

RISK ASSESSMENT

Table 1 Risk assessment

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Water										
Construction	Stockpiling	Contamination and pollution	Localised degradation of surface water quality due to loss of stockpile containment.	Unlikely (3)	Significant (3)	Moderate	– The soil and water management plan (SWMP), which would be prepared and implemented as part of the CEMP to manage potential impacts to surface water, watercourses, floodplains and groundwater during construction, and would include measures to: - manage watercourse crossings - manage any water present during watercourse crossings - manage any accidental spills and leaks of fuels and chemicals - manage drilling muds and fluids required for HDD - manage the application of dust suppression water, including the quality and quantity of water used, and the rate of application - minimise the use of water - dewater any groundwater inflows that may occur during trenching to the same watercourse - manage and prepare for wet weather, including monitoring potential high-risk events (such as storms), inspections of the CRoW after rainfall and corrective actions (as required).	Unlikely (3)	Minor (2)	Low
Construction	Storage and handling of hazardous materials	Contamination and pollution	Localised degradation of surface water quality (including hydrocarbon contamination and increased turbidity), accidental spills of contaminants (e.g., fuels, oils).	Unlikely (3)	Significant (3)	Moderate	– The SWMP, which would be prepared and implemented as part of the CEMP to manage potential impacts to surface water, watercourses, floodplains and groundwater during construction, and would include measures to: - manage watercourse crossings - manage any water present during watercourse crossings - manage any accidental spills and leaks of fuels and chemicals - manage drilling muds and fluids required for HDD - manage the application of dust suppression water, including the quality and quantity of water used, and the rate of application - minimise the use of water - dewater any groundwater inflows that may occur during trenching to the same watercourse - manage and prepare for wet weather, including monitoring potential high-risk events (such as storms), inspections of the CRoW after rainfall and corrective actions (as required).	Remote (2)	Minor (2)	Negligible
Construction	Clearing and grading	Soil disturbance	Increased run-off velocity, and erosion and sedimentation due to vegetation clearing, topsoil stripping, and surface grading.	Occasional (4)	Significant (3)	Moderate	– A construction SWMP will be prepared and implemented as part of the CEMP to manage potential impacts to surface water, watercourses, floodplains and groundwater during construction. – Construction activities will be planned and sequenced to minimise disturbance to watercourses and floodplains and to avoid high risk hydrological conditions where practicable. – Post construction monitoring and corrective actions will be undertaken to confirm reinstatement performance and stability.	Unlikely (3)	Minor (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Construction	Trenching/trenched crossings	Soil disturbance	Temporary alteration of existing surface drainage patterns and disruption of natural water flow paths due to open-cut trenching and excavation for pipeline installation, including minor watercourse crossings.	Occasional (4)	Significant (3)	Moderate	- Design and construction planning would continue to be refined to so that the project does not materially affect flood storage capacity, flows or characteristics within and in the vicinity of the project site. - The CEMP would include flood and emergency response measures to manage environmental risks, including protocols to manage flood risks, confirm evacuation routes, facilitate evacuation and support flood recovery. - The design of watercourse crossings would continue to be refined to avoid or minimise impacts within and around watercourses as far as practicable, having regard to the identified geomorphic disturbance risk, Riverine Protection Permit Exemption Requirements (Department of Regional Development, Manufacturing and Water, 2023), APGA Code of Environmental Practice Onshore Pipelines (APGA, 2022) and the <i>Best Practice Erosion and Sediment Control Guidelines</i> (IECA, 2025) (including Appendix P: Land-based pipeline construction), and Activities in a watercourse, lake or spring associated with a resource activity or mining operations (Water Act 2000).	Unlikely (3)	Minor (2)	Low
Construction	Trenching/trenched crossings	Soil disturbance	Alteration of shallow groundwater flow pathways due to dewatering required during trenching.	Unlikely (3)	Significant (3)	Moderate	- Design and construction planning would continue to be refined to so that the project does not materially affect flood storage capacity, flows or characteristics within and in the vicinity of the project site. - The CEMP would include flood and emergency response measures to manage environmental risks, including protocols to manage flood risks, confirm evacuation routes, facilitate evacuation and support flood recovery. - The design of watercourse crossings would continue to be refined to avoid or minimise impacts within and around watercourses as far as practicable, having regard to the identified geomorphic disturbance risk, APGA Code of Environmental Practice (APGA, 2022) and the Best Practice Erosion and Sediment Control Guidelines (IECA, 2025) (including Appendix P: Land based pipeline construction).	Remote (2)	Minor (2)	Negligible
Construction	Trenching/trenched crossings	Contamination and pollution	Localised degradation of groundwater quality due to accidental spills of contaminants (e.g. fuels, oils).	Unlikely (3)	Significant (3)	Moderate	- The construction SWMP will include: - controls and procedures to manage the process of HDD, including quality of introduced drilling muds and equipment lubricants (i.e. greases), response to pressure loss events or ground movement (such as stopping work, assessment of situation, additional control measures) and disposal of used drilling fluids and drilling cuttings - controls to manage the quality of hydrotest water - measures for managing fuel and chemical handling, storage, distribution and spill response during construction - procedures for regular inspections of storage areas and equipment - procedures/engineering solutions for potential loss of hydrotest water, to minimise losses to ground should leaks occur (e.g. prompt removal of test water should a leak occur). - the quality of proposed hydrotest water source(s) will be determined and confirm its suitability for use. - hydrotest water will be managed in accordance with Appendix F (Waste Assessment).	Remote (2)	Minor (2)	Negligible
Construction	Trenchless crossings (e.g., HDD)	Soil disturbance; dust	Localised degradation of surface and/or groundwater quality due to ground disturbing works at crossing entry and exit points.	Unlikely (3)	Significant (3)	Moderate	The design of watercourse crossings would continue to be refined to avoid or minimise impacts within and around watercourses as far as practicable, having regard to the identified geomorphic disturbance risk, Riverine Protection Permit Exemption Requirements (Department of Regional Development, Manufacturing and Water, 2023), APGA Code of Environmental Practice Onshore Pipelines (APGA, 2022) and the <i>Best Practice Erosion and Sediment Control Guidelines</i> (IECA, 2025) (including	Remote (2)	Minor (2)	Negligible

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
							Appendix P: Land-based pipeline construction), and Activities in a watercourse, lake or spring associated with a resource activity or mining operations (Water Act 2000). – Installation of impermeable trench breakers will be installed in high-risk areas (e.g. watercourse crossings, wetlands, terrestrial GDEs and where pipeline trench intersects the water table) to control the movement of groundwater along the pipeline trench. – The construction SWMP, which will be prepared and implemented as part of the CEMP, will include measures to: • restrict dewatering to the immediate area of the construction works and minimise extraction volumes • minimise the duration of dewatering activities • collect extracted groundwater for treatment prior to reuse or disposal via irrigation to land.			
Construction	Trenchless crossings (e.g., HDD)	Contamination and pollution	Temporary impacts to shallow groundwater quality and/or surface waters near the drilling area due to the use of drilling muds to remove cuttings and stabilise the borehole.	Unlikely (3)	Significant (3)	Moderate	– The design of watercourse crossings would continue to be refined to avoid or minimise impacts within and around watercourses as far as practicable, having regard to the identified geomorphic disturbance risk,, Riverine Protection Permit Exemption Requirements (Department of Regional Development, Manufacturing and Water, 2023), APGA Code of Environmental Practice Onshore Pipelines (APGA, 2022) and the Best Practice Erosion and Sediment Control Guidelines (IECA, 2025) (including Appendix P: Land based pipeline construction), and Activities in a watercourse, lake or spring associated with a resource activity or mining operations (Water Act 2000). – Installation of impermeable trench breakers will be installed in high-risk areas (e.g. watercourse crossings, wetlands, terrestrial GDEs and where pipeline trench intersects the water table) to control the movement of groundwater along the pipeline trench. – The construction SWMP, which will be prepared and implemented as part of the CEMP, will include measures to: • restrict dewatering to the immediate area of the construction works and minimise extraction volumes • minimise the duration of dewatering activities • collect extracted groundwater for treatment prior to reuse or disposal via irrigation to land.	Remote (2)	Minor (2)	Negligible
Construction	Hydrostatic testing	Contamination and pollution	Localised degradation of surface and/or groundwater quality due to short term discharges of test water.	Unlikely (3)	Significant (3)	Low	– The preferred water supply option/s for construction will be confirmed prior to construction. Any third-party water sources proposed to be used would be sourced from existing water entitlements within long-term annual extraction limits for the water source. – Appropriate testing and hydrogeological assessment will be carried out where necessary, and appropriate approvals obtained, to satisfy the requirements of the Great Artesian Basin and Other Regional Aquifers water management protocol 2017 (State of Queensland, 2019).	Remote (2)	Minor (2)	Negligible
Operation	Routine maintenance, repairs and inspections	Soil disturbance	Impacts to water quality due to short-term increase in erosion and sediment mobilisation where surface disturbance coincides with rainfall, particularly within drainage lines and low lying floodplain areas.	Remote (2)	Significant (3)	Moderate	– The Operational Environmental Management Plan (OEMP) would identify reasonably foreseeable risks relating to water resources and water quality and describe how these risks would be addressed during operations. This would include measures to manage risks associated with the introduction and spread of invasive species and localised degradation of water quality associated with routine maintenance activities and the use of access tracks.	Rare (1)	Significant (3)	Negligible
Decommissioning	Decommissioning of the pipeline	Soil disturbance	Temporary deterioration in surface water quality due to increased erosion and	Unlikely (3)	Minor (2)	Low	– The SWMP prepared and implemented as part of the DEMP would identify reasonably foreseeable risks relating to water resources and water quality	Remote (2)	Minor (2)	Negligible

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
			sediment transport to surface waters and wetlands during decommissioning activities.				and describe how these risks would be addressed during decommissioning. – Limit disturbance to the CRoW during decommissioning works. – Install and maintain erosion and sediment controls during decommissioning works to prevent sediment-laden runoff entering surface waters and wetlands. – Reinststate drainage lines and floodplain surfaces following removal of surface infrastructure to maintain flood conveyance and flow paths following decommissioning.			
Decommissioning	Removal of surface infrastructure	Hydrological changes	Disturbance to drainage lines and floodplains during removal of surface infrastructure.	Remote (2)	Significant (3)	Low		Rare (1)	Significant (3)	Negligible
Decommissioning	Removal of surface infrastructure	Soil disturbance	Reduced wetland function due to loss of wetland surface conditions and hydrological connectivity caused by the short-term disturbance of surface soils and vegetation at locations where surface infrastructure is removed.	Unlikely (3)	Significant (3)	Moderate		Remote (2)	Significant (3)	Low
Soils and land										
Construction	Stockpiling	Soil disturbance; hydrological changes?	Obstruction of overland flow paths, concentration of run off and mobilisation of sediment during rainfall events from stockpiles of excavated materials.	Occasional (4)	Significant (3)	Moderate	– A SWMP will be prepared and implemented as part of the CEMP. The plan will identify reasonably foreseeable risks relating to soil erosion, soil and water quality impacts, including from any contamination, and describe how these risks will be addressed during construction. – The plan would be prepared with reference to relevant guidelines, in particular the APGA Code of Environmental Practice (APGA, 2022) and the <i>Best Practice Erosion and Sediment Control Guidelines</i> (IECA, 2025). – The plan would detail management measures to be implemented, including in relation to: • Areas of higher erosion hazard, saline or sodic soils, including the requirement to prepare site and activity-specific erosion and sediment controls • Managing topsoil and subsoil stockpiles • Managing any unidentified contamination in accordance with an unexpected contaminated finds procedure • Managing any accidental spills or leaks of fuels and chemicals • Managing the application of dust suppression water, including the quality and quantity of water used, and the rate of application • Arrangements for managing wet weather, including monitoring potential high-risk events (such as storms) and specific controls to be applied to dispersive soils and follow-up measures • The process for progressively stabilising disturbed areas in accordance with the rehabilitation strategy.	Remote (2)	Significant (3)	Low
Construction	Storage and handling of hazardous materials	Contamination and pollution	Adverse impacts to soil health due to accidental release or spills of contaminants (e.g., fuels, lubricants, chemicals or wastewater associated with construction plant, equipment and temporary facilities) caused by inappropriate storage and handling of hazardous materials.	Unlikely (3)	Significant (3)	Moderate	– Site and activity-specific ESCP/s would be prepared and include erosion and sediment controls appropriate for site-specific soil types, locations and activities, including the use of soil ameliorants (e.g. gypsum) or polymers as required. – The ESCP/s would be prepared with reference to the APGA Code of Environmental Practice (APGA, 2022) and the <i>Best Practice Erosion and Sediment Control Guidelines</i> (IECA, 2025). – Storage and handling of dangerous and hazardous materials (e.g., fuel, oil, and other chemicals) will be undertaken in accordance with AS 1940:2017 – <i>The storage and handling of flammable and combustible liquids</i> .	Remote (2)	Significant (3)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Construction	Clearing and grading	Soil disturbance	Increased runoff velocities, and erosion and sedimentation caused by vegetation clearing, topsoil stripping and surface grading along the pipeline alignment, ancillary areas and watercourse banks.	Occasional (4)	Significant (3)	Moderate	– A SWMP would be prepared and implemented as part of the CEMP. The plan would identify reasonably foreseeable risks relating to soil erosion, soil and water quality impacts, including from any contamination, and describe how these risks would be addressed during construction. – The plan would be prepared with reference to relevant guidelines, in particular the APGA Code of Environmental Practice (APGA, 2022) and the <i>Best Practice Erosion and Sediment Control Guidelines</i> (IECA, 2025). – The plan would detail management measures to be implemented, including in relation to: • Areas of higher erosion hazard, saline or sodic soils, including the requirement to prepare site and activity-specific erosion and sediment controls • Managing topsoil and subsoil stockpiles • Managing any unidentified contamination in accordance with an unexpected contaminated finds procedure • Managing any accidental spills or leaks of fuels and chemicals • Managing the application of dust suppression water, including the quality and quantity of water used, and the rate of application • Arrangements for managing wet weather, including monitoring potential high-risk events (such as storms) and specific controls to be applied to dispersive soils and follow-up measures • The process for progressively stabilising disturbed areas in accordance with the rehabilitation strategy.	Unlikely (3)	Minor (2)	Low
Construction	Clearing and grading	Soil disturbance	Altered overland flow paths, localised ponding and concentration of flow into erosive pathways due to changes in local topography (e.g., windrows, spoil placement, stockpiles, track construction or temporary bunding) caused by earthworks.	Occasional (4)	Significant (3)	Moderate	– A SWMP will be prepared and implemented as part of the CEMP. The plan will identify reasonably foreseeable risks relating to soil erosion, soil and water quality impacts, including from any contamination, and describe how these risks will be addressed during construction: • managing the application of dust suppression water, including the quality and quantity of water used, and the rate of application • arrangements for managing wet weather, including monitoring potential high-risk events (such as storms) and specific controls to be applied to dispersive soils and follow-up measures.	Unlikely (3)	Minor (2)	Low
Operation	Routine maintenance, repairs and inspections	Soil disturbance	Temporary disturbance to overland flow paths, increased runoff, and erosion and sedimentation during short-term excavation works and stockpiling of excavated materials for pipeline repairs and maintenance.	Remote (2)	Significant (3)	Moderate	– A SWMP will be prepared and implemented as part of the CEMP. The plan will identify reasonably foreseeable risks relating to soil erosion, soil and water quality impacts, including from any contamination, and describe how these risks will be addressed during construction: • undertake refuelling and maintenance in designated, banded areas • conduct regular inspections of storage areas and equipment • storage and handling of dangerous and hazardous materials (e.g., fuel, oil, and other chemicals) will be undertaken in accordance with AS 1940:2017 – The storage and handling of flammable and combustible liquids. • limit dewatering activities to the CRoW and minimise the duration of works and extraction volumes. • inspect and clear drainage features during routine maintenance, repairs and inspections.	Rare (1)	Significant (3)	Negligible
Decommissioning	Decommissioning of the pipeline	Soil disturbance	Increased runoff velocities, and erosion and sedimentation caused by clearing and removal of surface infrastructure.	Remote (2)	Significant (3)	Moderate	– A SWMP would be included in the DEMP and implemented during decommissioning to minimise potential impacts on soils and water quality. The plan would include measures for erosion control, management of any contaminated areas and stabilisation of disturbed areas.	Rare (1)	Minor (2)	Negligible

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Land use and tenure										
Construction	Clearing and grading	Disruption of land use	Disruption to existing agricultural land uses and farm operations, including the movement of livestock and farm machinery. Impacts and/or damage to farm infrastructure, such as farm dams, livestock handling yards, fencing, silos, holding pens and sheds.	Unlikely (3)	Significant (3)	Moderate	– Construction property management plans will be prepared in consultation with landholders affected by the pipeline easement. The plans will include: - measures to reduce property impacts, including impacts on agricultural operations, as far as practicable - measures to provide assurance that disruption to farm operations, including the movement of livestock and farm machinery, is as agreed with individual landholders - details of any required adjustments to and/or replacement of affected farm infrastructure, such as farm dams, livestock handling yards, fencing, silos, holding pens and sheds - biosecurity and rehabilitation measures to be implemented on individual properties. – A rehabilitation strategy will be prepared to guide rehabilitation planning, implementation, monitoring and maintenance of disturbed areas (not occupied by permanent project infrastructure) following the completion of construction. The strategy will: - identify rehabilitation objectives, criteria and requirements in accordance with the APGA Code of Environmental Practice (APGA, 2022) - establish roles and responsibilities - define rehabilitation actions and requirements - define monitoring and maintenance requirements - describe adaptive management approaches if monitoring identifies a need - require consultation with landholders on rehabilitation requirements.	Remote (2)	Significant (3)	Low
Construction	Construction/ upgrade of access tracks	Disruption of land use	Disruption to existing agricultural land uses and farm operations, including the movement of livestock and farm machinery. Impacts and/or damage to farm infrastructure, such as farm dams, livestock handling yards, fencing, silos, holding pens and sheds.	Unlikely (3)	Significant (3)	Moderate		Remote (2)	Significant (3)	Low
Construction	Trenching/trenched crossings	Disruption of land use	Disruption to existing agricultural land uses and farm operations, including the movement of livestock and farm machinery. Impacts and/or damage to farm infrastructure, such as farm dams, livestock handling yards, fencing, silos, holding pens and sheds.	Unlikely (3)	Significant (3)	Moderate		Remote (2)	Significant (3)	Low
Operation	Routine maintenance, repairs and inspections	Disruption of land use	Disruption to existing agricultural land uses and farm operations, including the movement of livestock and farm machinery. Impacts and/or damage to farm infrastructure, such as farm dams, livestock handling yards, fencing, silos, holding pens and sheds.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Operation	Establishment of a pipeline easement	Disruption of land use	Restrictions on the nature of activities that can be carried out within the easement, particularly excavations and ground-intrusive works.	Unlikely (3)	Minor (2)	Low		Unlikely (3)	Minor (2)	Low

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Decommissioning	Decommissioning of the pipeline	Disruption of land use	Disruption to existing agricultural land uses and farm operations, including the movement of livestock and farm machinery. Impacts and/or damage to farm infrastructure, such as farm dams, livestock handling yards, fencing, silos, holding pens and sheds.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Terrestrial ecology										
Construction	Vehicle and/or machinery usage and maintenance	Soil disturbance	Degradation of adjacent vegetation and/or microhabitats relied upon by reptiles and small terrestrial fauna due to soil disturbance during vehicle movements.	Occasional (4)	Significant (3)	Moderate	- Pre-clearing surveys will be undertaken prior to construction within sensitive areas, defined as follows: - vegetated land - areas of riparian vegetation - areas identified by the project ecologist as supporting known or potential habitat, for ground-dwelling and arboreal species. - During pre-clearing surveys, trees in the disturbance footprint with hollows will be marked and avoided where practicable. - Locate storage areas (e.g., stockpiling areas, laydowns) and access tracks/ passing locations outside of vegetated areas where possible, to minimise vegetation removal required. - Develop a site-specific ESCP in accordance with IECA standards (2025), including the protection of sensitive habitats using erosion and sediment controls. - All stripped topsoil and sub-soils are to be placed outside of waterways in designated stockpiling areas located above the top of bank and secured by erosion and sediment controls. - Stabilise disturbed areas promptly following completion of works.	Unlikely (3)	Minor (2)	Low
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Increased risk of fauna injury or mortality due to vehicle interactions.	Unlikely (3)	Significant (3)	Moderate	- Limit vehicle movements to designated access tracks. - Notify fauna spotter-catchers or suitably qualified environmental representatives if fauna injury occurs. - Where required, high-risk and low-risk SMPs will be prepared for threatened species, in accordance with the NC Act. - Prepare and implement incident response procedures for any wildlife injury or mortality during construction.	Remote (2)	Significant (3)	Low
Construction	Vehicle and/or machinery usage and maintenance	Light; noise	Altered species behaviours due to temporary increases in exposure to light and noise during localised nighttime maintenance.	Occasional (4)	Minor (2)	Low	- Direct lighting away from sensitive habitats where possible. - Use broadband reversing alarms instead of tonal beepers. - Use water carts to manage dust generation on the CRoW and access tracks. - Minimise night works and artificial light to safety requirements to reduce spill into adjacent bushland. - Maintain equipment to keep noise within acceptable limits, with regular monitoring of dust and noise. - Stabilise disturbed areas promptly following completion of works. - Limit construction works to daylight hours wherever feasible to reduce light and noise impacts to nocturnal fauna.	Unlikely (3)	Minor (2)	Low
Construction	Vehicle and/or machinery usage and maintenance	Invasive species	Introduction and/or spread of pest animals and weeds along access routes and around stockpile areas, due	Unlikely (3)	Significant (3)	Moderate	A biosecurity management plan will be prepared and implemented as part of the CEMP, including measures to minimise the potential for biodiversity	Remote (2)	Significant (3)	Low

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			to the operation of vehicles and machinery, particularly where vehicle hygiene and weed management controls are not adequately implemented.				risks in accordance with the general biosecurity obligation under the Biosecurity Act (Qld). – Implement procedures for vehicle washdown procedures, weed-free materials and feral animal control coordinated with landholders and in accordance with the CEMP. – Undertake active feral pest monitoring during construction, particularly for feral cats via deployment of active controls such as Felixer grooming traps at locations along the pipeline alignment where cat faeces have been observed. – Record sightings/evidence of pest animals during construction. – Prohibit construction staff from bringing domestic animals to site. – Record all sightings or evidence of pest animals during construction. If increased densities of pest animals are observed, or new pest animals are identified, humane pest controls to be implemented to manage numbers. Avoiding the use of rodenticides and other poisons to minimise the risk of secondary poisoning to raptors and other predatory species.			
Construction	Storage and handling of hazardous materials	Contamination and pollution	Habitat degradation due to accidental spills of contaminants (e.g., fuels, oils), and concrete washout.	Unlikely (3)	Significant (3)	Moderate	– A biosecurity management plan would be prepared and implemented as part of the CEMP, including measures to minimise the potential for biodiversity risks in accordance with the general biosecurity obligation under the Biosecurity Act (Qld). – Limit disturbance to the CRoW and approved access tracks to protected retained vegetation and support reinstatement. – Regulated waste is disposed of at appropriately licensed facilities. – Implement responsible waste management protocols in including the use of secure temporary containers and offsite disposal of all wastes. – Develop and implement a site-specific ESCP in accordance with IECA standards (IECA, 2008), including the protection of sensitive habitats using erosion and sediment controls, and the management of dispersive soils. – Stripped topsoil and sub-soils to be placed outside of waterways in designated stockpiling areas located above the top of the bank and secured by erosion and sediment controls.	Remote (2)	Significant (3)	Low
Construction	Clearing and grading	Vegetation clearing and habitat degradation	Reduction of shelter and foraging opportunities for fauna due to the removal of established habitat and vegetation (including trees, logs, ground cover, and other microhabitats).	Occasional (4)	Significant (3)	Moderate	– Pre-clearing surveys would be undertaken prior to construction within sensitive areas, defined as follows: • vegetated land • areas of riparian vegetation • areas identified by the project ecologist as supporting known or potential habitat, for ground-dwelling and arboreal species. – During pre-clearing surveys, trees in the disturbance footprint with hollows would be marked and avoided where practicable. – Tree hollows in hollow-bearing trees within areas to be cleared would be assessed by the ecologist for suitability for salvage and relocation. – Fauna detected during surveys would be relocated in accordance with the appropriate animal ethics and legislative permits. – Use HDD at the Wilsons River crossing to avoid direct impacts to high-value habitats (e.g., HBTs, potential breeding places for conservation significant species, etc.). – Locate storage areas (e.g., stockpiling areas, laydowns) and access tracks/ passing locations outside of vegetated areas where possible, to minimise vegetation removal required – Clearly define approved clearing extents using detailed spatial mapping, with vegetation clearing constrained through marking of the CRoW boundary using highly visible pegs or markers.	Unlikely (3)	Significant (3)	Moderate

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							- Physical demarcation (e.g. fencing or flagging) would be applied locally where required at sensitive environmental features or exclusion zones. - GPS-enabled machinery post physical marking of the CRoW boundary and geofenced construction boundaries. - Clearing to proceed sequentially to allow fauna to disperse into adjacent habitat. - Respreding of topsoil and ripping to occur as soon as practicable following trench backfilling, including spreading of vegetation and large woody debris. - Reinstate landform, contours and drainage to a stable condition as soon as practicable following completion of works. - Permit natural regrowth of temporary disturbance areas as soon as practicable. - Undertake photo-point and performance indicator monitoring until stable vegetation cover and final acceptance criteria are achieved.			
Construction	Clearing and grading	Vegetation clearing and habitat degradation	Localised displacement or mortality of fauna due to disturbance of tree hollows, nests and roost sites.	Occasional (4)	Significant (3)	Moderate	- Undertake pre-clearance surveys for all potential breeding places of wildlife and conservation-significant species. - All clearing is supervised by suitably qualified fauna spotter-catchers, with relocation of fauna to the nearest safe habitat as required. - Fauna handling is undertaken under the appropriate animal ethics and legislative permits. - Where required, high-risk and low-risk SMPs would be prepared for threatened species, in accordance with the NC Act.	Unlikely (3)	Significant (3)	Moderate
Construction	Clearing and grading	Soil disturbance; hydrological changes	Degradation of habitat due to altered hydrology and/or concentration of runoff due to soil disturbance and temporary stormwater.	Unlikely (3)	Significant (3)	Moderate	- Develop and implement a site-specific ESCP in accordance with IECA standards (IECA, 2008), including the protection of sensitive habitats using erosion and sediment controls, and the management of dispersive soils through installation of diversion banks on slopes and progressive stabilisation - Place stripped soils outside waterways and stabilise using erosion controls. - Undertake bed and bank stabilisation as soon as practicable post completion of works once subsurface is achieved. - Design crossings to maintain floodplain connectivity and natural hydrology. - Incorporate flood/storm contingency procedures to protect environmental values during severe weather.	Remote (2)	Significant (3)	Low
Construction	Construction/ upgrade of access tracks	Dust; light; noise; vibration	Altered species behaviours due to temporary increases in exposure to dust, light, noise and vibration during localised night works.	Unlikely (3)	Minor (2)	Low	- Use water carts on the CRoW and access tracks to minimise generation of dust - Use broadband reversing alarms instead of tonal beepers - Lighting is directed away from sensitive habitats where possible - Minimise night works and minimise the use of artificial light to safety requirements to reduce spill into adjacent bushland - Maintain equipment to keep noise within acceptable limits and undertake regular monitoring of dust and noise - Stabilise disturbed areas promptly after completion of works - Limit construction works to daylight hours wherever feasible to reduce light and noise impacts to nocturnal fauna.	Remote (2)	Minor (2)	Low

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Construction	Trenching/trenched crossings	Soil disturbance	Entrapment of reptiles, small mammals (e.g., plains rat) and ground birds in open trenches.	Unlikely (3)	Significant (3)	Moderate	- Pre-clearance surveys for fauna and potential breeding places to be supervised by suitably qualified fauna spotter-catchers, with relocation of fauna to the nearest safe habitat - Install fauna ramps every 500 m and fauna refuge bags every 100–200 m, and undertake daily inspections of trenches - Any fauna handling must be conducted under the relevant permits - Where required, high-risk and low-risk SMPs will be prepared for threatened species, in accordance with the NC Act - Prepare and implement incident response procedures for any wildlife injury or mortality during construction - Implement trench management measures including daily inspections of trenches and twice daily in the event of extreme heat waves.	Remote (2)	Significant (3)	Low
Construction	Trenching/trenched crossings	Dust; light; noise; vibration	Altered species behaviours due to temporary increases in exposure to dust, light, noise and vibration during localised night works.	Unlikely (3)	Minor (2)	Low	- Use water carts on the CRow and access tracks to minimise generation of dust. - Use broadband reversing alarms instead of tonal beepers. - Lighting is directed away from sensitive habitats where possible.	Remote (2)	Minor (2)	Low
Construction	Trenchless crossings (e.g., HDD)	Dust; light; noise; vibration	Altered species behaviours due to temporary increases in exposure to dust, light, noise and vibration during localised night works.	Unlikely (3)	Minor (2)	Low	- Limit night and artificial light to safety requirements to reduce spill to adjacent bushland where reasonably practicable. - Limit night works and minimise the use of artificial light to safety requirements to reduce spill into adjacent bushland. - Maintain equipment to keep noise within acceptable limits and undertake regular monitoring of dust and noise. - Stabilise disturbed areas promptly after completion of works.	Remote (2)	Minor (2)	Low
Construction	Hydrostatic testing	Light; noise; vibration	Altered species behaviours due to temporary increases in exposure to light, noise and vibration during localised night works.	Unlikely (3)	Minor (2)	Low	- Use broadband reversing alarms instead of tonal beepers. - Lighting is directed away from sensitive habitats where possible. - Limit construction works to daylight hours where feasible to reduce light and noise impacts to nocturnal fauna. - Minimise night works and minimise the use of artificial light to safety requirements to reduce spill into adjacent bushland. - Maintain equipment to keep noise within acceptable limits and undertake regular monitoring of dust and noise.	Remote (2)	Minor (2)	Low
Operation	Vehicle movement	Invasive species	Introduction and/or spread of weeds along access routes, due to the movement of vehicles during routine maintenance, particularly where vehicle hygiene and weed management controls are not adequately implemented.	Unlikely (3)	Significant (3)	Moderate	- A biosecurity management plan will be prepared and implemented as part of the CEMP, including measures to minimise the potential for biodiversity risks in accordance with the general biosecurity obligation under the Biosecurity Act (Qld). - Undertake annual weed inspections for at least three years post-construction, including treatment of any outbreaks as required. - Mapping of major weed infestations identified during pre-clearing surveys and tailored management responses are incorporated into the project OEMP. - Implement vehicle wash-down and pest reporting protocols during operations. - Report monitoring outcomes within the Annual Return Update Report where required.	Remote (2)	Significant (3)	Low
Operation	Vehicle movement	Vehicle collision	Fauna injury or mortality through vehicle strikes during routine maintenance and repairs.	Remote (2)	Significant (3)	Moderate	- Notify fauna spotter-catchers or suitably qualified environmental representatives if fauna injury occurs. - Any fauna handling must be conducted under the relevant permits.	Rare (1)	Significant (3)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Operation	Routine maintenance, repairs and inspections	Dust; light; noise; vibration	Disturbance of fauna during localised routine maintenance.	Unlikely (3)	Minor (2)	Low	– Use water carts to manage dust generation on access tracks. – Direct lighting away from sensitive habitats where possible. – Use broadband reversing alarms instead of tonal beepers. – Limit night works and artificial light to safety requirements to reduce spill into adjacent bushland. – Maintain equipment to keep noise within acceptable limits, with regular monitoring of dust and noise. – Limit onsite maintenance to daylight hours wherever feasible to reduce light/noise impacts on nocturnal fauna. – Maintain entrapment prevention measures as per the construction phase.	Remote (2)	Minor (2)	Negligible
Decommissioning	Decommissioning of the pipeline	Vegetation clearing and habitat degradation	Localised habitat degradation and/or injury or mortality of fauna caused by decommissioning activities.	Remote (2)	Significant (3)	Moderate	– Limit disturbance to the CRow and approved access tracks to protected retained vegetation and support reinstatement. – Reinstatement landform, contours and drainage to a stable condition as soon as practicable following the completion of works, and prior to revegetation. – Commence revegetation of temporary disturbance areas as soon as practicable after reinstatement. – Undertake photo-point monitoring and performance indicator monitoring until stable vegetation cover and final acceptance criteria are achieved.	Rare (1)	Significant (3)	Negligible
Aquatic ecology										
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision; soil disturbance; vegetation clearing and habitat degradation	Injury or mortality of aquatic fauna due to direct contact, crushing, or disturbance of habitat during construction within or adjacent to waterways.	Unlikely (3)	Minor (2)	Low	– Measures to manage potential impacts on instream habitat and fish passage would be included in the construction SWMP (as part of the CEMP) with reference to the <i>Management and protection of marine plants and other tidal fish habitats</i> (Couchman & Beumer, 2007) and the <i>Accepted development requirements for operational work that is constructing or raising waterway barrier works</i> (DPI, 2025), including: • Any large woody debris (i.e. snags) that may be disturbed by watercourse crossings would be temporarily relocated and replaced as close as practicable to the original location and orientation relative to the bank. • Measures for dewatering and fish salvage at watercourse crossings, if required. – In the event that water is present, or rain events occur during construction at waterway crossings/wetlands, develop a dewatering management plan to identify appropriate management strategies for aquatic fauna to minimise injury and death during construction. – Notify fauna spotter-catchers or suitably qualified environmental representatives if fauna injury occurs. A fauna spotter must have formal training or demonstrated skills, such as being a qualified ecologist, zoologist, or holding a rehabilitation permit.	Remote (2)	Minor (2)	Negligible
Construction	Vehicle and/or machinery usage and maintenance	Invasive species	Spread of aquatic weeds leading to a reduction in habitat quality for native aquatic species, due to inappropriate wash down of vehicles and/or machinery before entering or exiting site.	Unlikely (3)	Significant (3)	Moderate	– A biosecurity management plan would be prepared and implemented as part of the CEMP and OEMP, including measures to minimise the potential for biodiversity risks in accordance with the general biosecurity obligation under the Biosecurity Act (Qld). – Undertake a pre-clearing weed and pest surveys to document areas of existing weed and pest infestations for treatment and management. – Implement machinery and vehicle washdown procedures in accordance with the project CEMP. – Record all sightings or evidence of pest animals during construction. If increased densities of pest animals are observed, or new pest animals are identified, humane pest controls will be implemented to manage numbers.	Remote (2)	Minor (2)	Negligible

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Construction	Stockpiling	Soil disturbance	Degradation of aquatic habitat due to the mobilisation of sediment from the loss of stockpile containment.	Unlikely (3)	Significant (3)	Moderate	- Measures to manage potential impacts on instream habitat and fish passage would be included in the construction SWMP (as part of the CEMP) with reference to the <i>Management and protection of marine plants and other tidal fish habitats</i> (Couchman & Beumer, 2007) and the <i>Accepted development requirements for operational work that is constructing or raising waterway barrier works</i> (DPI, 2025), including: - any large woody debris (i.e. snags) that may be disturbed by watercourse crossings would be temporarily relocated and replaced as close as practicable to the original location and orientation relative to the bank measures for dewatering and fish salvage at watercourse crossings, if required, measures for dewatering and fish salvage at watercourse crossings, if required. - Undertake rehabilitation of creeks as soon as reasonably practicable after completion of the crossing including the reinstatement of large woody debris. - Progressively compact or stabilise ground surfaces as required during construction works. - Implement specific management procedures for soils rated as having ‘moderate’ or worse erosion potential during construction of the pipeline, and confirm that they are not left exposed for any significant period of time without stabilisation - Chemicals and fuels shall be stored ≥50 m away from watercourses, where practicable. Storage and handling of dangerous and hazardous materials (e.g. fuel, oil and other chemicals) will be undertaken in accordance with AS 1940:2017 The storage and handling of flammable and combustible liquids. - Visually monitor aquatic habitats immediately upstream and downstream of the construction footprints for signs of degradation during construction. - Implement measures for managing fuel and chemical handling, storage, distribution and spill response during construction.	Unlikely (3)	Minor (2)	Low
Construction	Storage and handling of hazardous materials	Contamination and pollution	Degradation of downstream environments due to accidental spillage of contaminants (e.g., fuels and lubricants) required for the operation of machinery.	Unlikely (3)	Significant (3)	Moderate	- Measures to manage potential impacts on instream habitat and fish passage would be included in the construction SWMP (as part of the CEMP) with reference to the <i>Management and protection of marine plants and other tidal fish habitats</i> (Couchman & Beumer, 2007) and the <i>Accepted development requirements for operational work that is constructing or raising waterway barrier works</i> (DPI, 2025). - A biosecurity management plan would be prepared and implemented as part of the CEMP, including measures to minimise the potential for biodiversity risks in accordance with the general biosecurity obligation under the Biosecurity Act (Qld).	Unlikely (3)	Minor (2)	Low
Construction	Clearing and grading	Vegetation clearing and habitat degradation; soil disturbance	Temporary degradation of aquatic habitat during earthworks within the bed and banks of waterways and the removal of surrounding riparian vegetation.	Occasional (4)	Significant (3)	Moderate	- Confirm that the following waterway crossing methods are adopted: - special crossing methods for higher risk waterways - HDD for Wilson River. - Develop a reinstatement plan for high risk (red) waterways, prioritising engineered bed and bank stabilisation measures to ensure long term channel stability post installation. - All waterway crossing structures are to consider the suite of fish present in the waterway and the fish species’ passage requirements. - The design and construction planning of watercourse crossings would continue to be refined to further avoid or minimise impacts on riparian and instream vegetation as far as practicable.	Unlikely (3)	Minor (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
							– The rehabilitation strategy would include measures to provide for the rehabilitation (including revegetation where appropriate) of watercourses and riparian areas disturbed during construction. – Implement erosion and sediment measures in accordance with the project ESCP. – Rehabilitation of banks will be completed as soon as reasonably practicable after completion of the crossing including reinstatement of large woody debris. – Implement specific management procedures for soils rated as having ‘moderate’ or worse erosion potential during construction of the pipeline, and do not leave them exposed for any significant period of time without stabilisation. – Visually monitor aquatic habitats immediately upstream and downstream of the construction footprints for signs of degradation during construction.			
Construction	Clearing and grading	Invasive species	Spread of pest fish species though the disturbance and degradation of waterways (including accidental translocation of fish or fish eggs), allowing the pest fish to outcompete and cause localised displacement of native fish.	Remote (2)	Significant (3)	Low	– A biosecurity management plan would be prepared and implemented as part of the CEMP, including measures to minimise the potential for biodiversity risks in accordance with the general biosecurity obligation under the Biosecurity Act (Qld) such as: • Implement machinery and vehicle washdown procedures in accordance with the project CEMP • Undertake a pre-clearing weed and pest surveys to document areas of existing weed and pest infestations for treatment and management. • Incorporating descriptions and mapping of major weed infestations identified during a pre-clearing survey and appropriate management actions to be undertaken. • Record all sightings or evidence of pest animals during construction. If increased densities of pest animals are observed, or new pest animals are identified, humane pest controls will be implemented to manage numbers.	Rare (1)	Minor (2)	Negligible
Construction	Trenching/trenched crossings	Vegetation clearing and habitat degradation; soil disturbance	Injury and/or mortality of aquatic fauna during trenching activities, including excavation, dewatering and establishment of coffer dams.	Unlikely (3)	Minor (2)	Low	– Prioritise that the design and construction of the pipeline is compliant with the waterway barrier works acceptable development requirements for green and amber waterways, to avoid adverse impacts on flow and aquatic fauna movement. – Adopt the following waterway crossing methods: • Special crossing methods for higher risk waterways • HDD for the Wilson River. – Develop a dewatering management plan to identify appropriate management strategies for aquatic fauna, in the event that water is present, or rain events occur during construction at waterway crossings/wetlands.	Rare (1)	Minor (2)	Negligible
Construction	Trenching/trenched crossings	Light; noise; vibration	Altered species behaviours and disruption to the balance of inter species interactions, due to temporary increases in exposure to light, noise and vibration during construction.	Occasional (4)	Minor (2)	Low	– Select the timing of works within waterways and wetlands to minimise impacts (direct and indirect disturbances) to affected fauna habitats during optimum breeding periods, where reasonably practicable – Noise and vibration impacts are managed in accordance with the project CEMP – Direct lighting to minimise light spill into adjacent areas of waterways, wetlands, and vegetated areas – Service and maintain all plant and equipment to minimise machinery noise as much as possible – Minimise night works and limit site lighting to the minimum needed for safety.	Unlikely (3)	Minor (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Operation	Vehicle movement	Dust; soil disturbance; contamination and pollution; air quality and odour	Degradation of water quality due to vehicular movements and installation through the generation of dust, sedimentation and erosion, potential spills of oils, fuels and particles generated by exhaust.	Unlikely (3)	Significant (3)	Moderate	– The Operational Environmental Management Plan (OEMP) would identify reasonably foreseeable risks relating to water resources and water quality and describe how these risks would be addressed during operations. This would include measures to manage risks associated with the introduction and spread of invasive species and localised degradation of water quality associated with routine maintenance activities and the use of access tracks. – Implement measures for managing fuel and chemical handling, storage, distribution and spill response during construction. – Chemicals or fuels shall be stored ≥50 m away from watercourses, where practicable. Storage and handling of dangerous and hazardous materials (e.g. fuel, oil and other chemicals) will be undertaken in accordance with AS 1940:2017 The storage and handling of flammable and combustible liquids.	Remote (2)	Significant (3)	Low
Operation	Routine maintenance, repairs and inspections	Contamination and pollution	Localised degradation of aquatic systems caused by natural gas leakage from pipes.	Remote (2)	Significant (3)	Low	– The OEMP will identify reasonably foreseeable risks relating to aquatic ecology and describe measures to avoid, minimise and manage impacts during operations, including site-specific controls, procedures and responsibilities. – Implement fuel and chemical handling, storage and distribution procedures in accordance with the project OEMP.	Rare (1)	Minor (2)	Negligible
Operation	Facility usage	Contamination and pollution	Degradation of downstream habitat quality and/or potential harm to aquatic fauna due to general waste (e.g., drink bottles and cans, plastic wrappers and/or larger material) generated by personnel on-site entering surrounding waterways.	Remote (2)	Significant (3)	Low	– The OEMP will identify reasonably foreseeable risks relating to aquatic ecology and describe measures to avoid, minimise and manage impacts during operations, including site-specific controls, procedures and responsibilities. – Undertake regular construction site housekeeping to prevent litter entering waterways; including the provision of waste bins, regular site inspections.	Rare (1)	Minor (2)	Negligible
Operation	Routine maintenance, repairs and inspections	Invasive species	Potential to facilitate the introduction and spread of weed species through disturbance of soil, vegetation and ground cover, and through the transfer of weed propagules (e.g. seeds or vegetative material) on vehicles, machinery, equipment and personnel.	Remote (2)	Significant (3)	Low	– Undertake a pre-clearing weed and pest surveys to document areas of existing weed and pest infestations for treatment and management. – Prepare a biosecurity management plan that incorporates descriptions and mapping of major weed infestations identified during a pre-clearing survey and appropriate management actions to be undertaken. – Implement fuel and chemical handling, storage and distribution procedures in accordance with the project OEMP.	Rare (1)	Minor (2)	Negligible
Decommissioning	Decommissioning of the pipeline	Contamination and pollution	Contamination of waterways due to gas leakage or contamination during decommissioning works.	Remote (2)	Significant (3)	Low	– Prepare and implement an abandonment plan for the decommissioning of the pipeline, in accordance with AS 2885. – Implement erosion and sediment control measures during decommissioning works in accordance with the project ESCP, to prevent sediment laden runoff entering surface waters and wetlands.	Rare (1)	Minor (2)	Negligible

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Heritage										
Construction	Construction/ upgrade of access tracks	Interaction with a heritage place or heritage values	Damage or disturbance to recorded Aboriginal cultural heritage places or values during ground disturbing works, resulting in harm to cultural values and regulatory non-compliance.	Unlikely (3)	Significant (3)	Moderate	– An unexpected finds and human skeletal remains procedure would be developed and included in the cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal or non-Aboriginal heritage items or human skeletal remains. • Undertake all ground-disturbing works in accordance with the approved Cultural Heritage Management Agreement (or agreed cultural heritage management procedures). • Delineate all approved disturbance areas and cultural heritage exclusion zones on construction drawings and on site. • Cover cultural heritage responsibilities and stop work requirements in inductions and toolbox training. • Supervision of works in heritage-sensitive areas by a suitably qualified heritage specialist where required. • Implement avoidance measures and design refinements to minimise heritage disturbance.	Remote (2)	Significant (3)	Low
Construction	Construction/ upgrade of access tracks	Interaction with a heritage place or heritage values	Unintentional damage or destruction of previously unidentified Aboriginal cultural heritage items or places during the construction/upgrade of access tracks.	Unlikely (3)	Significant (3)	Moderate	– An unexpected finds and human skeletal remains procedure would be developed and included in the cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal or non-Aboriginal heritage items or human skeletal remains. • Prepare and implement an Unexpected Finds Protocol for all ground-disturbing works. • Cease works immediately and establish exclusion zones if suspected heritage material is identified. • Notify the Environmental Manager and relevant Traditional Owner representatives as soon as possible. • Engage a suitably qualified heritage specialist to assess the find and advise on management. • Recommence works only following approval under the agreed heritage management process.	Remote (2)	Significant (3)	Low
Construction	Trenching/trenched crossings	Interaction with a heritage place or heritage values	Damage or disturbance to recorded Aboriginal cultural heritage places or values during ground-disturbing works, resulting in harm to cultural values and regulatory non-compliance.	Unlikely (3)	Significant (3)	Moderate	– An unexpected finds and human skeletal remains procedure would be developed and included in the cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal or non-Aboriginal heritage items or human skeletal remains. • Undertake all ground disturbing works in accordance with the approved Cultural Heritage Management Plan (or agreed cultural heritage management procedures). • Delineate all approved disturbance areas and cultural heritage exclusion zones on construction drawings and on site. • Cover cultural heritage responsibilities and stop work requirements in inductions and toolbox training. • Supervision of works in heritage sensitive areas by a suitably qualified heritage specialist where required. • Implement avoidance measures and design refinements to minimise heritage disturbance.	Remote (2)	Significant (3)	Low
Construction	Trenching/trenched crossings.	Interaction with a heritage place or heritage values	Unintentional damage or destruction of previously unidentified Aboriginal cultural heritage items or places during the construction of trenchless crossings.	Unlikely (3)	Significant (3)	Moderate	– An unexpected finds and human skeletal remains procedure would be developed and included in the cultural heritage management plan to provide a consistent method for managing any unexpected Aboriginal or non-Aboriginal heritage items or human skeletal remains. • Prepare and implement an Unexpected Finds Protocol for all ground disturbing works.	Remote (2)	Significant (3)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
							- Cease works immediately and establish exclusion zones if suspected heritage material is identified. - Notify the Environmental Manager and relevant Traditional Owner representatives as soon as possible. - Engage a suitably qualified heritage specialist to assess the find and advise on management. - Recommence works only following approval under the agreed heritage management process.			
Air quality										
Construction	Vehicle and/or machinery usage and maintenance	Dust	Generation of dust particles due the movement of vehicles and/or machinery on unpaved access tracks.	Occasional (4)	Minor (2)	Low	- Air quality management measures will be included in the CEMP and implemented during construction. The CEMP will detail processes, responsibilities and measures to manage air quality and minimise the potential for impacts during construction. The CEMP will include, but not be limited to: - A map identifying locations of sensitive receptors - Potential sources of emissions to air - Air quality management objectives consistent with the Environmental Protection (Air) Policy 2019 - Management measures to be implemented, including preferred methods for dust suppression and triggers for implementation - A process for monitoring dust on site and weather conditions. - Limit vehicle movements to designated access tracks to minimise dust lift-off from roads. - Mitigation measures to minimise dust emissions and potential amenity impacts are implemented in accordance with the project CEMP as required where dust from project-related traffic movements is impacting, or has the potential to impact, sensitive receivers (including those within 250 m of unsealed access tracks and roads) and will be adjusted where monitoring or complaints indicate exceedances.	Unlikely (3)	Minor (2)	Low
Construction	Vehicle and/or machinery usage and maintenance	Air quality and odour	Combustion emissions and air toxics generated by diesel-powered plant, generators, heavy and light vehicles and mobile construction machinery.	Occasional (4)	Minor (2)	Low	- Air quality management measures would be included in the CEMP and implemented during construction. The CEMP would detail processes, responsibilities and measures to manage air quality and minimise the potential for impacts during construction. The CEMP would include, but not be limited to: - A map identifying locations of sensitive receptors - Potential sources of emissions to air - Air quality management objectives consistent with the Environmental Protection (Air) Policy 2019 - Management measures to be implemented, including preferred methods for dust suppression and triggers for implementation - A process for monitoring dust on site and weather conditions.	Unlikely (3)	Minor (2)	Low
Construction	Stockpiling	Dust	Dust generation due to wind erosion on exposed stockpiles.	Occasional (4)	Minor (2)	Low	- Potential sources of emissions to air - Air quality management objectives consistent with the Environmental Protection (Air) Policy 2019 - Management measures to be implemented, including preferred methods for dust suppression and triggers for implementation - A process for monitoring dust on site and weather conditions.	Unlikely (2)	Minor (2)	Low
Construction	Clearing and grading	Dust	Generation of dust due to vegetation clearing, top soil stripping, grading and leveling.	Occasional (4)	Minor (2)	Low		Unlikely (3)	Minor (2)	Low
Construction	Construction/ upgrade of access tracks	Dust	Generation of dust during the construction of unpaved access tracks.	Occasional (4)	Minor (2)	Low		Unlikely (3)	Minor (2)	Low
Construction	Trenching/trenched crossings	Dust	Generation of dust due to mechanical extraction of soil during trenching.	Occasional (4)	Minor (2)	Low		Unlikely (3)	Minor (2)	Low
Construction	Lowering in and backfilling	Dust	Generation of dust due to backfilling of extracted soil.	Occasional (4)	Minor (2)	Low		Unlikely (3)	Minor (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Operation	Vehicle movement	Dust	Generation of dust due to vehicle use by field staff around the project site on paved and un-paved road surfaces.	Unlikely (3)	Minor (2)	Low	– Measures to minimise dust emissions associated with vehicle movements on unsealed roads during operation of the project would be consistent with those applied during construction.	Remote (2)	Minor (2)	Negligible
Decommissioning	Decommissioning of the pipeline	Dust; air quality and odour	Impacts to air quality as a result of residual gas and dust generated by short term surface disturbance and the use of construction type equipment and vehicles.	Unlikely (3)	Minor (2)	Low	– Measures to minimise dust emissions associated with vehicle movements on unsealed roads during operation of the project would be consistent with those applied during construction.	Remote (2)	Minimal (1)	Negligible
Noise and vibration										
Construction	Clearing and grading	Noise; vibration	Impacts to human health, wellbeing and amenity and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values during vegetation removal, levelling and top soil stripping.	Unlikely (3)	Minor (2)	Low	– A noise and vibration management plan would be prepared and implemented as part of the CEMP for all construction activities within 1km of a noise sensitive receptor. The plan would identify: • Potentially high noise and vibration generating activities associated with construction • Measures to manage identified impacts • Arrangements for consultation with potentially affected sensitive receptors, including notification and complaint handling procedures • An out-of-hours work protocol to define the process for considering, approving and managing out of hours work. The protocol would include implementing feasible and reasonable measures and communication requirements. • Manage noise levels to comply with the relevant noise criteria. – Where vibration intensive activities are planned within the safe-working distances, reasonable and practicable mitigation measures will be implemented. These measures will include, but not limited to: • Alternative construction methods and equipment with lower source vibration levels will be investigated and implemented, where practicable • Schedule the use of vibration-intensive equipment during the least sensitive times of the day.	Remote (2)	Minor (2)	Negligible
Construction	Construction of temporary accommodation facilities	Noise; vibration	Impacts to human health, wellbeing and amenity and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values during works required for the construction of the temporary accommodation facilities.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Construction	Stringing and bending	Noise; vibration	Impacts to human health, wellbeing and amenity and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values during the stringing and bending of the pipeline.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Construction	Trenching/trenched crossings	Noise; vibration	Blasting, where required to, may generate short-duration, high-intensity noise and ground vibration, with associated potential for localised dust generation and disturbance to nearby receptors and fauna.	Unlikely (3)	Significant (3)	Moderate	– The need for blasting would be confirmed during detailed construction planning. In the event that blasting is required, the blast parameters would be designed, and allowable charge mass confirmed, to achieve the airblast overpressure and ground vibration requirements of the Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZEC, 1990). This would include trial blasting and airblast/vibration monitoring to confirm site-specific constraints and refine safe blasting distances.	Remote (2)	Significant (3)	Low
Construction	Trenching/trenched crossings	Noise; vibration	Impacts to human health, wellbeing and amenity	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
			and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values during the operation of construction plant and equipment (e.g., excavators, rock hammers and, where necessary, controlled blasting).				– A noise and vibration management plan would be prepared and implemented as part of the CEMP for all construction activities within 1km of a noise sensitive receptor. The plan would identify: – Potentially high noise and vibration generating activities associated with construction – Measures to manage identified impacts – Arrangements for consultation with potentially affected sensitive receptors, including notification and complaint handling procedures – An out-of-hours work protocol to define the process for considering, approving and managing out of hours work. The protocol would include implementing feasible and reasonable measures and communication requirements. – Manage noise levels to comply with the relevant noise criteria. – Where vibration intensive activities are planned within the safe-working distances, reasonable and practicable mitigation measures will be implemented. These measures will include, but not limited to: – Alternative construction methods and equipment with lower source vibration levels will be investigated and implemented, where practicable – Schedule the use of vibration-intensive equipment during the least sensitive times of the day			
Construction	Trenchless crossings (e.g., HDD)	Noise; vibration	Impacts to human health, wellbeing and amenity and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values during the operation of specialised drilling equipment, support plant and ancillary machinery.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Construction	Lowering in and backfilling	Noise; vibration	Impacts to human health, wellbeing and amenity and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values by the use of excavators, side booms, compactors and other equipment to place the pipeline within the trench and backfill.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Decommissioning	Decommissioning of the pipeline	Noise; vibration	Impacts to human health, wellbeing and amenity and/or disruption of species behaviours due to the generation of noise and/or vibration in exceedance of guideline values by the use of excavators, side booms, compactors and other equipment for the decommissioning of the pipeline.	Unlikely (3)	Minor (2)	Low	– A noise and vibration subplan will be included in the decommissioning environmental management plan and implemented during decommissioning to minimise the potential for impacts on sensitive receptors. Measures will include, but not be limited to: • scheduling noisier activities during standard hours where feasible • arrangements for consultation with affected sensitive receptors, including notification and complaint handling procedures • measures to manage potential noise impacts.	Remote (2)	Minor (2)	Negligible
Waste										
Construction	Storage and handling of hazardous materials	Contamination and pollution	Risk to human health from direct contact, ingestion or inhalation of hazardous waste materials.	Remote (2)	Significant (3)	Low	– Measures to manage waste would be included in the CEMP and implemented during construction. The measures would adopt circular economy principles and the waste hierarchy contained in the Waste Reduction and Recycling Act 2011. The measures would detail processes, responsibilities and actions to manage waste and minimise the potential for impacts during construction.	Rare (1)	Significant (3)	Negligible
Construction	Storage and handling of hazardous materials	Contamination and pollution	Contamination of air, soil, surface water and/or groundwater through the	Unlikely (3)	Significant (3)	Moderate		Remote (2)	Significant (3)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
			inappropriate storage, transport and disposal of waste.							
Construction	Storage and handling of hazardous materials	Air quality and odour	Odour generated during transportation and handling of waste.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Construction	Storage and handling of hazardous materials	Invasive species	Attraction of pests and/or disease vectors due to irregular or disrupted collections of waste enabling build up.	Unlikely (3)	Minor (2)	Low		Remote (2)	Minor (2)	Negligible
Operation	Routine maintenance, repairs and inspections	Contamination and pollution	Contamination of air, soil, surface water and/or groundwater through the inappropriate disposal of waste from vehicle/plant equipment maintenance (such as adhesives, lubricants, waste fuels and oils, chemicals, engine coolant, batteries, tyres, etc.).	Remote (2)	Significant (3)	Low	All waste would be classified and managed in accordance with the EP Act and the Environmental Protection Regulation 2019 (or any relevant resource recovery orders and exemptions). This includes the handling and disposal of regulated and/or hazardous waste by appropriately qualified and licenced contractors.	Rare (1)	Significant (3)	Negligible
Decommissioning	Removal of surface infrastructure	Contamination and pollution	Contamination of air, soil, surface water and/or groundwater through the inappropriate disposal of waste from decommissioning activities.	Remote (2)	Significant (3)	Low	Measures to manage waste would be included in the DEMP and implemented during decommissioning. The measures would detail processes, responsibilities and actions to manage waste and minimise the potential for impacts during decommissioning in accordance with relevant statutory requirements and waste guidelines.	Rare (1)	Significant (2)	Negligible
Transport and traffic										
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (immobilisation of heavy vehicles, and off-carriageway type crashes on Warri Gate Road caused by damage to the ground surface on unsealed sections of road)	Remote (2)	Major (4)	Moderate	- A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. - Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. - The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. - Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. - The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Remote (2)	Significant (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (head-on and off carriageway type crashes on Warri Gate Road due to narrow carriageway, with no sealed road shoulder; and two way movement, especially when a heavy vehicle is involved and is likely to require one vehicle to stop or slow on the side of the road to let the other pass)	Unlikely (3)	Major (4)	High	– A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. – Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. – The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. – Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. – The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Unlikely (3)	Significant (3)	Moderate
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (off-carriageway type crashes on Warri Gate Road as a result of poor visibility due to a lack of street lighting)	Remote (2)	Major (4)	Moderate	– A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. – Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. – The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. – Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. – The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Remote (2)	Significant (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (off-carriageway and roll-over type crashes on Warri Gate Road due to heavy vehicles travel on shoulders to avoid damaged road sections caused by flooding in the area)	Remote (2)	Major (4)	Moderate	– A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. – Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. – The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. – Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. – The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Remote (2)	Significant (2)	Low
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (closure of unsealed roads (at least 24 hours) due to heavy rainfall and flash flooding, with drivers required to stop (or potentially travel back) during forecast rain events)	Remote (2)	Major (4)	Moderate	– A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. – Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. – The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. – Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. – The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Remote (2)	Significant (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (increased risk of run-off road type crashes on Warri Gate Road caused by fatigue due to absence of heavy vehicle rest stop provisions)	Remote (2)	Major (4)	Moderate	– A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. – Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. – The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. – Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. – The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Remote (2)	Significant (2)	Negligible
Construction	Vehicle and/or machinery usage and maintenance	Vehicle collision	Vehicle and/or machinery usage and maintenance (increased risk of rear-end or side-on crashes due to increased proportion of heavy vehicles expected to turn in/out of the vehicle access just before the Bulloo Developmental Road intersection)	Rare (1)	Significant (3)	Negligible	– A traffic management plan would be prepared and implemented as part of the CEMP. The plan would detail measures to minimise potential traffic, transport and access impacts during construction, including measures to maintain the safe and efficient operation of roads and transport infrastructure. – Appropriate traffic control measures would be adopted to manage road user safety, such that it is not impacted by construction-related vehicles travelling to and from the project site. The plan would include a driver's code of conduct for haulage operations to define appropriate driver behaviour and safety requirements for drivers operating heavy vehicles on public roads. – The plan would be prepared in consultation with relevant stakeholders, including the TMR, Quilpie and Bulloo Shire Councils. – Condition surveys of local roads and access tracks proposed to be used or affected during construction would be completed prior to and following construction, and provided to the relevant road authority. – The construction contractor would confirm the dimensions and proposed routing of OSOM vehicles to be used and apply for the necessary permits prior to undertaking OSOM movements. The assessment would consider the shortest and least trafficked route for OSOM vehicles to minimise the risk to other motorists.	Rare (1)	Significant (3)	Negligible
Decommissioning	Decommissioning of the pipeline	Vehicle collision	Vehicle and/or machinery usage for the decommissioning of the pipeline and associated activities	Remote (2)	Major (4)	Moderate	– A traffic management plan would be included in the DEMP and implemented during decommissioning to manage potential impacts on traffic, transport and access. The plan would include, but not be limited to: • appropriate traffic control measures • driver's code of conduct for haulage operation • consultation with relevant stakeholders, including landholders and Bulloo Shire Council.	Remote (2)	Significant (2)	Low

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Greenhouse gas										
Construction	Vehicle and/or machinery usage and maintenance	Contamination and pollution	Greenhouse gas emissions generated by fuel consumption from construction equipment, transportation of pipes from stockpiles to pipe corridor, and staff travel to and from site (from camp to pipeline corridor).	Frequent (5)	Significant (3)	High	– Opportunities to reduce greenhouse gas emissions would be investigated and implemented as far as practicable including, but not limited to: • Source pipes produced using low energy consuming processes and/or from a closer supplier to minimise shipping distances. • Select trucks with higher fuel efficiency and lower greenhouse gas emissions. • Optimise operational schedules to reduce idle times and unnecessary fuel consumption. • Use biofuels or other low-carbon alternatives where feasible. • Undertake regular maintenance of equipment in accordance with manufacturers specifications for optimal performance and minimise emissions. • Educate operators on efficient driving and equipment handling techniques to minimise fuel use. • Greenhouse gas emissions to be monitored and reported in accordance with applicable reporting requirements, with opportunities for efficiency improvements during construction and operation. • Minimise clearing of vegetation by minimising the CRoW where possible, or diverting the pipeline route to avoid higher density vegetation. • Use solar and battery arrangements to provide power to the temporary accommodation facilities. • Greenhouse gas emissions to be monitored and reported in accordance with applicable reporting requirements, with opportunities for efficiency improvements during construction and operation. • Select vehicles with higher fuel efficiency and lower greenhouse gas emissions.	Remote (2)	Significant (3)	Low
Construction	Clearing and grading	Vegetation clearing and habitat degradation	Greenhouse gas emissions generated by vegetation clearing and a loss of carbon sink, which may contribute to climate change and subsequently indirectly affect ecosystem health.	Occasional (4)	Major (4)	High		Unlikely (3)	Major (4)	Moderate
Operation	Vehicle movement	Demand for resources and facilities	Greenhouse gas by generated from diesel used during staff travel to and from site to undertake routine and emergency maintenance.	Occasional (4)	Significant (3)	Moderate		Remote (2)	Significant (3)	Low
Operation	Facility usage	Demand for resources and facilities	Greenhouse gas emissions generated by the consumption of electricity by above ground infrastructure, including scraper station, beginning of line facility, and main line valve.	Occasional (4)	Significant (3)	Moderate		Unlikely (3)	Significant (3)	Moderate

Project phase	Activity	Impact factor	Environmental impact	Initial risk			Mitigations and controls	Residual risk		
				Likelihood	Consequence	Risk level		Likelihood	Consequence	Risk level
Decommissioning	Decommissioning of the pipeline	Contamination and pollution	Greenhouse gas emissions generated by venting and flaring of natural gas, and diesel consumption from mobile plant and/or vehicles and stationery diesel powered equipment.	Unlikely (3)	Significant (3)	Moderate	- Establish a robust monitoring system to track greenhouse gas emissions throughout the project lifecycle. - Greenhouse gas emissions to be monitored and reported in accordance with applicable reporting requirements, with opportunities for efficiency improvements during construction and operation. - Purchase renewable electricity for beginning of line operational equipment. - Investigate solar and battery arrangement for beginning of line operational facilities. - Greenhouse gas emissions to be monitored and reported in accordance with applicable reporting requirements, with opportunities for efficiency improvements during construction and operation. - Maximise draw down of the pipe to reduce the amount of residual gas left in the pipeline. - Flare as much residual gas as possible, to reduce the volume of gas released to the atmosphere. - Select vehicles with higher fuel efficiency and lower greenhouse gas emissions. - Use solar and battery arrangements to provide power to the camps. - Use biofuels or other low-carbon alternatives where feasible. - Explore the use of electric or hybrid vehicles for on-site transportation. - Greenhouse gas emissions to be monitored and reported in accordance with applicable reporting requirements, with opportunities for efficiency improvements during construction and operation.	Remote (2)	Significant (3)	Low