposal is located.	Figure 1-1
		Surrounding land tenure.	Figure 5-1
		Surrounding land uses (identify areas of conservation or recreational significance).	Figure 5-7
		Surrounding land zoning in the local government planning scheme	Figure 5-2
		A map showing the existing and proposed reuse schemes and associated infrastructure (storages, etc) should also be provided, noting however that they do not form part of this assessment.	Figure 2-11 Figure 2-12
2.4	Site plan	A detailed site plan(s) is required which includes existing and proposed features of the site and surrounding area.	Figure 1-2 Figure 1-3
2.5	Off-site infrastructure	Any new infrastructure or off-site ancillary facilities proposed for the ongoing operation of the Bicheno WWTP should be described (for example water supply, electricity supply, roads, or other transport infrastructure).	2.6.1
		The proposed expanded recycled water use scheme can be described in detail here and should include details of the location and volumes of water storage facilities and irrigation sites.	2.6.2
3	Project alternatives	The history of the existing Bicheno WWTP and the reasons for this assessment occurring at this time should be described	1.4
		A critique of the WWTP's current operation, quality of effluent which is discharged, suitability of the existing and proposed discharges, and the quality of effluent currently directed to the golf Club for irrigation should be provided.	2.2.5
		Justification for the proposed continuation of existing plant operations, or a description of other available technologies/methodologies and the reason for the selection of the preferred processes and site, including from an environmental perspective, should be included where relevant.	3

Reference	Issue	PSG requirement	Section of EIS
		Should discharge of some or all treated effluent be required from the WWTP, a range of suitable potential discharge locations and outfalls should be considered, and the decision-making process described in the EIS. The assessment should compare alternatives according to clearly defined environmental, social, economic, and technical considerations, and provide a justification for the preferred site(s) and processes. The effect that any community consultation undertaken had on the selection process should be detailed.	3
		Should full reuse of wastewater not be possible (either temporarily, or longer term) for technical or environmental reasons, alternatives and contingencies should be presented.	3
		For any part of the proposal where alternative technologies, materials, design options or management practices with different environmental consequences may exist, the alternatives should be identified, their environmental performance evaluated and the reason for the proposed choice justified.	3
4	Consultation	Details of the nature and results of public consultation undertaken (if any) by the proponent during project planning and preparation of the EIS, as well as any proposals for further public consultation during and beyond project implementation.	4
5.1	Planning aspects	If a permit is required for the proposal under the LUPA Act provide: • Use Class of the proposed activity under the applicable Planning Scheme. • Permissibility of the activity under the applicable Planning Scheme.	5.1
		Information on land tenure and property boundaries of the proposed site, with certificate of title details.	5.1
		Land zonings for the proposed site and surrounding areas.	5.1 Figure 5-2
		Any rights of way, easements and covenants affecting the site.	5.1
		Land use and planning history of the site, including the potential for site contamination, present use and any existing buildings and significant structures.	5.1
		A description of land use and ownership in the vicinity of the site and those areas which may be affected by the proposal, including: • The location and nature of industrial facilities. • Any sensitive uses or residential zones within applicable attenuation distances including the location of individual residences, schools, hospitals, caravan parks and similar sensitive uses, and the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes). • Any proposed or potentially sensitive uses within this distance of the proposal site, which have been or are likely to be granted approval under the local planning scheme, should also be considered.	5.1
5.2	Environmental aspects	A description of the general physical characteristics of the site and surrounding area, including topography, local climate, geology, geomorphology, soils (including erodibility and acid sulphate soils), vegetation, fauna, groundwater, and surface drainage (including waterways, lakes, wetlands, coastal areas etc).	5.2

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		A description of natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).	5.2
		Any existing conservation reserves located on or within 500 metres of the site.	5.2
		A description of any World and National Heritage values relevant to the action.	5.2
		Information on species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal.	5.2
		An assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips, or strong winds).	5.2
		An assessment of the vulnerability of the treatment plant site to the impacts of future climate change (e.g. increased flood events).	5.2
		Any available ambient monitoring results for the vicinity of the proposed development (in tabular or graphical form). The results may be summarised (e.g. as annual averages) if the summary will provide adequate information.	6.1.1.6
		If the proposal is associated with an existing activity, information on current regulatory approvals and licences should be provided.	1.4
5.3	Socio-economic aspects	A summary of the social or demographic characteristics of the population living in the vicinity of the proposal site, identifying any special characteristics which may make people more sensitive to impacts from the proposal than might otherwise be expected.	5.3
		A summary of the characteristics of the local and regional economy.	5.3
6.1	Water quality – wastewater characterisation	Characterise influent volumes and quality of influent wastewater, including trade waste sources such as commercial/industrial facilities and tankered waste. Describe flow patterns, total loading, and contaminants of concern.	2.2.1 6.1.1.2
		Influent flow patterns should be provided based on appropriate sewerage system hydraulic modelling under a range of conditions, including flows during peak tourism periods and wet weather scenarios.	2.2.1 6.1.1.2
		Any bypass from the WWTP needs to be identified and characterised in terms of expected frequency, location, duration, and wastewater quality.	2.2.5
		Provide an overview of any proposed inflow and infiltration reduction program including realistic inflow reduction targets and timeframes.	6.1.1
6.1	Water quality – Effluent management	Provide an overview of design effluent quality limits to be achieved for relevant parameters, including median, 90th percentile, minimum/maximum limits.	2.2.5.3
		Identify likely contaminants of concern in the proposed discharge, and their concentrations, including disinfection by-products if chlorination is part of the process.	6.1.1.2 6.1.1.4 6.1.3.2
		Detail maintenance procedures including design redundancies where necessary to allow equipment to be taken offline, e.g. desludging of lagoons.	2.2.6

Reference	Issue	PSG requirement	Section of EIS
		Contingencies for a range of foreseeable scenarios (e.g. peak wet weather flow, summer peaks, power outages, equipment malfunction, scheduled maintenance events) and associated performance loss must be outlined. The EIS should discuss contingency measures for incidents that may compromise the quality of wastewater intended for reuse. Identify alternative disposal options (temporary or otherwise) and discuss the ability to re-process any treated wastewater that remains unsuitable for reuse.	6.1.4
6.1	Water quality – Proposed discharge	Identify all discharge locations (wastewater and stormwater) to Old Mines Lagoon (or elsewhere, as relevant). The purpose, location, depth, and configuration of outfalls must be specified and marked on a site plan/map, and GDA94 MGA55 coordinates provided.	1.3 Figure 1-3
		Characterise the circumstances under which treated wastewater will be discharged to Old Mines Lagoon.	6.1.3.2
		Provide quality, volume, and frequency of discharge events within a year for wet and dry year scenarios from Old Mines Lagoon to the marine environment when the lagoon is open.	6.1.3.2
		Provide justification for any proposed emission of contaminants to surface waters in accordance with the principles under the State Policy on Water Quality Management 1997 and with application of a 'weight of evidence' approach consistent with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Reference should be made to published or determined (site specific) water quality guideline values for receiving environments.	6.1.3
6.1	Water quality – Receiving environment characterisation	Provide an overview of the receiving environment for discharges from the WWTP – seasonal water quality, hydrological characteristics, and biological conditions, as relevant.	6.1.1
		Provide an overview of all relevant Protected Environmental Values (PEVs).	6.1.2
		Highlight areas of relevance to recreational uses and associated water quality considerations. Reference to any hydrodynamic and geochemical modelling and ambient monitoring programs conducted to date should be made.	6.1.1
		Describe the treated effluent outfall receiving environment. This may be supported by relevant ambient monitoring programs (water quality monitoring, biological monitoring, and sediment monitoring) undertaken and/or other relevant past studies on the receiving environment.	6.1.1 Note: No hydrodynamic and geochemical modelling has been conducted in Old Mines Lagoon to date.
6.1	Water quality – Stormwater	Details of stormwater management (including during reasonably foreseeable flood events). The location of all stormwater collection systems, and details of drainage control measures such as cut-off drains and sediment settling ponds should be marked on a site plan/map. The potential for pollutants to become entrained in stormwater should be assessed.	6.1.3
6.1		On the basis of design effluent quality and volumes, and in conjunction with receiving environment conditions, evaluate the water quality impacts associated with effluent discharge at each	6.1.3

Reference	Issue	PSG requirement	Section of EIS
	Water quality – Predicted impacts	discharge point. This assessment should include seasonal variations with respect to effluent and receiving environment water quality parameters.	
		Discuss any potential impacts on sediment quality or the potential for remobilisation of contaminants in sediment.	6.1.3
		Evaluate expected annual mass nutrient loads to be discharged in the context of the characteristics of the receiving environment.	6.1.3
6.2	Air quality (odour)	Identify, describe, and mark the locations (on a site map) of all potential sources of emissions to air (i.e. materials, equipment and activities including maintenance). Sources such as effluent treatment and storage lagoons and solid by-products (e.g. sludges/biosolids) must be considered.	6.2.1 Figure 1-2
		Identify all nearby sensitive receptors and locate on a map.	Figure 6-7 Figure 6-8
		For each identified emission source (i.e. point or fugitive), describe the likely composition (i.e. odour and any other identifiable compounds), quantities and rates of emissions to the atmosphere.	6.2.1
		Provide an assessment of the potential for emissions to air from the WWTP (both during normal operations, peak tourism periods, and during maintenance or construction periods) to cause environmental nuisance or harm. The assessment should cover a variety of conditions including emissions under normal operations and upset conditions, and it should contain information about time of day, duration, and frequency of the atmospheric emissions from the facility to establish suitable parameters for air dispersion modelling.	6.2.3
		Provide results of atmospheric dispersion modelling and an assessment of potential impacts of air emissions from all potential odour sources against the requirements of the Environment Protection Policy (Air Quality) 20048	6.2.3
		Identify and discuss measures to be implemented to mitigate any air emissions that may cause environmental nuisance or harm at or beyond the site boundary. This should include management of emissions associated with handling of odorous material as well as emissions associated with power failures or malfunction of the equipment used on the site. Management of emissions associated with the operation of the facility in adverse weather conditions should also be considered	6.2.4
		Provide a history of odour complaints received in relation to the existing wastewater treatment plant and/or existing reuse on the adjacent golf club.	6.2.1
6.3	Noise emissions	Identifying and describing all major sources of noise.	6.3.1
		A map of the location of all major sources of noise.	6.3.1 Figure 1-2
		Consideration of the potential for noise emissions to cause nuisance for nearby land users, particularly at noise sensitive premises, and the proposed management measures to mitigate potential noise nuisance.	6.3.3
6.4	Waste management	Identify the source, nature, and quantities of all wastes, (liquid, atmospheric or solid) including general refuse and by-products from the various stages of the process, likely to be generated.	6.4.2

Reference	Issue	PSG requirement	Section of EIS
		Methods and facilities proposed to collect, store, reuse, treat or dispose of each waste stream should be identified. Maintenance requirements should be included. In particular, the management of sludge and biosolids (maintenance regimes of lagoons, desludging plans, and methods of disposal of sludge and reuse of biosolids), from the treatment plant lagoons should be described.	6.4.3 2.2.6
		The source, nature, quantity, and method of treatment, storage and disposal for each controlled waste should be described.	6.4.2 6.4.3 2.2.6
6.5	Biodiversity and natural values	Identify any potential impacts on flora, vegetation communities and habitat, with particular reference to rare and threatened species, communities, and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995*	6.5.3
		Identify any potential impacts on fauna, including impacts on species, communities, and habitats, with particular reference to rare and threatened species, migratory species, communities, and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995*. Assessment of impacts should not be limited to clearing or disturbance, but may also include noise, lights, vehicle movements etc.	6.5.3
		Identify any potential impacts on identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (e.g. Japan-Australia and China-Australia Migratory Bird Agreements (JAMBA/CAMBA) and Ramsar (wetlands) Convention), or wetlands listed in A Directory of Important Wetlands in Australia.	6.5.3
		Identify any potential impacts on any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database (accessible on the internet under https://wrt.tas.gov.au/cfev). The scope of investigation should encompass the vicinity of the proposed development where there is likelihood of alteration to the existing environment. The specific CFEV information used for EISs should be Conservation Management Priority Potential which is appropriate for development proposals.	6.5.1.3
		Identify any potential impacts on sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.	6.5.1.5
		Identify any potential impacts on existing conservation reserves which may be affected by the WWTP and discharge, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).	6.5.1.4
6.6	Groundwater	Discuss potential impacts of the WWTP on groundwater (quality and quantity).	6.6.3
		A map showing the location of any existing and proposed groundwater bores for monitoring the reuse scheme	Figure 6-12
		A conceptual groundwater model for regional and local aquifer flows.	6.6.1
6.7		Identify any potential impacts of the WWTP on marine and coastal areas not addressed in other sections. It should identify	6.7.3

Reference	Issue	PSG requirement	Section of EIS
	Marine and coastal	measures to avoid and mitigate any possible adverse impacts and assess the overall impacts on marine and coastal areas following implementation of proposed avoidance and mitigation measures. Cross referencing should be made to other relevant sections dealing with conservation values (marine flora and fauna, geoconservation) and coastal impacts.	
		It must be demonstrated that the WWTP's ongoing operation is consistent with the objectives and requirements of all relevant marine and coastal policies and legislation, including the *Living Marine Resources Management Act 1995*, *State Policy on Water Quality Management 1997*, and the *Tasmanian State Coastal Policy 1996*.	6.7.3
6.8	Dangerous goods and environmentally hazardous substances	The nature, quantity and storage location of all environmentally hazardous materials including Dangerous Goods (as defined in the Australian Code for the Transport of Dangerous Goods by Road and Rail) that will be used during the construction and operation of the proposal.	6.8.2
		A map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.	N/A
		The measures (such as bunded areas or spill trays) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials.	6.8.3
		Contingency plans for when control measures, equipment breakdowns or accidental releases to the environment occur, including proposed emergency and clean-up measures and notification procedures.	6.8.3
		Identify any safety management requirements for the protection of human health and safety affecting the community.	6.8.3
6.9	Greenhouse gases and ozone depleting substances	A description of the direct and indirect effects of the WWTP on greenhouse gas production and ozone depleting substances and any greenhouse benefits of the proposal discussed.	6.9
		Demonstration that the WWTP will implement cost-effective greenhouse best practice measures to achieve on going minimisation of greenhouse gas emissions.	6.9
		Provision of a competent estimate for 'whole of life' greenhouse gas emissions for the WWTP. Details should also be provided of proposed measures to minimise emissions and the anticipated effectiveness of these measures. Where less emissions-intensive options are not adopted, justification should be provided and/or mechanisms to offset greenhouse gas emissions identified	6.9
		Discuss impacts of the WWTP in terms of the evolving national response to climate change and greenhouse gas emissions and the targets set in the Climate Change Action Plan 2017 – 2021.	6.9
		Proponents will need to determine whether they are required to report to the Commonwealth under the *National Greenhouse and Energy Reporting Act 2007*.	6.9
6.10	Socio-economic issues	Modest proposals with relatively low level and localised environmental impacts or risks may only need details of intended capital expenditure, operational expenditures, revenues, and employment (distinguishing between direct and indirect employment) and a qualitative discussion of other socio-economic aspects of particular relevance.	6.10

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6.11	Hazard analysis and risk assessment	Provide a preliminary analysis (appropriate to the scale of the project) of the potential for a major hazard event (such as an explosion or flooding) that may cause impacts to the environment to occur, and proposed safeguards to prevent such an occurrence. The preliminary analysis should systematically identify all potential major environmental hazards (internal and external) to people and the environment associated with the ongoing operation, maintenance and decommissioning of the WWTP.	6.11
6.12	Fire risk	Consideration of fire within the site, risk of fire escaping from the site, and the impact of wildfire originating outside the WWTP on the plant's operations, and the environmental impacts that could result from such events.	6.12
		The objectives and management principles adopted to prevent and respond to potential fire events.	6.12
		Where a fire response plan is appropriate, it should be fully integrated with other relevant documents, such as a Tasmania Fire Service Local Area Fire Management Plan, a Forestry Tasmania Fire Management Plan, and a Parks and Wildlife Service Fire Action Plan for relevant districts.	6.12
6.13	Infrastructure and off-site ancillary facilities	Discuss potential environmental impacts of the WWTP on any significant off-site or infrastructure facilities (including increased use of existing infrastructure, such as roads, ports and quarries), identify measures to avoid and mitigate any possible adverse impacts, and assess the overall impacts following implementation of the proposed avoidance and mitigation measures.	6.13
		Identify roads and other infrastructure to be used by vehicles for the proposal (during both construction and operation). Potential environmental impacts associated with construction and use of such infrastructure should be assessed	6.13
6.14	Environmental management systems	Any environmental management systems or environmental policies implemented or proposed by the proponent, which are relevant to the environmental management of the WWTP.	6.14
		Organisational structure and environmental responsibility within that structure for the WWTP.	6.14
		Procedures and instructions to employees (including contractors) on minimising adverse environmental impacts of activities, as well as employee induction and education programs to ensure an appropriate response to operational environmental concerns	6.14
6.15	Cumulative and interactive impacts	Where relevant, this section should contain an assessment of the potential cumulative impacts of the WWTP in the context of existing and approved developments in the region, if such impacts have not been addressed in previous sections	6.15
		Other proposals which have been formally proposed, and for which there is sufficient information available to the proponent to allow a meaningful assessment of their impacts, should also be considered in that assessment. Uncertainties about potential impacts in such cases should be identified.	6.15
		Interactions between biophysical, socio-economic, and cultural impacts of the proposal should be discussed.	6.15
6.16	Environmental impacts of traffic	This section should identify the traffic routes for the WWTP and the likely volume and nature of traffic and timing of traffic flows, including details of the current usage of these roads.	6.16

Reference	Issue	PSG requirement	Section of EIS
		Environmental impacts associated with current and altered traffic flows and usage should be discussed (such as odour, noise and dust impacts on other roads users and residences adjacent to roads). The assessment should focus on roads within the land defined by the proposal but also indirect impacts on public roads	6.16
7	Monitoring and review	Plans showing monitoring locations.	Figure 6-3 Figure 6-11
		Summary of monitoring programs undertaken in relation to effluent quality, ambient water quality, biological condition, and sediment condition at each identified discharge location. Details should include monitoring locations, parameters, and frequency, monitoring results, and relevant ambient trigger values.	6.1.1.6 7.1 7.3
		A summary of monitoring results, including statistical analysis and graphical representations.	6.1.1.4
		A description of relevant monitoring procedures e.g. sampling techniques, sampling equipment utilised, and limits of reporting.	6.1.1.4
		Relevant raw data should be provided in appendices to the EIS, as well as in suitable electronic format as appropriate.	Note: Data is captured in relevant appendices and can be provided in electronic format to the EPA on request.
		Following an analysis of available monitoring information, identify any information gaps in relation to ongoing monitoring, and describe an ongoing monitoring plan, where necessary, for collection of outstanding information.	7.3
		The EIS should also contain a plan (including a monitoring program summary table) for ongoing monitoring designed to meet the following objectives: • Monitoring of compliance with emission standards and other performance requirements identified in the EIS. • Assessing the effectiveness of the performance requirements and environmental safeguards. • Assessing the extent to which the predictions of environmental impacts in the EIS have eventuated. • Assessing compliance with commitments made in the EIS.	7.3
8	Decommissioning and Rehabilitation	The EIS should describe an on-going, staged approach to site decommissioning and rehabilitation throughout the proposal life. A preliminary Decommissioning and Rehabilitation Plan or Closure Plan should be outlined	8
9	Management measures	This section should contain a consolidated management measures table listing all of the management measures made throughout the EIS. Measures must be sequentially numbered, unambiguous statements of intent. For each measure, the table must specify when it is to be implemented and refer to the section of the EIS where the measure is detailed.	9
10	Conclusion	The conclusion should describe the WWTP and proposed ongoing operations, and draw together the critical	10

Reference	Issue	PSG requirement	Section of EIS
		environmental, social, and economic impacts of the WWTP's ongoing operations, both positive and negative.	
		Present a balanced overview of the net impacts of the proposal, and the extent to which any adverse impacts can be satisfactorily avoided, mitigated, remediated, or compensated and positive impacts promoted and sustained.	10
		Describe how the proposal meets and furthers the objectives of relevant Commonwealth and State legislation, policies, plans and strategies. This should be done by itemising the RMPS and EMPCS objectives and providing a commentary about how the proposal addresses each of the objectives.	10
11	References		Section 11
12	Appendices		Appendix A to Appendix N