

BERC - Environmental Risk Assessment - Construction and Commissioning
Version: C
Date: 18/02/2026

The purpose of this Environmental Risk Assessment is to identify, evaluate, and manage potential environmental risks associated with the BERC. The assessment aims to determine the likelihood and consequences of environmental impacts on soil, water, air, ecosystems, and human health. By systematically analysing these risks, the assessment supports informed decision-making and the development of appropriate mitigation and management strategies to prevent or minimise environmental harm and ensure compliance with relevant environmental regulations and standards. This risk register should be read in conjunction with the technical report, which provides more detailed information on the proposed mitigation measures.

Aspect	Factor	Risk source	Impact to receptor	Initial Risk			Design commitment	Proposed Safeguards and Environmental Management Measures	Residual Risk		
				Likelihood	Consequence	Initial Risk Rating			Likelihood	Consequence	Residual Risk Rating
Movement of construction vehicles to, from and on site	Air quality	Emissions from vehicles and dust from construction activities	Lowered air quality due to increased presence of pollutants and particulate matter	Possible	Minor	Medium	AQ04 - Design of site layout avoids unnecessary excavation	AQ02 Construction Dust Management Plan AQ03 Construction Environmental Management Plan - air quality and GHG measures TT01 Construction Transport Management Plan	Unlikely	Minor	Low
	GHG	Emissions from vehicles	Increased GHG emissions contributing to Queensland and Commonwealth emissions budget	Likely	Insignificant	Low		GHG01 GHG Mitigation design measures AQ03 Construction Environmental Management Plan - air quality and GHG measures	Likely	Insignificant	Low
	Noise emissions	Noise and vibration from vehicles	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities. Damage to relationship with local community	Unlikely	Moderate	Medium		NV01 Construction Noise and Vibration Management Plan TT01 Construction Transport Management Plan	Unlikely	Moderate	Medium
	Surface water	Fuel spills from vehicles	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems	Possible	Moderate	Medium		HYD01 Soil and Water Management Plan HYD03 Stormwater quality monitoring	Unlikely	Minor	Low
	Land and groundwater	Fuel spills from vehicles	Hydrocarbon contamination of groundwater	Possible	Moderate	Medium		HYD01 Soil and Water Management Plan HYD03 Stormwater quality monitoring HM01 Construction Environment Management Plan	Unlikely	Moderate	Medium
	Traffic and transport	Presence of additional vehicles on roads Vehicles queuing for entry to site	Deterioration to safe and efficient movement of traffic on local roads, including at site entrance due to queues	Possible	Moderate	Medium		TT01 Construction Transport Management Plan	Rare	Moderate	Low
	Landscape and visual	Visibility of vehicles	Intrusion to views experienced from sensitive receptors including residential areas, recreational and open spaces, community facilities Loss of traditional rural character at the landscape scale	Almost Certain	Moderate	High	LV02 Wider site design and siting	TT01 Construction Transport Management Plan SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan	Almost Certain	Moderate	High
	Socio-economic	Presence of additional vehicles on roads	Reduction of access to residential areas, recreational and open spaces, community facilities	Possible	Minor	Medium		TT01 Construction Transport Management Plan SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan SIA13 Implementation of environmental plans to address impacts to community values	Unlikely	Minor	Low
	Human health	Lowered air quality and presence of particulate matter Disturbance from noise Presence of additional vehicles on roads	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Unlikely	Minor	Low		NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan AQ03 Construction Environmental Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Hazard and risk	Fuel spills from vehicles or fuel storages, or spills of other hazardous materials	Potential contamination of surface water, land and groundwater, or risk to human health via exposure	Possible	Moderate	Medium		HM01 Construction Environmental Management Plan	Unlikely	Minor	Low
	Ecology	Vehicle strike from vehicles entering and leaving the site	Health impacts to ecological communities/species	Possible	Moderate	Medium		EC01 Construction Environmental Management Plan – ecology	Unlikely	Minor	Low
	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust Disturbance from noise Contamination from: -soils disturbance -fuel spills	Health impacts to ecological communities/species	Possible	Minor	Medium		EC01 Construction Environmental Management Plan – ecology measures NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan HYD01 Soil and Water Management Plan HYD03 Stormwater quality monitoring	Unlikely	Minor	Low
Excavation and earthworks	Air quality	Emissions from construction plant Generation of dust from demolition and disturbance of soils	Lowered air quality due to increased presence of pollutants and particulate matter	Possible	Minor	Medium	AQ04 - Design of site layout avoids unnecessary excavation	AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	GHG	Emissions from vehicles	Increased GHG emissions contributing to Queensland and Commonwealth emissions budget	Likely	Insignificant	Low		GHG01 GHG Mitigation design measures AQ03 Construction Environmental Management Plan - air quality and GHG measures	Likely	Insignificant	Low
	Climate	Extreme weather including: -Temperatures -Thunderstorms -Rainfall, leading to flash flooding -Rainfall, leading to inundation of waste material -Wind	Unsafe work conditions leading to reduced work hours, damage and/or injury	Likely	Minor	Medium	HYD101 & HYD102 Design of facility and site layout minimises impact of flooding and on existing water flows	CCA02 Climate change adaptation management plan	Unlikely	Minor	Low
	Odour	Generation of unacceptable odour from disturbance of ground gases	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Moderate	Medium		AQ03 Construction Environment Management Plan - air quality and GHG measures CL01 Soil contamination / geotechnical management measures	Unlikely	Minor	Low
	Noise emissions	Construction plant Site clearance Excavation and earthworks Disturbance from noise	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Possible	Moderate	Medium		NV01 Construction Noise and Vibration Management Plan	Unlikely	Moderate	Medium
	Surface water	Fuel spills from construction plant	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems	Possible	Moderate	Medium	HYD04 Site Access tracks located away from overland flow paths HYD05 Stockpile located away from overland flow paths	HYD01 Soil and Water Management Plan HYD03 Stormwater Quality monitoring	Unlikely	Minor	Low
	Land and groundwater	Minor fuel and/or chemical spills from construction plant and equipment	Localised and temporary contamination of on-site groundwater	Possible	Minor	Medium		HYD01 Soil and Water Management Plan HYD03 Stormwater Quality Monitoring	Unlikely	Minor	Low
	Land and groundwater	Major fuel and/or chemical spills from construction plant and equipment	Major contamination of on-site and/or off-site groundwater and/or surface water bodies	Possible	Major	High		HYD01 Soil and Water Management Plan HYD03 Stormwater Quality Monitoring	Rare	Major	Low
	Land and groundwater	Uncontrolled discharges of potentially contaminated water or soil during construction activities.	Soil and groundwater contaminated by localised fuel or chemical spills	Possible	Minor	Medium		HYD01 Soil and Water Management Plan HYD03 Stormwater Quality Monitoring	Unlikely	Minor	Low

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				Likelihood	Consequence	Initial Risk Rating			Likelihood	Consequence	Residual Risk Rating
	Land and groundwater	Encountering contaminated land or groundwater that was not previously identified, or where contamination is higher than previously identified levels.	Disturbance of any soil that is potentially contaminated during excavation can cause detrimental impacts to groundwater if disturbed.	Likely	Moderate	High		CL01 Soil contamination / geotechnical management measures	Rare	Moderate	Low
	Waste	On-site handling and storage, including of contaminated soils Disposal of soils Spread of weeds, pests or pathogens within recovered waste materials	Contamination and deterioration to quality of on-site and/or off-site groundwater Disposal of soils to an inappropriate or unlawful place Adverse impacts to human health	Possible	Moderate	Medium		WA01 Construction Waste Management Plan WA06 Soil remediation	Unlikely	Minor	Low
	Landscape and visual	Visibility of works	Intrusion to views experienced from sensitive receptors including residential areas, recreational and open spaces, community facilities Loss of traditional rural character at the landscape scale	Almost Certain	Moderate	High	LV02 Wider site design and siting	SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan	Almost Certain	Moderate	High
	Socio-economic	Lowered air quality and presence of particulate matter Disturbance from: -odour -noise -visual intrusion	Rendering of local community or business facilities unviable or unappealing Damage to relationship with local community	Unlikely	Minor	Low		AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan SIA13 Implementation of environmental plans to address impacts to community values	Unlikely	Minor	Low
	Human health	Lowered air quality and presence of particulate matter Handling of contaminated soils Disturbance from noise	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Unlikely	Minor	Low		NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust Disturbance from noise Contamination from: -soils disturbance -fuel spills	Health impacts to ecological communities/species	Almost Certain	Minor	Medium		EC01 Construction Environmental Management Plan – ecology measures NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan HYD01 Soil and Water Management Plan	Unlikely	Minor	Low
	Heritage	Disturbance of known or previously unrecorded Aboriginal cultural heritage potentially impacting on heritage values Disturbance, destruction, removal of or indirect impact on known (identified) and unidentified built and	Degradation of heritage values Damage to relationship with Traditional Owners Damage to relationship with local community	Unlikely	Moderate	Medium	HE03 Design of site layout avoids unnecessary disturbance of areas of heritage sensitivity HE04 Test Pitting in the Identified PAD	HE01 Unexpected Aboriginal finds procedure / Aboriginal Human remains HE02 Cultural Heritage Management Plan	Unlikely	Minor	Low
Construction of structures, plant and equipment	Air quality	Generation of air emissions from on-site construction including: -mobile plant -generators Generation of dust	Lowered air quality due to increased presence of pollutants and particulate matter	Possible	Minor	Medium	AQ04 - Design of site layout avoids unnecessary excavation	AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	GHG	Emissions from materials used	Increased GHG emissions contributing to Queensland and Commonwealth emissions budget	Likely	Insignificant	Low		GHG01 GHG Mitigation design measures	Likely	Insignificant	Low
	GHG	Emissions from vehicles	Increased GHG emissions contributing to Queensland and Commonwealth emissions budget	Likely	Insignificant	Low		GHG01 GHG Mitigation design measures AQ03 Construction Environmental Management Plan - air quality and GHG measures	Likely	Insignificant	Low
	Climate	Extreme weather including: -Temperatures -Thunderstorms -Rainfall, leading to flash flooding -Rainfall, leading to inundation of waste material -Wind	Unsafe work conditions leading to reduced work hours, damage and/or injury	Likely	Minor	Medium		CCA02 Climate change adaptation management plan	Unlikely	Minor	Low
	Odour	Generation of unacceptable odour from on-site construction including: -construction waste -disturbance of ground gases	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Moderate	Medium		AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures WA01 Construction Waste Management Plan	Unlikely	Minor	Low
	Noise emissions	Construction plant Piling Structures Assembly of EFW equipment Disturbance from noise	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Possible	Moderate	Medium		NV01 Construction Noise and Vibration Management Plan	Unlikely	Moderate	Medium
	Surface water	Escape of runoff from waste materials Fuel spills from construction plant	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems	Possible	Moderate	Medium	HYD04 Site Access tracks located away from overland flow paths HYD05 Stockpile located away from overland flow paths	HYD01 Soil and Water Management Plan HYD03 Stormwater quality monitoring	Unlikely	Minor	Low
	Waste	On-site handling and storage, including of hazardous waste Escape of runoff from waste, including concrete wash-out if required	Contamination and deterioration to quality of on-site and/or off-site groundwater Waste of recyclable resources through unnecessary disposal	Possible	Moderate	Medium		WA01 Construction Waste Management Plan WA02 Hazardous Materials Management Plan WA05 Septic waste management	Unlikely	Minor	Low
	Landscape and visual	Visibility of works	Intrusion to views experienced from sensitive receptors including residential areas, recreational and open spaces, community facilities Loss of traditional rural character at the landscape scale	Almost Certain	Moderate	High	LV02 Wider site design and siting	SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan SIA13 Implementation of environmental plans to address impacts to community values	Almost Certain	Moderate	High
	Socio-economic	Lowered air quality and presence of particulate matter Disturbance from: -noise -visual intrusion	Rendering of local community or business facilities unviable or unappealing Damage to relationship with local community	Unlikely	Minor	Low		AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures NV01 Construction Noise and Vibration Management Plan SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan SIA13 Implementation of environmental plans to address impacts to community values	Unlikely	Minor	Low

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				Likelihood	Consequence	Initial Risk Rating			Likelihood	Consequence	Residual Risk Rating
	Human health	Lowered air quality and presence of particulate matter Disturbance from noise	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Unlikely	Minor	Low		NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust Disturbance from noise Contamination from fuel spills	Loss of ecological communities/species Health impacts to ecological communities/species	Almost Certain	Minor	Medium		EC01 Construction Environmental Management Plan – ecology measures NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan	Unlikely	Minor	Low
	Heritage	Disturbance of known or previously unrecorded Aboriginal cultural heritage potentially impacting on heritage values Disturbance, destruction, removal of or indirect impact on known (identified) and unidentified built and	Degradation of heritage values Damage to relationship with Traditional Owners Damage to relationship with local community	Unlikely	Moderate	Medium	HE03 Design of site layout avoids unnecessary disturbance of areas of heritage sensitivity HE04 Test Pitting in the Identified PAD	HE01 Unexpected Aboriginal finds procedure / Aboriginal Human remains HE02 Cultural Heritage Management Plan	Unlikely	Minor	Low
Commissioning, testing and proof of performance trials: -emission control systems -odour control systems -residue composition -noise	Air quality	CEMS detects that pollutants including particulate matter are emitted at unacceptable levels CEMS is not operating as expected and fails to detect that pollutants including particulate matter are emitted at unacceptable levels	Lowered air quality due to increased presence of pollutants and particulate matter	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ07 Proof of performance trials AQ08 Commissioning plan - air quality measures	Rare	Minor	Low
	GHG	CEMS detects that GHGs are emitted at unacceptable levels CEMS is not operating as expected and fails to detect that GHGs are emitted at unacceptable levels	Increased GHG emissions contributing to Queensland and Commonwealth emissions budget	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions	AQ07 Proof of performance trials AQ08 Commissioning plan - air quality measures	Rare	Moderate	Low
	Odour	Odour control system does not prevent odour escape	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions	AQ07 Proof of performance trials AQ08 Commissioning plan - air quality measures	Rare	Moderate	Low
	Noise emissions	Acceptable operational noise limits exceeded due to: - Testing of alarm systems - Start-up and operation of facility	Unsafe noise levels within facility Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Possible	Moderate	Medium		NV02 Environmental Authority - Noise conditions NV03 Operational Environmental Management Plan - noise measures	Unlikely	Moderate	Medium
	Land and groundwater	Unplanned emissions and discharges can arise specifically from: -Excess boiler water and other process waters -Potential contaminants due to leaching from any surface water contaminated from spills during first fill of chemicals -Potential contaminants due to leaching from water used to flush process pipes, vessels, etc. -Escape of runoff from waste	Hydrocarbon and other contaminants entering soil and groundwater	Rare	Moderate	Low	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD107 IBAA Retention Basin Management	HYD01 Soil and Water Management Plan	Rare	Minor	Low
	Waste	Transported off-site for disposal at appropriately licensed facility	Contamination of land and groundwater and/or loss of recyclable material	Possible	Moderate	Medium	WA07 Design of facility allows for safe handling of thermal treatment residue	WA02 Hazardous Materials Management Plan WA04 Operational Waste Management Plan WA08 Thermal treatment residue monitoring and testing	Unlikely	Minor	Low
	Socio-economic	Disruption to local economy and community due to: -Air quality -Odour	Rendering of local community or business facilities unviable or unappealing Damage to relationship with local community	Unlikely	Minor	Low		AQ02 Construction Dust Management Plan AQ03 Construction Environment Management Plan - air quality and GHG measures SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan SIA13 Implementation of environmental plans to address impacts to	Unlikely	Minor	Low
	Human health	Lowered air quality including presence of particulate matter Disturbance from noise	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Unlikely	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions	AQ07 Proof of performance trials AQ08 Commissioning Plan - air quality measures	Unlikely	Minor	Low
	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust Disturbance from noise	Health impacts to ecological communities/species	Unlikely	Moderate	Medium	AQ01 Design of facility avoids release of dust, and controls and monitors emissions EC02 Design of facility minimises disturbance to biodiversity	EC01 Construction Environmental Management Plan – ecology measures NV01 Construction Noise and Vibration Management Plan AQ02 Construction Dust Management Plan HYD01 Soil and Water Management Plan NV02 Environmental Authority - Noise conditions NV03 Operational Environmental Management Plan - noise measures	Unlikely	Minor	Low

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Movement of operational vehicles to, from and on site	Air quality	Emissions from vehicles	Lowered air quality due to increased presence of pollutants and particulate matter	Possible	Insignificant	Low	HYD02 Reusing stormwater for dust suppression	AQ06 Operational Environmental Management Plan - air quality and GHG measures TT03 Operational Transport Management Plan	Unlikely	Insignificant	Low
	GHG	Emissions from vehicles	GHG emissions contribution to Queensland and Commonwealth emissions budget	Likely	Insignificant	Low		GHG01 GHG Mitigation design measures AQ06 Operational Environmental Management Plan - air quality and GHG measures	Likely	Insignificant	Low
	Odour	Generation of offensive odour from waste carrying vehicles	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Noise emissions	Noise and vibration from heavy vehicles	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Moderate	Medium		NV03 Operational Environmental Management Plan - noise measures TT03 Operational Transport Management Plan	Rare	Moderate	Low
	Surface water	Fuel spills from vehicles	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems	Possible	Moderate	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met	WA02 Hazardous Materials Management Plan	Unlikely	Minor	Low
	Land and groundwater	Fuel spills from vehicles	Hydrocarbon contamination of on-site and/or off-site surface water bodies	Possible	Minor	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met	WA02 Hazardous Materials Management Plan	Unlikely	Minor	Low
	Traffic and transport	Presence of additional vehicles on roads Vehicles queuing for entry to site and use of weighbridge	Deterioration to safe and efficient movement of traffic on local roads, including at site entrance due to queues	Possible	Moderate	Medium	TT02 Design of site layout minimises traffic queueing TT04 Design to improve safety of pedestrians and visitors TT05 Road safety impact mitigation	TT03 Operational Transport Management Plan	Unlikely	Minor	Low
	Landscape and visual	Visibility of vehicles	Intrusion to views experienced from sensitive receptors including residential areas, recreational and open spaces, community facilities Loss of traditional rural character at the landscape scale	Almost Certain	Moderate	High	TT02 Design of site layout minimises traffic queueing LV01 Design of facility minimises landscape and visual impact	TT03 Operational Transport Management Plan	Likely	Moderate	High
	Socio-economic	Presence of additional vehicles on roads with anticipated truck movements to and from the site.	Reduction of access to residential areas, recreational and open spaces, community facilities. Reduction on existing amenity due to increase in noise and emissions.	Possible	Minor	Medium	TT05 Road safety impact mitigation	TT03 Operational Transport Management Plan SIA01 Social Impact Management Plan SIA11 Stakeholder and Community Engagement Plan SIA13 Implementation of environmental plans to address impacts to community values	Unlikely	Minor	Low
	Human health	Lowered air quality and presence of particulate matter Disturbance from noise Presence of additional vehicles on roads	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Unlikely	Insignificant	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air TT05 Road safety impact mitigation NV04 Acoustic enclosure of buildings NV05 Operational noise - stationary plant NV06 Operational vibration - stationary plant	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality and GHG measures NV03 Operational Environmental Management Plan - noise measures NV02 Environmental Authority - Noise conditions	Unlikely	Insignificant	Low
Deposition and management of waste in tipping hall and bunker	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust Spills Noise disturbance Introduction of pathogens and pests to site and surrounding area	Health impacts to ecological communities/species	Unlikely	Moderate	Medium	EC02 Design of facility minimises disturbance to biodiversity AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air NV04 Acoustic enclosure of buildings NV05 Operational noise - stationary plant NV06 Operational vibration - stationary plant	AQ05 Operating Licence - air quality conditions EC03 Operational Environmental Management Plan - ecology measures EC04 Revegetation Plan AQ06 Operational Environmental Management Plan - air quality measures NV03 Operational Environmental Management Plan - noise measures NV02 Environmental Authority - Noise conditions	Unlikely	Minor	Low
	Ecology	Vehicle strike from vehicles entering and leaving the site	Health impacts to ecological communities/species	Unlikely	Moderate	Medium		EC03 Operational Environmental Management Plan – ecology measures	Unlikely	Minor	Low
	Air quality	Generation of dust from waste inside tipping hall Release of dust from tipping hall due to malfunction or incorrect operation of	Lowered air quality due to increased presence of particulate matter	Rare	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality measures	Rare	Minor	Low
	Odour	Release of offensive odour from tipping hall due to malfunction or incorrect operation of doors	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Rare	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Rare	Minor	Low

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	Noise emissions	Tipping of waste Inspection of waste	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Moderate	Medium	NV04 Acoustic enclosure of buildings	NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Moderate	Low
	Surface water	Leaching of contaminants from waste escapes structure	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems Reduced availability of surface water for household/agricultural uses	Possible	Moderate	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD107 IBAA Retention Basin Management Design of bunker prevents leaching of		Unlikely	Minor	Low
	Land and groundwater	Leaching of contaminants from waste escapes structure	Contamination and deterioration to quality of on-site and/or off-site surface and/ or groundwater	Possible	Major	High	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD107 IBAA Retention Basin Management Design of bunker prevents leaching of		Unlikely	Minor	Low
	Waste	Unsuitable waste is not identified during inspection of waste	Waste of recyclable resources through unnecessary disposal to energy recovery. Adverse emissions via incineration of unacceptable wastes	Likely	Moderate	High	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air (Waste Acceptance Protocol)	AQ05 Operating Licence - air quality conditions WA03 Metal recovery process HM04 Standard Operating Procedures	Possible	Minor	Medium
	Human health	Presence of particulate matter Exposure to hazardous waste Disturbance from noise	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Rare	Insignificant	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions NV04 Acoustic enclosure of buildings	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality and GHG measures NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Insignificant	Low
	Ecology	Deposition of dust following release due to malfunction or incorrect operation of doors Exposure to hazardous waste	Health impacts to ecological communities/species	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	EC03 Operational Environmental Management Plan - ecology measures EC04 Revegetation Plan AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality measures	Rare	Minor	Low
	Waste	Waste bunker becomes full	Additional waste is managed in the tipping hall, compounding tipping hall	Possible	Minor	Medium		HM04 Standard Operating Procedures	Unlikely	Minor	Low
	Hazard and risk	Please refer to HAZID Register in Appendix A of the Hazards and Risk Report									
Combustion and heating process	Air quality	Emissions, including particulate matter, from combustion process is not contained within furnace and escapes to other parts of the facility	Lowered air quality due to increased presence of pollutants and particulate matter	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Rare	Minor	Low
	Noise emissions	Noise from waste moving through hopper, movement of grate and combustion	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Moderate	Medium	NV04 Acoustic enclosure of buildings	NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Moderate	Low
	Hazard and risk	Please refer to HAZID Register in Appendix A of the Hazards and Risk Report									
	Human health	Decreased air quality across facility	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Rare	Insignificant	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Rare	Insignificant	Low
Flue gas treatment and emission of gases	Air quality	Flue gas treatment is not sufficiently effective, and pollutants including particulate matter are emitted at unacceptable levels	Lowered air quality due to increased presence of pollutants and particulate matter	Possible	Major	High	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality measures	Rare	Minor	Low
	Air quality	Flue gas treatment malfunctions, and pollutants including particulate matter are emitted at unacceptable levels	Lowered air quality due to increased presence of pollutants and particulate matter	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality measures	Rare	Minor	Low
	GHG	GHG emissions from waste combustion	GHG emissions present an unacceptable contribution to Queensland and Commonwealth emissions budget	Possible	Moderate	Medium		AQ06 Operational Environmental Management Plan - air quality and GHG measures	Possible	Moderate	Medium
	Odour	Offensive odour from emissions	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Rare	Minor	Low

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Aspect	Factor	Risk source	Impact to receptor	Initial Risk			Design commitment	Proposed Safeguards and Environmental Management Measures	Residual Risk		
				Likelihood	Consequence	Initial Risk Rating			Likelihood	Consequence	Residual Risk Rating
	Surface water	Deposition of particulate matter from emissions	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems Reduced availability of surface water for household/agricultural uses	Possible	Moderate	Medium	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Surface water	Uncontrolled (or emergency) discharge of process wastewater (e.g. blowdown water, reject demineralised water) or chemicals due to non-standard activities or operations.	Changes to surface water quality in surrounding waterways resulting in - Damage to surface water-dependent ecosystems - Reduced availability of surface water for household/agricultural uses	Unlikely	Major	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD107 IBAA Retention Basin Management		Rare	Moderate	Low
	Land and groundwater	Deposition of particulate matter from emissions Process chemicals escape from treatment or storage areas	Contamination and deterioration to quality of on-site and/or off-site surface and/ or groundwater	Unlikely	Minor	Low	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation	WA02 Hazardous Materials Management Plan AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality and GHG measures	Unlikely	Insignificant	Low
	Landscape and visual	Visibility of emissions from stack	Intrusion to views experienced from sensitive receptors including residential areas, recreational and open spaces, community facilities Loss of traditional rural character at the landscape scale	Almost Certain	Moderate	High	Plume assessment has been undertaken as part of the air quality assessment		Almost Certain	Moderate	High
	Human health	Lowered air quality including presence of particulate matter as a result of insufficient efficacy of flue gas treatment	If measurable changes to air quality or noise were likely to occur during operation, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Possible	Moderate	Medium	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality and GHG measures SIA26 Air Quality data published online for transparency	Rare	Minor	Low
	Human health	Lowered air quality including presence of particulate matter as a result of - Flue gas treatment malfunction - Exposure to venting from ammonia tank (if used)	If measurable changes to air quality or noise were likely to occur during operation, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Rare	Moderate	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	WA02 Hazardous Materials Management Plan AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality and GHG measures SIA26 Air Quality data published online for transparency	Rare	Minor	Low
	Hazard and risk	Powdered activated carbon dust explosion	Risk to human health from explosion	Possible	Moderate	Medium		HM02 Operational Environmental Management Plan	Unlikely	Minor	Low
	Hazard and risk	Spillage of hazardous materials	Risk to human health/environment from spillage of hazardous materials and/or diesel required for operations.	Possible	Moderate	Medium	WA07 Design of facility allows for safe handling of thermal treatment residue	HM02 Operational Environmental Management Plan HM03 Emergency Response Plan HM04 Standard Operating Procedures HM06 Signage	Unlikely	Minor	Low
	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust	Health impacts to ecological communities/species	Unlikely	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	IBA, metals, APCr management and disposal	Dispersion of IBA due to inappropriate storage including insufficient quenching, or extreme weather Hazardous dust caused by breakage or crushing of APCr concrete	Lowered air quality due to increased presence of particulate matter	Unlikely	Moderate	Medium	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Surface water	Spillage of thermal treatment residues during on-site handling including: -Air dispersion of IBA -Leaching from APCr slurry -Overflow of attenuation basin for leachate storage caused by a large rainfall event -Increased volume of IBA/APCr, or longer maturation period required, leading to spillage/overflow of IBA/APCr outside designated storage area	Contamination and deterioration to quality of on-site and/or off-site surface water Damage to surface water-dependent ecosystems Reduced availability of surface water for household/agricultural uses	Possible	Moderate	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD104 Design of hazardous waste storage and processing outside flooding area HYD107 IBAA Retention Basin Management	WA02 Hazardous Materials Management Plan HYD03 Stormwater quality monitoring	Unlikely	Minor	Low

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Aspect	Factor	Risk source	Impact to receptor	Initial Risk			Design commitment	Proposed Safeguards and Environmental Management Measures	Residual Risk		
				Likelihood	Consequence	Initial Risk Rating			Likelihood	Consequence	Residual Risk Rating
	Land and groundwater	Spillage of thermal treatment residues during on-site handling including: -Air dispersion of IBA -Leaching from APCr slurry -Overflow of attenuation basin for leachate storage caused by a large rainfall event -Increased volume of IBA/APCr, or longer maturation period required, leading to spillage/overflow of IBA/APCr outside designated storage area	Contamination and deterioration to quality of on-site and/or off-site groundwater	Possible	Moderate	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD107 IBAA Retention Basin Management WA07 Design of facility allows for safe handling of thermal treatment residue	WA02 Hazardous Materials Management Plan	Rare	Moderate	Low
	Waste	Change in chemical composition of IBA leading to unlawful disposal pathway Management of IBA/metals does not maximise opportunities for recycling Spillage of thermal treatment residues during handling Uncontained leachate from storage of thermal treatment residues Increased volume of IBA or APCr than expected Longer maturation or stabilisation periods than expected Dust explosion from handling of IBA, cement or APCr Hydrogen generation from IBA management Escape of firewater	Unlawful disposal of waste Loss of recyclable resources Contamination of land and groundwater from hazardous components of IBA/APCr Human health impact of uncontained residues Harm to wildlife from exposure to uncontained residues Visual impacts of large stockpiles Human health impact of dust explosion to operator Human health impact of hydrogen explosion to operator Pollution of land and groundwater from firewater run-off	Possible	Moderate	Medium	WA07 Design of facility allows for safe handling of thermal treatment residue	WA03 Metal recovery process WA08 Thermal treatment residue monitoring and testing	Unlikely	Minor	Low
	Human health	Lowered air quality including: -Presence of particulate matter from dispersion of IBA	If measurable changes to air quality or noise were likely to occur during construction, then potential for pollutants to exceed criteria could occur which might disturb the local community (off-site workers, rural residential, residential)	Unlikely	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Unlikely	Minor	Low
	Human health	Release of APCr	Risk to human health from mis-management of APCr	Possible	Moderate	Medium	WA07 Design of facility allows for safe handling of thermal treatment residue	WA08 Thermal treatment residue monitoring and testing HM03 Emergency Management Plan HM04 Standard Operating Procedures HM05 Training and education of staff HM06 Signage	Unlikely	Minor	Low
	Ecology	Lowered air quality and presence of particulate matter, including deposition of dust	Health impacts to ecological communities/species	Unlikely	Moderate	Medium	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	HM04 Standard Operating Procedures AQ05 Operating Licence - air quality conditions	Unlikely	Minor	Low
Office operations, workforce and visitor centre	Waste	Waste generated at the site is disposed of at the facility and not subject to waste separation Waste generated at the site is not disposed of appropriately Odour or vermin associated with operational waste Escape of litter	Loss of recyclable resources Waste of recyclable resources through unnecessary disposal Increased litter on-site and in surrounding area Human health impact from odour/vermin to operators Harm to wildlife/ visual and odour impacts to receptors from litter	Unlikely	Minor	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	WA03 Metal recovery process WA04 Operational Waste Management Plan WA05 Septic waste management AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality measures	Unlikely	Insignificant	Low
Routine maintenance and testing and Non-routine events including unplanned testing, shutdowns and emergencies	Air quality	Use of generators during events including: -Facility start up after planned or unplanned shutdown -Generator testing	Lowered air quality due to increased presence of pollutants and particulate matter	Rare	Insignificant	Low	AQ01 Design of facility avoids release of dust, and controls and monitors emissions to air	AQ05 Operating Licence - air quality conditions AQ06 Operational Environmental Management Plan - air quality measures	Rare	Insignificant	Low

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Aspect	Factor	Risk source	Impact to receptor	Initial Risk			Design commitment	Proposed Safeguards and Environmental Management Measures	Residual Risk		
				Likelihood	Consequence	Initial Risk Rating			Likelihood	Consequence	Residual Risk Rating
	Climate	Extreme weather including: -Temperatures - Thunderstorms -Rainfall, leading to flash flooding -Rainfall, leading to inundation of waste material - Wind	Unsafe work conditions leading to reduced work hours, damage and/or injury Damage to or shutdown of infrastructure, facilities and materials Decreased heating value of waste material	Possible	Moderate	Medium	CC01 Climate change adaptation design measures HYD101 + HYD102 Design of facility and site layout minimises impact of flooding and on existing water flows	CC02 Climate Change Adaptation Management Plan	Unlikely	Minor	Low
	Land and groundwater	Major fuel and/or chemical spills from plant and equipment	Major contamination of on-site and/or off-site groundwater and/or surface water bodies	Possible	Major	High	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation		Rare	Moderate	Low
	Noise emissions	Alarms sounding during events including: -Emergencies -Alarm testing	Unsafe noise levels within the facility leading to increased incidence of hearing damage for workforce Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Possible	Moderate	Medium	NV05 Operational noise - stationary plant	NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Moderate	Low
	Noise emissions	Noise emitted from the diesel generator enclosure and exhaust/intakes during testing of emergency diesel generator Planned maintenance on boilers	Unsafe noise levels within the facility Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Possible	Moderate	Medium	NV05 Operational noise - stationary plant	NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Moderate	Low
	Land and groundwater	Uncontrolled or accidental discharge including: - Discharge of process water due to non-standard activities - A flood event causing inundation of areas containing hazardous or contaminated materials (e.g. APCr) and/or impacts to wastewater and stormwater treatment processes	Contamination and deterioration to quality of on-site and/or off-site surface and/ or groundwater due to the mobilisation of contaminants into areas not built to contain them	Possible	Minor	Medium	HYD102 Design of facility and site layout minimises water use and ensure water quality criteria is met HYD103 Design prevents oil spills from HV substation HYD105 + HYD106 Design of facility and site layout avoids or mitigates against flood risk HYD107 IBAA Retention Basin Management HM09 Design of diesel storage area	HM02 Operational Environmental Management Plan HM08 Safety requirements for Aqueous Ammonia in SNCR process HM03 Emergency Management Plan HM04 Standard Operating Procedures HM05 Training and education of staff HM06 Signage	Rare	Minor	Low
Outdoor operational stationary plant	Noise emissions	Noise and vibration from operational stationary plant located outdoors including: - IBA conveyor - Stack (with 2 flues) - Radiator Coolers (fans) - ACC fans - Transformer/substation - IBA sorting and processing building dust extraction fans - Mechanical ventilation systems for buildings	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Possible	Moderate	Medium	NV05 Operational noise - stationary plant NV06 Operational vibration - stationary plant	NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Moderate	Low
	GHG	GHG emissions from stationary plant	GHG emissions contribution to Queensland and Commonwealth emissions budget	Likely	Insignificant	Low	GHG01 GHG Mitigation design measures	AQ06 Operational Environmental Management Plan - air quality and GHG measures	Likely	Insignificant	Low
Outdoor operational mobile plant	Noise emissions	Noise from operational mobile plant noise including: - Idling noise - Truck loading events - Moving waste from one area to another	Disturbance to sensitive receptors including residential areas, recreational and open spaces, community facilities Damage to relationship with local community	Unlikely	Moderate	Medium		NV02 Operating Licence - noise conditions NV03 Operational Environmental Management Plan - noise measures	Rare	Moderate	Low
Indoor operational mobile plant	Noise emissions	Internal noise and vibration to non-factory spaces on-site	Unsafe noise levels within facility Disturbance to office workers and visitors	Possible	Moderate	Medium	NV07 Operational noise and vibration to administration buildings		Rare	Moderate	Low

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Factor	ID	Design commitment / Proposed Safeguards and Environmental Management Measures	Description	Phase
Air quality	AQ01	Design of facility avoids release of dust, and controls and monitors emissions to air	The Proposal will include an Emission Control and Flue Gas treatment System for each grate- boiler line, which will meet Best Available Techniques of Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions. Compliance also with Best Available Techniques review for waste incineration facilities and guiding BAT principles of the European Commission. The Proposal will include the application of primary pollution controls aligned with Best Available Techniques, including: - Fully enclosed negatively pressured arrival hall and waste bunker - Contractual compliance with the site Waste Acceptance Protocol to control waste acceptance and suitability - All waste deliveries in enclosed vehicles and no tipping of waste outside the waste receival hall - Grab cranes mixing waste in the waste bunker (prior to feeding) to avoid anaerobic conditions (odour) - Selection of moving grate combustion technology and proven boiler technology that is flexible to accommodate expected mixed waste feedstock variability, and maintainable, to ensure a high level of stable operational dn boiler availability, thus reducing the likelihood of Other Than Normal Operating Conditions - Sophisticated automated combustion control system for each grate-boiler line to control combustion air flow rates and maintain stable operation, thus inhibiting the formation of NOx while controlling the formation of CO and other products of incomplete combustion. - Boiler design with high temperature residence time conditions of ≥850 degrees Celsius for ≥2 seconds after last injection of combustion air to destroy residual TVOCs, dioxins and furans, and rapid cooling through the Boiler Economiser section to limit the reformation of dioxins and furans by de-novo synthesis - Boiler ash hoppers located underneath the boiler to collect coarse particulate matter, which may separate from the flue gas due to a change in direction within the boiler, or due to impact on boiler tube bundles, thus reducing the dust load on the downstream baghouse filter. - Continuous Emissions Monitoring System installed to measure pollutants Other controls include: - Dedicated stand- by odour control unit for use in case of full plant outage - Cooling of flue gas in the boiler economiser to prevent dioxin and furan formation - C+Selective non- catalytic reduction (SNCR) and baghouse filters - Reactor controls, including hydrated lime and activated carbon injection - Design does not include any bypass ducts within the flue gas treatment path - Back- up diesel generator to operate induction fans and control systems - A boiler with a minimum thermal efficiency of 80% - A gasifier solid residue recovery and handling system which includes a water quench bath - Provision of quarantine facilities for ejected and recovered materials, including hazardous waste and e- waste, with fit for purpose environmental controls	Commissioning and Operation
Air quality	AQ02	Construction Dust Management Plan	Construction dust will be managed through a Construction Dust Management Plan (CDMP) and target the following activities: Communications, Site management, Monitoring, Site layout, Operation vehicle/machinery, Waste Management, Earthworks, Construction, and Trackout. The CDMP will include: - Display the name and contact details of person(s) accountable for air quality and dust issues along the periphery of the Project site. This may be the environment manager/engineer or the site manager. - Display the head or regional office contact information - Develop and implement a CDMP, which may include measures to control other emissions. - Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. - Make the complaints log available upon request from a regulating authority. - Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book. - Carry out regular site inspections to monitor compliance with the CDMP, record inspection results, and make an inspection log available upon request from a regulating authority. - Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out (such as major excavation works) and during prolonged dry or windy conditions. - Plan site layout so that machinery and dust causing activities are located away from sensitive receptors, as far as reasonably practicable. - Avoid site runoff of water or mud. - Remove materials that have a potential to produce dust from site as soon as possible, unless being re- used on- site. If they are being re- used on- site cover as described below. - Cover, seed or fence stockpiles to prevent wind whipping. - Ensure all vehicles switch off engines when stationary. There should be no idling vehicles. - Minimise the use of diesel or petrol powered generators if possible and use mains electricity or battery powered equipment where practicable. - Impose and signpost a maximum-speed-limit of 25 km/h on surfaced and 15 km/h on unsurfaced haul roads and work areas. - Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems. - Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. - Bonfires and burning of waste materials should not be permitted. - Covering or watering exposed stockpiles when not in use - Revegetating disturbed areas as soon as is feasible - Ensuring all fine powder materials such as cement are delivered in closed tankers and stored in silos - Ensure sand and other aggregates are stored in bunded areas - Avoid scabbling (roughening of concrete surfaces) if possible - Minimise drop heights from loading shovels and other loading or handling equipment, use enclosed chutes and cover skips - Covering truck cargo when entering or leaving the site - Hosing down truck tyres before exiting the site - Avoiding dry sweeping of large areas, instead using hoses, sprays, or water trucks. - Use water- assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.	Construction
Air quality	AQ03	Construction Environmental Management Plan - air quality and GHG measures	The CEMP will manage construction particulates from diesel engines, including: -Ensure all vehicles switch off engines when stationary. There should be n- idling vehicles. -Minimise the use of diesel or petrol powered generators if possible and use mains electricity or battery powered equipment where practicable. -Impose and signpost a maximum- speed- limit of 25km/h on surfaced and 15km/h on unsurfaced haul roads and work areas.	Construction
Air quality	AQ04	Design of site layout avoids unnecessary excavation	The design team will consider topography / elevation across the site when designing the site layout for the facility. This will determine the levels of excavation / blasting impact, and the associated generation of air emissions. Where possible, natural topography will be used to the design advantage (e.g. depth of bunker, cut and fill ratio) to avoid unnecessary impacts to ground.	Construction
Air quality	AQ05	Operating Licence - air quality conditions	An operation license will ensure the facility is meeting compliance requirements.	Commissioning and Operation
Air quality	AQ06	Operational Environmental Management Plan - air quality and GHG measures	An Operation Environment Management Plan will be prepared. Air quality modelling will be used to understand operating scenarios. The OEMP should also manage vehicle impacts and may include the following measures: - Addressing engine idling - Operating and maintaining equipment correctly - Use of biodiesel where practicable - Vehicles should be covered to prevent dust escape	Commissioning and Operation
Air quality	AQ07	Proof of performance trials	A Proof of Performance trial will be carried out before beginning of operations to test all major process components including emission controls and to demonstrate compliance with approved criteria.	Commissioning
Air quality	AQ08	Commissioning plan - air quality measures	A Commissioning Plan will be produced, and will include information on how air quality will be monitored and protected during the commissioning process.	Commissioning
Climate Change	CCA01	Climate change adaptation design measures	Identify acceptable infrastructure risk and prescribe design engineering tolerances to cope with: - extreme heat - extreme wind - extreme rainfall.	Construction, Commissioning and Operation
Climate Change	CCA02	Climate Change Adaptation Management Plan	Develop and implement measures in the project design and management plans for construction and operation that addresses the impact of climate change, such as: - Engage with appropriate labour representatives to identify and confirm processes, e.g., safety triggers, work hours, and facilities, e.g., shade, water, air conditioning, to ensure that construction can continue as necessary during periods of extreme heat - Establish site rules for construction work during hailstorms, thunderstorms, and (or immediately after) extreme rainfall events - Apply an early warning system for dangerous thunderstorms and establish site rules for operational work outdoors during thunderstorms - Identify acceptable infrastructure risk and prescribe design engineering tolerances to cope with extreme heat, wind, and/or rainfall to the level of acceptable risk - Develop an operational site and near- site fire response and control plan in conjunction with emergency services, and ensure staff training and provision of equipment for fire control - Establish emergency controls for bypass or plant shutdown in the event of an extended catastrophic transmission infrastructure failure at or near site.	Construction, Commissioning and Operation
Community and stakeholders	CS01	Community and Stakeholder Engagement Plan	A targeted Community and Stakeholder Engagement Plan and program will offer information regarding the proposal and EIW process, handle and respond to complaints, and engage with vulnerable groups and sensitive receptors.	Construction, Commissioning and Operation
Contaminated Land	CL01	Soil contamination / geotechnical management measures	The Preliminary Site Investigation for Contamination identified a potential source of contamination associated with a historical spray race, and recommended sampling and analysis in the vicinity of the spray race. The remainder of the site was considered to present a lower risk of contamination. An additional Contamination Investigation was conducted which concluded that the spray race area is considered suitable for the proposed BERC development. Additional geotechnical investigations to be undertaken prior to construction.	Construction

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Factor	ID	Design commitment / Proposed Safeguards and Environmental Management Measures	Description	Phase
Ecology	EC01	Construction Environmental Management Plan - ecology measures	Standard unexpected finds procedures will be followed, and will be detailed within the Construction Environmental Management Plan (CEMP). Avoid the removal of mature trees where possible. A Waste Management Plan will be prepared as part of the CEMP to manage waste during construction and would include measures to avoid impacts on biodiversity. Management measures would be prepared, applied and audited to avoid and minimise the environmental risks associated with weeds, pests and pathogens. Lighting impacts during construction are to be minimised as much as possible using sensor lighting and /or directional lighting for more heavily used parts of the facility to avoid impacts to fauna. The CEMP will include, or make reference to, a Vegetation and Fauna Management Plan with the following specific measures: - Habitat features (e.g. log piles) that are required to be disturbed should be relocated on site where possible. - Fauna spotter/catcher to be onsite during any vegetation removal, and adherence to sequential clearing requirements. - Avoiding the removal of mature trees where possible, and where complete avoidance is not possible (as per arborists input/advice), is it recommended trees are pruned or lopped rather than completely removed. Where removal is required, arboreal habitat features should be relocated on site and retained as terrestrial habitat for ground-dwelling species. - Vegetation protection measures and storage and stockpile specifications.	Construction and commissioning
Ecology	EC02	Design of facility minimises disturbance to biodiversity	Landscaping will be planted to enhance and compliment the ecological function of the site. Vegetation species will be appropriate to the surrounding land. Operation of the facility will be contained within developed areas of the site, with permanent fencing, buffer plantings and batters delineating the extent of these areas from other vegetated parts of the site. Site infrastructure (fences, buildings etc) will discourage wildlife from interaction with site operations. Waste with the potential to cause harm to be appropriately contained at all times on site. The size and layout of the proposal has been considered to minimise disturbance to existing biodiversity values. Lighting impacts during construction are to be minimised as much as possible using sensor lighting and /or directional lighting for more heavily used part of the facility to avoid impacts to fauna. Fencing is to be fauna friendly where practicable, or otherwise minimise harm to fauna as much as possible while serving its purpose. A landscape plan has been developed to ensure the site is appropriately restored and enhanced, using native, low maintenance species.	Construction, Commissioning and Operation
Ecology	EC03	Operational Environmental Management	The OEMP will include management measures to avoid and minimise the environmental risks associated with weeds, pests and pathogens and include operational controls on lighting, noise and dust.	Operation
Ecology	EC04	Revegetation Plan	Consideration to be given to a revegetation plan after construction so that only native species endemic to the area are used and to include provisions for on-going weed control.	Operation
Greenhouse Gas	GHG01	GHG Mitigation design measures	- Seek options for the supply of low emission steel and concrete by tendering contractors - Use biodiesel instead of diesel for facility startup processes, subject to review of biodiesel fuel availability and supply chain reliability - Designing the plant for high energy recovery and electricity generation efficiency - Explore options for offtake agreements and supply of heat to other industries in the Bromelton SDA - Supply of recovered recyclable or reusable materials to the market after combustion, subject to approvals for IBAA reuse	Construction, Commissioning and Operation
Hazard and Risk	HM01	Construction Environmental Management Plan	A Construction Environmental Management Plan (CEMP) will be prepared in accordance with the requirements of the Environment Protection Act. The CEMP should include measures to reduce these hazards and risks, so far as is reasonably practicable (SFAIRP) during construction. Risks and their mitigations measures to be considered include: - Transport of hazardous chemicals: Verification by the operator that transport vehicles meet the legislative requirements of the Transport Operations (Road Use Management – Dangerous Goods) Regulation 2018. - Storage of hazardous chemicals: Verification that bundled storage is provided and that separation distances are maintained for the storage area by design team. The CEMP should be completed during detailed design.	Construction
Hazard and Risk	HM02	Operational Environmental Management Plan	OEMP will manage the correct storage, handling, and use of dangerous goods and diesel in accordance with relevant standards and best practice guidelines during commissioning and operation. Will include: - Hazardous Materials Management Plan - Firewater Management Plan	Commissioning and Operation
Hazard and Risk	HM03	Emergency Management Plan	Emergency Management plan to reduce the risk associated with an emergency as far as is reasonably practicable (to be agreed with QFES).	Construction, Commissioning and Operation
Hazard and Risk	HM04	Standard Operating Procedures	Appropriate standard operating procedures will be developed by the proponent for maintenance and use covering normal operational actions and emergency response management	Construction, Commissioning and Operation
Hazard and Risk	HM05	Training and education of staff	Appropriate training for operators including: - All workers handling hazardous materials will undergo appropriate training to ensure safe handling of such materials. - Control room operators will be trained appropriately to use water cannons, cranes and shredders, and to inspect acceptable and unacceptable materials, to avoid risk of ignition and prevent hot spots from becoming bunker fires. - Education campaign for delivery drivers	Construction, Commissioning and Operation
Hazard and Risk	HM06	Signage	Appropriate signage to designate hazardous goods on site, storage locations etc. for safe operation and emergency response purposes.	Construction, Commissioning and Operation
Hazard and Risk	HM07	Control measures to mitigate possibility of zero/low combustion air flow	The risk control measures identified are emergency diesel generator back-up power supply for air fans, burner management system, continuous monitoring of flue gas oxygen levels and operating procedures	Operation
Hazard and Risk	HM08	Safety requirements for Aqueous Ammonia in SNCR process	If aqueous ammonia is used it will be in a separate bund outside, away from incompatible substances (as determined), with water sprays around the bundled area. Unlike aqueous ammonia, urea is not classified as a dangerous good under the ADGC, therefore, requires no specific dangerous goods requirements.	Operation
Hazard and Risk	HM09	Design of diesel storage area	The design of the diesel storage area will comply with AS1940:2017 The storage and handling of flammable and combustible liquids. Advice obtained from QFES during consultation on site the emergency response plan shall be implemented.	Operation
Heritage	HE01	Unexpected Aboriginal finds procedure / Aboriginal Human remains	Procedure for Aboriginal cultural materials is formulated in consultation with the Danggan Balun People, and will be detailed within the Construction Environmental Management Plan (CEMP). Even though unlikely, if the human remains are found to be of Aboriginal origin and the police do not wish to investigate the site for criminal activities, the Danggan Balun People will be consulted as to how the remains should be dealt with.	Construction
Heritage	HE02	Cultural Heritage Management Plan	A site walkover will be undertaken with the Traditional Owners to understand areas of cultural heritage sensitivity onsite. Further stakeholder consultation with Traditional Owners will be undertaken as part of preparation of the Cultural Heritage Management Plan (CHMP). In addition, discussions on site layout and rehabilitation / restoration of surrounding areas (including planting of native vegetation species) would increase engagement with the aboriginal community.	Construction, Commissioning and Operation
Heritage	HE03	Design of site layout avoids unnecessary disturbance of areas of heritage sensitivity	Where possible, the design will avoid areas of aboriginal cultural heritage sensitivity	Construction, Commissioning and Operation
Heritage	HE04	Test Pitting in the Identified PAD	A five-day test excavation program will be conducted at the Potential Archaeological Deposit (in the northeastern corner of the study area) identified during the 2025 field survey to the results of which will identify if any further mitigation measures are required.	Construction
Landscape and visual	LV01	Design of facility minimises landscape and visual impact	• Integrated design of the stack and building to mitigate visual impact where possible. • Careful selection of colour and material to allow the building and stack to appear recessive above the skyline. • Architecture to minimising the overall height of the building where possible	Operation
Landscape and visual	LV02	Wider site design and siting	Location of facility within site selected to minimise visual intrusion Provision of perimeter planting will screen views into the site.	Construction, Commissioning and Operation
Noise and vibration	NV01	Construction Noise and Vibration Management Plan	A detailed Construction Noise and Vibration Management Plan (CNVMP) will be prepared. This plan will include: - Roles and responsibilities - Noise sensitive receiver locations - Noise mitigation strategy - Monitoring methodology - Community engagement strategy - Minimum safe working distances for vibration intensive plant (to be planned and monitored as part of the CNVMP) - Consultation with the utility provider of the telecoms line running near/along the northern boundary of the site to determine site specific vibration assessment requirements and whether any safe working or other recommended setback distances are required. - Safe working distances and equipment selections / mitigated work methods to prevent vibration impacts to rail corridor This will form part of the CEMP. Note that a Construction Transport Management Plan (including a Supply Chain Haul Route Management Strategy by the construction contractor as per TMR MRTS02) will be prepared to outline mitigation measures to avoid noise and vibration impacts from construction vehicles. This will also feed into the CEMP. Construction noise and vibration criteria to comply with: - Environmental Protection Act 1994 - TMR, Transport Noise Management Code of Practice: Volume 2 - Construction Noise and Vibration (2023) - State code 2: Development in a Railway Environment, PO17 - NSW Environment Protection Authority, (former) Department of Environment and Conservation, Assessing Vibration: a technical guideline (2006) - AS 2187:2006 Part 2, BS 7385:1993 Part 2, and DIN 4150-3:2016 - TMR, MRTS02 Provision for Traffic (2023)	Construction

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Factor	ID	Design commitment / Proposed Safeguards and Environmental Management Measures	Description	Phase
Noise and vibration	NV02	Environmental Authority - Noise conditions	An Environmental Authority will be issued by the Coordinator General for the Environmentally Relevant Activities which will include relevant conditions around noise compliance.	Operation
Noise and vibration	NV03	Operational Environmental Management Plan - noise measures	Noise emissions from the EFW facility must be managed so that the ongoing operation adheres to noise criteria and mitigates noise impacts to sensitive receptors. As part of the OEMP, specific noise management measures will be included so that the ongoing operation of the EFW facility adheres to noise criteria and mitigates adverse noise impacts on sensitive receivers. A six-month post commissioning report will be prepared as part of this OEMP. Operational noise criteria is to comply with: - <i>Environmental Protection Act 1994</i> - Environmental Protection Regulation 2019 - Environmental Protection (Noise) Policy 2019 and consider the following: - (former) Department of Environment and Science, Noise measurement manual (2020) - Explanatory notes for EPP Noise (SL 2019 No. 154) - (former) Department of Environment and Science and Innovation (DESI), Noise and vibration – EIS information guideline (2024) for assessment method and procedure for control and prevention of background creep (refer to page 4 within) - (former) Department of Environment and Heritage Protection, EcoAccess Guideline for the assessment of Low Frequency Noise (2004) This will include consideration of operations during emergency/maintenance scenarios such as testing of the emergency diesel generator (whereby a 5 dB(A) increase of normal operational noise levels is allowed). Generator testing is expected to occur up to once per month and be within daytime hours (7am to 6pm). See measures NV04 to NV07 below for identification of some key noise emitting aspects from the EFW facility. These items must be assessed at noise sensitive receptors in combination with each other and the noise from vehicular traffic and mobile plant activities within the Project boundary. This will be based on expected scheduled operation and determination of appropriate noise mitigation measures will be identified and	Operation
Noise and vibration	NV04	Acoustic enclosure of buildings	The main building/facade design will mitigate noise impacts by being an almost fully enclosed building. Internal noise sources include but are not limited to tipping of waste in reception hall, movement of waste, combustion of waste and associated processes. Auxiliary buildings such as those for IBA sorting must also mitigate noise via the building envelope design for equipment/activity noise sources within them. Further opportunities will be recognised in the future detailed design stage so the proposal mitigates against any non-compliances with the EPP Noise limits (in accordance with the Environmental Protection Regulations). Acoustically rated louvres are required to all louvre openings on the façade and roof of the main EFW facility building. Minimum performance requirements for the mitigated options of the building envelopes for all buildings includes an Rw 29 cladding façade and Rw 32 factory roof.	Design, Commissioning, and Operation
Noise and vibration	NV05	Operational noise - stationary plant	Noise control of non-vehicular, stationary plant external to the enclosed main EFW facility and auxiliary buildings to be selected and mitigated for any non-compliances with the EPP Noise limits (in accordance with the Environmental Protection Regulations). This includes items such as, but not limited to, the IBA conveyor, stack exhausts, ACC fans, RC fans, Transformer/substation, IBA sorting and processing building dust extraction fans, mechanical ventilation systems for buildings. IBA Conveyor: Limit line-source sound power level of IBA conveyor to 75 dBAeq,1hr /m. The following detailed design interventions may be required to achieve this noise level: • Dampen idlers (conveyor rollers) • Install motor of the IBA conveyor within the main factory building • Reduce structure-borne noise of the metal enclosure by isolating the conveyor from the enclosure with rubber pads or similar • Providing a solid barrier on the north side and underneath the IBA conveyor enclosure It is recommended that future measurement of an enclosed conveyor system with similar context/application is conducted to improve noise data used in predictive modelling. Stake flue exhaust Requires silencer applied to the ID fan to ensure mitigated sound power levels of 93 dBA per flue are achieved at stack termination. Main Transformer Provide a noise barrier around the west, north and east sides of the transformer with a height extending to a minimum of 2.5 m above the top side of the transformer. Sound absorptive material applied to all four inner sides of the enclosing walls around the transformer, i.e. three inner sides of free-standing noise barrier and one additional side being the portion of EFW external façade south of transformer area. Sound absorptive material with minimum rating NRC 0.90 such as 63 mm Reapox by Pyrotek (or similar performing material designed for exposure to weather). IBA extraction mechanical ventilation fans The ventilation fans to include an attenuator prior to termination at the boiler hall facades C1 and C2. Attenuator nominal length of 1.2 metres. Emergency Diesel Generator Apply attenuation to air-intake/discharge and to generator exhaust flue to achieve a maximum total sound power emission of 115 dBA. Note that these standard noise control elements are assumed to be included to the EDG in the unmitigated and mitigated noise assessments.	Design, Commissioning, and Operation
Noise and vibration	NV06	Operational vibration - stationary plant	Vibration impact can occur during the startup/shutdown sequence of equipment and during typical operating speed. Appropriate vibration isolation measures (such as isolated rubber/spring floor mounts or concrete inertia bases) will need to be carefully selected based on equipment selection and location for several vibration generating items such as the turbine, EDG, and the ACCs to limit vibration transmission through the ground and building structures to meet project vibration criteria. Consideration of DIN 4150-3 vibration targets should be referenced to protect nearby buildings from structural damage, and NSW EPA Assessing Vibration: a technical guideline referenced for vibration design for human comfort. Mitigation measures will also include undertaking a detailed structural dynamics assessment of natural frequencies of the systems. This is to protect surrounding building structures on the EFW facility site and human comfort levels within the main EFW building, nearby administration buildings, and for personnel working near the equipment. Final design of the structural system is to ensure resonant response does not occur during ramp up, operation and ramp down of the generator turbines and ACC fans. The turbine will be founded on a piled raft which will incorporate a spring damper system with isolation bearings to reduce the vibration effect of the equipment. These mitigation measures must be put in place during construction before commissioning phase and should be tested as part of the Commissioning Plan.	Design, Commissioning, and Operation
Noise and vibration	NV07	Operational noise and vibration to administration buildings	Consideration of the Australian Standard AS2107:2016 Acoustics – recommended design sound levels and reverberation times for building interiors should be referenced for internal noise design to non-factory spaces such as administration buildings. Consideration of DIN 4150-3 vibration targets should be referenced to protect nearby non-factory spaces from structural damage, and NSW Assessing Vibration: a technical guideline referenced for vibration design for human comfort. Appropriate partitions/floors/ceilings are to be chosen to address sound reduction of airborne noise, structure-borne noise, and vibration especially between non-factory and main factory spaces.	Design
Socio-economic Impact	SIA01	Social Impact Management Plan	A Social Impact Management Plan (SIMP) will be prepared (refer to Appendix A) in accordance with Section 2.3.6 of the SIA Guideline (State Development Queensland, 2025). The SIMP will manage and monitor proposed mitigation measures using defined timeframes, roles and responsibilities for relevant stakeholders throughout the Project lifecycle. The SIMP will also consider both actual and perceived community impacts associated with the construction and operation of the Project. The plan will be regularly reviewed and monitored to ensure it reflects community needs throughout the Project lifecycle.	Construction and Operation
Socio-economic Impact	SIA02	Local procurement strategy	A project-specific local procurement and upskilling strategy will be developed and implemented to support the employment and training of local construction workers and benefit the strong construction base within the study area and surrounding region. The strategy will consider methods of optimising local employment and business opportunities during the construction phase. This strategy will also consider opportunities for the local community during the operation phase, including methods of upskilling in preparation for when the Project is operational. Ongoing engagement with interested stakeholders and businesses will be carried out to understand existing capability of the local industry and where this Project can be used to support them. The strategy would also consider training or employment opportunities for local young people, First Nations people, those with a disability, and other vulnerable groups.	Construction and Operation
Socio-economic Impact	SIA03	Local High School Training & Upskilling	Cleanaway will work with local high school to upskill potential recruits with the aim of increasing skills in local workforce and retaining younger population in Beaudesert.	Construction and Operation
Socio-economic Impact	SIA04	Local skills development programs	Local training and skills development programs including apprenticeship, scholarships and pre-trade training will be developed and implemented.	Construction and Operation
Socio-economic Impact	SIA05	Local business support initiatives	Local business support initiatives (e.g. business register, procurement opportunities) will be developed and implemented	Construction and Operation
Socio-economic Impact	SIA06	Map local procurement and upskilling strategy	Cleanaway will work with the regional economic development team within the Department of State Development, Infrastructure and Planning to map out local procurement and upskilling strategy.	Construction and Operation
Socio-economic Impact	SIA07	Local and Indigenous Participation Strategy	A Local and Indigenous Participation Strategy for the Project will be developed and implemented.	Construction and Operation
Socio-economic Impact	SIA08	Contractor requirements aligned with Local and Indigenous Participation Strategy	Requirements will be implemented into the contracting process to ensure the Contractor aligns with the Local and Indigenous Participation Strategy to maximise local employment, skills development, and Indigenous business engagement. This would also include requirements to ensure an accessible, inclusive, and culturally sensitive recruitment process.	Construction and Operation
Socio-economic Impact	SIA09	Engagement with First Nations Stakeholders	Ongoing engagement with First Nations stakeholders will be carried out to identify opportunities for employment and training opportunities for First Nations people	Construction and Operation
Socio-economic Impact	SIA10	First Nations mentoring program	A mentoring program for First Nations workers will be developed and implemented to increase retention rate.	Construction and Operation
Socio-economic Impact	SIA11	Stakeholder and Community Engagement Plan	Building upon the Stakeholder and Community Engagement Strategy prepared for this assessment phase of the Project, a new Stakeholder and Community Engagement Plan will be developed to outline the processes for providing timely and accurate information to the community during the Project lifecycle. This Plan will provide project information and facilitate community responses and complaints. This Plan will be presented alongside the Construction Environment Management Plan (CEMP). Another Communication Plan will be provided for the operational phase alongside the Operation Environment Management Plan (OEMP).	Construction and Operation
Socio-economic Impact	SIA12	Ongoing consultation with the Stakeholder Reference Group (SRG)	Ongoing consultation will be carried out with the Stakeholder Reference Group during construction and operation to provide ongoing liaison and adaptive management of socio-cultural impacts and the Community Benefit Fund.	Construction and Operation

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Note: Redactions to this table are at the request of the Danggan Balun Native Title Applicant Group.

Factor	ID	Design commitment / Proposed Safeguards and Environmental Management Measures	Description	Phase
Socio-economic Impact	SIA13	Implementation of environmental plans to address impacts to community values	To address potential impacts related to community values and function that are associated with amenity (e.g. noise and air quality), the measures outlined in the Environmental Risk Assessment for the Project will be implemented. For example, this includes, but is not limited to, the development of a Construction Environmental Management Plan with supporting Construction Dust Management Plan and Construction Noise and Vibration Management Plan, as well as the preparation of an Operational Environmental Management Plan.	Construction and Operation
Socio-economic Impact	SIA14	Community Benefit Fund	An annual Community Benefit Fund will be established to realise local amenity benefits, identified by locals through the Stakeholder Reference Group.	Construction and Operation
Socio-economic Impact	SIA15	Implementation of environmental plans to address impacts to way of life	To address potential impacts related to way of life associated with disruption to air quality, noise levels, and transport networks, the measures outlined in the Environmental Risk Assessment for the Project will be implemented. For example, this includes, but is not limited to, the development of a Construction Environmental Management Plan with supporting Construction Dust Management Plan, Construction Noise and Vibration Management Plan, Construction Transport Management Plan, and Supply Chain Haul Route Management Strategy. It would also include the preparation of an Operational Environmental Management Plan.	Construction and Operation
Socio-economic Impact	SIA16	Implementation of Cultural Heritage Management Plan to address potential impacts	To address potential impacts to First Nations culture and heritage, the measures outlined in the Environmental Risk Assessment for the Project will be implemented. [REDACTED]	Construction and Operation
Socio-economic Impact	SIA17	Cultural Awareness Training	Cultural awareness training from the Danggan Balun group will be provided to construction and operation staff to explain the cultural significance of the site and area.	Construction and Operation
Socio-economic Impact	SIA18	Visitor Centre Design integration with Cultural Heritage of Danggan Balun group.	The design of the Visitor Centre will integrate features to acknowledge and celebrate the cultural heritage of the Danggan Balun group. This could include a keeping place for Aboriginal artefacts, signage, displays, storytelling, artwork or digital media developed in collaboration with Traditional Owners.	Detailed Design
Socio-economic Impact	SIA19	Management Plans	To address potential impacts associated with community safety and access to resources linked to physical safety procedures, exposure to risks and hazardous materials, and access to and control over resources, the measures outlined in the Environmental Risk Assessment for the Project will be implemented. For example, this includes, but is not limited to, the preparation of a Construction Environmental Management Plan with supporting Construction Dust Management Plan, Construction Noise Management Plan, Hazardous Materials Management Plan, Construction Transport Management Plan, Supply Chain Haul Route Management Strategy, and Septic waste management strategies. It would also include the preparation of an Operational Environmental Management Plan.	Construction and Operation
Socio-economic Impact	SIA20	Local Emergency Services engagement	Engagement with local emergency services will be carried out to ensure alignment on access, containment, and response protocols	Construction
Socio-economic Impact	SIA21	Engagement with QUU and SRRC for water services	Collaboration and engagement with Queensland Urban Utilities and Scenic Rim Regional Council will be carried out to determine how best to support expansion of water and sewerage services to ensure local infrastructure is sufficient to support local and project needs.	Detailed Design
Socio-economic Impact	SIA22	Collaboration with QUU for recycled water use.	Options for the use of recycled water as part of the Project will continue to be explored in collaboration with Queensland Urban Utilities.	Detailed Design
Socio-economic Impact	SIA23	Implementation of environmental plans to address impacts to access	To address potential impacts to access, the measures outlined in the Environmental Risk Assessment for the Project will be implemented. For example, this includes, but is not limited to, the preparation of a Construction Environmental Management Plan with supporting Construction Transport Management Plan and Supply Chain Haul Route Management Strategy. It would also include the preparation of an Operational Environmental Management Plan.	Construction and Operation
Socio-economic Impact	SIA24	Community complaints procedure	A community complaints procedure will be developed, implemented and promoted to allow the local community to raise concerns directly with the Project team.	Construction and Operation
Socio-economic Impact	SIA25	Ongoing SRG engagement to allow discussion of concerns	Ongoing engagement with the representative local community through the Stakeholder Reference Group will be carried out to allow community to discuss concerns	Construction and Operation
Socio-economic Impact	SIA26	Air Quality data published online for transparency	To provide awareness on potential emissions from the Project, the publication of air quality data on the Project website will be carried out to demonstrate transparency regarding environmental performance, in line with the measures outlined in the Environmental Risk Assessment for the Project.	Construction and Operation
Surface water	HYD01	Soil and Water Management Plan	Implement a Soil and Water Management Plan comprising suitable erosion and sediment control measures such as cut-off drains, shaker pads, check dams and sediment basins. This will improve the quality of stormwater runoff from the site and minimise downstream environmental impacts.	Construction
Surface water	HYD02	Reusing stormwater for dust suppression	Reuse stormwater collected in sediment basins for dust suppression.	Operation
Surface water	HYD03	Stormwater quality monitoring	The water quality of stormwater discharged from the site will be monitored by the contractor to ensure water quality objectives are met.	Construction
Surface water	HYD04	Site Access tracks located away from overland flow paths	Locate site facilities and construction access tracks away from existing overland flow paths and identified 1% AEP flood extent.	Construction
Surface water	HYD05	Stockpile located away from overland flow paths	Locate earthworks stockpiles clear from overland flow paths created as part of the Soil and Water Management Plan.	Construction
Surface water	HYD101	Design of facility to mimic existing water	The design includes two on-site detention basins which have been sized such that post development stormwater discharge rates match the pre-development condition in accordance with the requirements of QUDM.	Operation
Surface water	HYD102	Design of facility and site layout minimises water use and ensure water quality criteria is met	The design incorporates water sensitive urban design elements which enable the proposal to meet pollutant reduction targets nominated by Seqwater, including Rainwater harvesting tanks to collect runoff from the main building and reuse it for the EFW process.	Operation
Surface water	HYD103	Design prevents oil spills from HV substation	Oil and Water separator included at point of discharge from HV substation to cater for potential oil spills.	Operation
Surface water	HYD104	Design of hazardous waste storage and processing outside flooding area	The design elements involving the storage or processing of potentially hazardous waste have been located outside the 1% AEP flood extents and above the PMF flood level	Operation
Surface water	HYD105	Design of detention basins to mitigate downstream flood impacts	Potential downstream flood impacts are mitigated by the inclusion of two on-site detention basins.	Operation
Surface water	HYD106	Design of buildings above 1% AEP flood	All buildings within the development footprint are positioned well above the 1% AEP flood level.	Operation
Surface water	HYD107	IBAA Retention Basin Management	IBAA Retention Basin Management An IBA specific management plan will be prepared by the Operator to maintain the function and capacity of the IBA retention basin. This includes: • Regular cleaning and removal of inlet GPT • Monitoring or weather forecasts and on-site rainfall to anticipate inflow • Data logger and telemetry device to measure water level in the retention basin and record data • Arranging for license waste contractor to transport collected runoff from the retention basin to a licensed facility, if it is approaching capacity • Periodic inspection and maintenance of key equipment of the closed cycle arrangement (pumps, storage tank(s), retention basin etc).	Operation
Traffic and transport	TT01	Construction Transport Management Plan	A Construction Traffic Management Plan (CTMP) will be prepared to include measures to reduce construction traffic such as adjusting shift patterns and encouraging car sharing. The CTMP will form part of the CEMP and will be updated once a contractor is appointed. Construction transport routes / access to the site will be directed away from residential areas and sensitive receptors. Optimal construction access routes will be identified with TMR. Timing of deliveries will also be considered to avoid impacts, and where possible, the number of construction vehicles will be limited.	Construction
Traffic and transport	TT02	Design of site layout minimises traffic queueing	The site layout has been designed so that staff and visitor vehicles are separated from heavy vehicles. The number of weighbridges and their locations on the site have been designed to be sufficient to avoid queuing onto the road network.	Commissioning and Operation
Traffic and transport	TT03	Operational Transport Management Plan	An Operational Traffic Management Plan (OTMP) will be prepared to include measures to reduce the impact of operational traffic. Vehicles transporting waste to and from the site will be appropriately licensed with controls in place. It may also assist in increasing pedestrian safety around the site.	Commissioning and Operation
Traffic and transport	TT04	Design to improve safety of pedestrians and visitors	Detail design to consider the following items to address safety of pedestrians and visitors: - A gated access zebra pedestrian crossing and footpath be provided to allow for the safe movement of pedestrians between the main car park and the main building - The feasibility to provide a signalised or grade-separated pedestrian crossing between the main car park and control room be investigated - The bus bay located on the circulation road north of the ACC building be relocated to reduce pedestrian-vehicle interaction and increase staff parking near the administration building.	Detailed Design
Traffic and transport	TT05	Road safety impact mitigation	Implement recommendations of the road safety impact assessment has been carried out to identify the existing safety risks in the study area and any new or modified risks that result from the proposed development: - A "Turning Vehicles" sign be installed prior to the crest of the curve on Beaudesert Boonah Road, for westbound vehicles, to warn oncoming drivers of the potential for slowing vehicles ahead. - Signage be installed to ensure drivers are aware of the speed reduction to 70km/h. - Signalisation of the Beaudesert Boonah Road / Recycling Street / Site Access intersection, allowing compliant sight distance foe vehicles exiting Recycling Street and reducing potential for crashes between through traffic and turning vehicles at both Recycling Street and SCT Logistics Site Access. - Cleanaway to work with TMR, Department of State Development and the Coordinator General of Queensland to develop operational safety upgrades within the impact assessment area in the interim, prior to outcomes from strategic transport network planning for the Bromelton SDA being implemented. The assessment also recommends that this application be approved from a transport planning and engineering perspective.	Operation
Waste	WA01	Construction Waste Management Plan	A Construction Waste Management Plan will be produced, to include: -Provisions for segregation and separate collection of recoverable materials, including green waste -Waste to be managed in line with the waste hierarchy -Measures for the containment of waste during storage and transport, such as covering, fencing, bunding -Classification of wastes in accordance with the EP Regulation 2021 and requirement that all wastes will be delivered to an appropriately licensed facility for recovery or disposal. Transport documentation to be provided as required.	Construction
Waste	WA02	Hazardous Materials Management Plan	All waste will be appropriately contained at all times onsite. A Hazardous Materials Management Plan will be prepared to outline appropriate control measures.	Construction and Operation
Waste	WA03	Metal recovery process	Processing procedures developed for metals recovery from IBA.	Commissioning and Operation

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Factor	ID	Design commitment / Proposed Safeguards and Environmental Management Measures	Description	Phase
Waste	WA04	Operational Waste Management Plan	Waste will be managed in line with the waste hierarchy. An Operational Waste Management Plan (OWMP) will be developed and will include: -Provision for source separation systems for recyclable materials, including food waste, paper and card and comingled recyclables -Provision for storage and collection of waste -Requirement that all wastes will be delivered to an appropriately licensed facility for recovery or disposal, with transport documentation to be provided as required -No operational waste, other than residual waste from the Administration building and Visitor Centre and other non- process related residual waste bins, will be disposed directly to the tipping hall for energy recovery -Ventilation and vermin proofing.	Operation
Waste	WA05	Septic waste management	Septic waste to be managed in purpose-built portable toilets during construction or septic tanks during operation, serviced by an appropriately licensed contractor/provider.	Construction and Operation
Waste	WA06	Soil remediation	Soil removed during earthworks to be assessed and remediated as necessary (noting site investigations identified some risk of contamination). Noxious weeds are identified through the ecology assessment, a Weed Management Plan will be developed, outlining appropriate control and disposal options.	Construction
Waste	WA07	Design of facility allows for safe handling of thermal treatment residue	IBA: Conveyor to be enclosed to contain IBA and dust. Handling and storage of IBA are undertaken within under cover buildings where spillage can be contained. Dust is controlled by spraying water on the IBA storage piles. Run-off water collected from the IBA and IBAA stockpiles will be contained within a dedicated lined retention pond for recovery and reuse for dust suppression and moisture management. APCr: APCr curing is to occur in an enclosed space within waterproof 'big- bags' which will be closed before transport. 'Big- bags' will limit dust evolution and spillage in the event that a bag is dropped and splits either before or after full curing of the cement stabilised APCr within the bag. Storage area provided is significantly larger than calculations indicate will be required.	Commissioning and Operation
Waste	WA08	Thermal treatment residue monitoring and testing	Ongoing monitoring of IBA generation and storage. IBAA composition and leachability to be tested in accordance with EOW Code requirements (Contingency of off- specification IBAA or IBA during commissioning period only: QLD Regulated Waste classification protocols). Ongoing monitoring of APCr generation and storage. APCr composition and leachability to be tested in accordance with QLD Regulated Waste classification protocols.	Commissioning and Operation

Likelihood	Consequence				
	Insignificant <i>Incident or non-compliance that does not impact on operations. No breach of legislation.</i>	Minor <i>Minor impact confined to works area. No threat to any environmental value including flora and fauna. Technical breach of legislation, potential for litigation or abatement notice. Can be managed through routine activities.</i>	Moderate <i>Impact extends beyond worksite. Investigation required to manage impact. Minor impact on local community or minor involvement of statutory agencies. Impact on flora and fauna is recoverable i.e. damaged but not destroyed. No FFG or EBPC Act listed species impacted. Potential for litigation.</i>	Major <i>Major onsite or moderate offsite impact extending over large area or impact that will adversely impact environmental value long term. Major impact on local community or significant involvement of statutory agencies. Short term threat to community health. Adverse publicity which may impact on reputation. Litigation possible.</i>	Severe <i>Serious long term environmental impairment of ecosystem functions or long term threat to community health. High level of public outrage. Permanent relationship damage. Litigation anticipated.</i>
Almost Certain <i>Risk is expected to occur in most circumstances.</i>	Medium	Medium	High	Extreme	Extreme
Likely <i>Risk will probably occur in most circumstances.</i>	Low	Medium	High	High	Extreme
Possible <i>Risk could occur in some circumstances.</i>	Low	Medium	Medium	High	High
Unlikely <i>Risk may occur in limited circumstances.</i>	Low	Low	Medium	Medium	Medium
Rare <i>Risk may occur only in exceptional circumstances.</i>	Low	Low	Low	Low	Medium