Executive Summary

This Referral report was prepared to inform the Northern Territory Environment Protection Authority (NT EPA) of the proposal by Aurizon Operations Limited (Aurizon) to expand the Berrimah Freight Terminal at East Arm, near Darwin.

This document provides supporting information to the Referral Form for the Berrimah Freight Terminal Expansion Project, submitted under Section 48 of the Northern Territory (NT) *Environment Protection Act 2019* (EP Act) to the NT EPA

The Berrimah Freight Terminal Expansion Project site (Project site) is situated approximately 6.5 km east of the Darwin Central Business District and approximately 2 km north-east of the East Arm Wharf, on the East Arm Peninsula. Road access to the site is via Berrimah Road, which links the site to the Darwin road network, including the Stuart Highway and Tiger Brennan Drive.

The bulk of the Project site is located on 330 Berrimah Road, East Arm (Section 5412 Hundred of Bagot), which is zoned RW (Railway) under the *NT Planning Scheme* and currently supports mostly areas of terrestrial and mangrove vegetation. The remainder of the project will located on the existing rail terminal (Section 5411; zoned RW) and part of 270 Berrimah Road, East Arm (Section 6082 Hundred of Bagot). Section 6082 will contain the access road, which will enter the site from the existing Berrimah Road/Wishart Road intersection. This Section is zoned DV (Development) under the *NT Planning Scheme* and also currently supports areas of terrestrial and mangrove vegetation.

The construction of the Berrimah Freight Terminal Expansion Project will involve:

- Clearing – approximately 40 ha of mangrove and terrestrial vegetation
- Seawall construction – reuse of existing rock with import of approximately 12,000 m^3 of quarry rock
- Reclaim – import of approximately 600,000 m^3 of clean fill
- Services – installation of power, communications, water and sewage infrastructure
- Hardstand, roads and rail line – import of approximately 190,000 m^3 of engineered material for the installation of transport infrastructure and work surfaces
- Buildings – construction of security gatehouse, security fencing and CCTV infrastructure.

Whilst the Project is still in the concept design phase, the project footprint has reduced significantly from initial concepts to totally avoid a potential migratory shorebird habitat in the western portion of Section 5412. The design will be finalised by a Design and Construction Contractor, however, is not expected to materially change from the concept design presented in this referral.

The NT EPA has developed a framework for the assessment of environmental impact. The framework uses 14 environmental factors divided in five themes to provide a systematic approach to organising environmental information and to establish environmental objectives against which proposals will be assessed. The pre-referral screening undertaken by SLR determined that the Project has potential to impact 11 of the 14 environmental factors.

This referral has considered the potential environmental impacts of the proposed Project in line with the *Referring a proposal to the NT EPA* guidance for proponents. Technical studies were undertaken to assess the impacts on the key environmental factors and a risk-based approach has been applied to developing and evaluating effective mitigation and management measures. An iterative approach was then taken to ensure that the mitigation and management measures were appropriate to achieve an acceptable level of residual risk.

Factor	Objective	Potential Impacts	Mitigations
LAND			
Landforms	Conserve the variety and integrity of distinctive physical landforms.	NA	NA
Terrestrial Environmental Quality	Protect the quality and integrity of land and soils so that environmental values are supported and maintained.	• Mangrove and terrestrial vegetation clearing. • Dust generation. • Stormwater runoff contamination. • ASS disturbance.	• Construction methodologies to contain sediment and minimise the likelihood of impacting acid sulfate soils. • Erosion and Sediment Control Plan prepared and implemented. • Stormwater management in line with WSUD incorporated into design. • Acid Sulfate Soils Management Plan should acid sulfate soils be impacted.
Terrestrial Ecosystems	Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.	• Land clearing impacts to: ○ Threatened flora Darwin Cycad. ○ Threatened fauna species occurring or likely to occur on site. ○ Sensitive and significant mangrove. • Threatened species and habitat may be impacted with potential spread of weeds.	• Pre-clearance surveys to identify and potentially relocate fauna prior to clearing • Works in the western portion of the project footprint undertaken during the Dry Season to limit the likelihood of impacting migratory shorebirds
WATER			
Hydrological Processes	Protect the hydrological regimes of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.	• Surface water runoff into Bleesers Creek. • Altered surface water flow. • Groundwater recharge.	• Erosion and Sediment Control Plan prepared and implemented. • Acid Sulfate Soils Management Plan including methodologies to avoid impacts to potential acid sulfate soils.
Inland Water Environmental Quality	Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.	• Surface water runoff into Bleesers Creek.	• Erosion and Sediment Control Plan prepared and implemented. • Acid Sulfate Soils Management Plan including methodologies to avoid impacts to potential acid sulfate soils.
Aquatic Ecosystems	Protect aquatic habitats to maintain environmental values including biodiversity,	NA	NA

Factor	Objective	Potential Impacts	Mitigations
	ecological integrity and ecological functioning.		
SEA			
Coastal Processes	Protect the geophysical and hydrological processes that shape coastal morphology so that the environmental values of the coast are maintained.	• Surface water runoff into Bleesers Creek.	• Erosion and Sediment Control Plan prepared and implemented. • Acid Sulfate Soils Management Plan including methodologies to avoid impacts to potential acid sulfate soils.
Marine Environmental Quality	Protect the quality and productivity of water, sediment and biota so that environmental values are maintained.	• Surface water runoff into Bleesers Creek. • Cumulative impacts.	• Erosion and Sediment Control Plan prepared and implemented. • Acid Sulfate Soils Management Plan including methodologies to avoid impacts to potential acid sulfate soils.
Marine Ecosystems	Protect marine habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.	Surface water runoff into Bleesers Creek. Cumulative impacts.	• Erosion and Sediment Control Plan prepared and implemented. • Acid Sulfate Soils Management Plan including methodologies to avoid impacts to potential acid sulfate soils.
AIR			
Air Quality	Protect air quality and minimise emissions and their impact so that environmental values are maintained.	• Dust impacts • Airbourne toxicants	• Limit travel distances and speeds • Dust mitigations such as the use of water trucks
Atmospheric Processes	Minimise greenhouse gas emissions so as to contribute to the NT Government's goal of achieving net zero greenhouse gas emissions by 2050.	• Construction emissions • Operational emissions	• Air Quality Impacts and GHG Assessment
PEOPLE			
Community and Economy	Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.	• Economic impacts (positive) • Traffic impacts during construction • Noise impacts during construction and operation. • Stakeholder concerns.	• Economic Impact Assessment • Traffic Impact assessment • Construction Noise Assessment • Operations Noise Assessment • Stakeholder engagement
Culture and Heritage	Protect culture and heritage.	NA	NA

Factor	Objective	Potential Impacts	Mitigations
Human Health	Protect the health of the Northern Territory population.	• Biting insect impacts • Potential for UXOs	• Desktop assessments

The construction methodologies, such as the development of the outer seawall first, will be the key mitigation to prevent Project impacts off site. The land clearing and reclaim activities will be undertaken to prevent the likelihood of sediment and acid drainage being generated and from leaving the Project site. All Project works will also be scheduled to avoid specific tidal or Wet Season impacts on the works. The referral details an Environmental Management Framework that will be implemented by the Construction Contractor for the delivery of the Project. The Framework identifies and describes the relevant management plans that are required for the Project's construction and operation to enable the Proponent to fulfil its environmental and social commitments and obligations.

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) aims to protect Matters of National Environmental Significance (MNES). The Berrimah Freight Terminal Expansion Project is likely to significantly impact upon a listed threatened species, namely the Mitchell's Water Monitor (*Varanus mitchelli*). As a result, this project will also be referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water for assessment under the EPBC Act.