

16

Socio-economics



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16 SOCIO-ECONOMICS

16.1 INTRODUCTION

This section provides a summary of the key findings of the social and economic impact assessments for the Aurukun Bauxite Project (the project). The Social Impact Assessment (SIA) was undertaken by Hansen Bailey and is provided in the *Social Impact Assessment* (Appendix S). The Economic Impact Assessment (EIA) was undertaken by Gillespie Economics and is provided in the *Economic Impact Assessment* (Appendix T).

16.2 REGULATORY REQUIREMENTS

16.2.1 Strong and Sustainable Resource Communities Act

The *Strong and Sustainable Resource Communities Act 2017* (Qld) (SSRC Act) is administered by the Queensland Department of State Development, Infrastructure, Local Government and Planning (DSDILGP). The objective of the SSRC Act is to ensure that residents of communities in the vicinity of large resource projects benefit from the construction and operation of these projects.

The SSRC Act applies to any large resource project that has a nearby regional community. The SSRC Act defines what is meant by a large resource project and a nearby regional community. The project is a large resource project for the purposes of the SSRC Act. The communities of Aurukun, Napranum, Mapoon and Weipa are defined as nearby regional communities for the project (Section 16.3.2).

The SSRC Act has the following three core elements:

- Prohibition of 100% fly-in, fly-out (FIFO) workforce arrangements – The SSRC Act prohibits the use of 100% FIFO workforce arrangements on operational large resource projects that have a nearby regional community.
- Anti-discrimination provisions – The provisions of the SSRC Act make it an offence for large resource projects to discriminate against locals in the future recruitment of workers.
- Preparation of an SIA – An SIA is a mandatory component of any Environmental Impact Statement (EIS) for large resource projects. The SIA must be prepared in accordance with the DSDILGP *Social Impact Assessment Guideline* (SIA Guideline) (Department of State Development, Manufacturing, Infrastructure and Planning, 2018), discussed in Section 16.2.2. The SSRC Act establishes requirements, including key matters that must be addressed, for the conduct of an SIA for large resource projects.

16.2.2 Social Impact Assessment Guideline

The SIA Guideline is administered by the DSDILGP and supports the implementation of the SSRC Act. The SIA Guideline documents the approach to the preparation of SIAs for all projects subject to an EIS process under either the *State Development and Public Works Organisation Act 1971* (Qld), or the *Environmental Protection Act 1994* (Qld).

The SIA Guideline identifies the following five key matters for consideration in the SIA:

- Community and stakeholder engagement;
- Workforce management;
- Housing and accommodation;
- Local business and industry procurement; and
- Health and community well-being.

The SIA Guideline describes the scope, objectives and detail that are to be provided in the SIA for each key matter. The SIA Guideline establishes a requirement for the preparation of a Social Impact Management Plan (SIMP) and the inclusion of the SIMP in the SIA. It also emphasises the importance of community and stakeholder engagement to inform the development of the SIA.

The SIA has been undertaken in accordance with the SIA Guideline.

16.2.3 Economic Impact Assessment Guideline

The *Economic Impact Assessment Guideline* (EIA Guideline) (Department of State Development, 2017) is administered by the DSDILGP. The EIA Guideline outlines the requirements for an EclA undertaken as part of an EIS. These requirements include the completion of a Regional Impact Analysis (RIA) and a Cost Benefit Analysis (CBA). The EIA Guideline describes a number of different methodologies to inform these analyses including, but not limited to, Input-Output (IO) Analysis, but does not mandate a single methodology.

The EclA has been undertaken in accordance with the EIA Guideline.

16.3 PROJECT SETTING

The project site is located approximately 600 km north-west of Cairns in a remote area of western Cape York (Figure 16-1). The nearest township to the project site is Aurukun, which is located 23 km to the south-west. Aurukun is both a remote¹ and discrete² Indigenous community. The project site is located approximately 35 km south of Weipa township and straddles the boundary between the Aurukun Shire Local Government Area (LGA) (Aurukun LGA) and the Cook Shire LGA (Cook LGA) (Figure 16-2). The project site is located on the lands of the Wik Waya People.

16.3.1 Aurukun Local Government Area

The Aurukun LGA is located on the west coast of Cape York Peninsula. The township of Aurukun is the only urban centre in the Aurukun LGA. In 2019, the Aurukun LGA had an estimated resident population of 1,418 people (Australian Bureau of Statistics [ABS], 2020). The Aurukun LGA population fluctuates significantly based on the season (i.e. wet and dry seasons), and when activities and events are occurring in the township. The majority (90.2%) of the Aurukun LGA population identify as Aboriginal and/or Torres Strait Islander (ABS, 2017). In addition to the resident population, there are a significant number of temporary residents engaged in the delivery of key services (e.g. health services) and development projects (e.g. housing). The Traditional Owners of the Aurukun area are recognised as the Wik and Wik Waya People.

¹ Remote communities are those communities within the area defined as 'remote' or 'very remote' under the ABS Standard Geographical Classification Remoteness Structure.

² Discrete communities are bounded geographical locations inhabited predominantly by Aboriginal and/or Torres Strait Islander people, with housing or infrastructure owned or managed on a community basis (AIHW, 2019).

Aurukun township is approximately 210 km by road (i.e. two and a half hours drive) from Weipa township and approximately 830 km by road (i.e. 10 hour drive) from the city of Cairns, via the Peninsula Developmental Road. The Peninsula Developmental Road connects Cape York with the Cairns region. Approximately 200 km of the Peninsula Developmental Road remains unsealed. Aurukun township is only accessible by road during the dry season. During the wet season limits and/or restrictions may be placed on both the Peninsula Developmental Road and the Aurukun Road. As a result, access to and from the Aurukun township by road becomes extremely difficult and the community becomes further isolated.

The Aurukun LGA is subject to an Alcohol Management Plan (i.e. restricted alcohol area).

The social characteristics of the Aurukun community are summarised in Section 16.5.1.

16.3.2 Regional Communities

The closest communities to the Aurukun LGA are the regional centre of Weipa and the Indigenous community of Napranum (Figure 16-2). Both communities are located more than two hours drive north of Aurukun township. Weipa township is located on the west coast of Cape York within the Weipa Town Authority (Weipa LGA) and is considered a key centre in western Cape York. Napranum township is located within the Napranum Aboriginal Shire Council LGA (Napranum LGA) and is situated immediately south of the Weipa LGA on the Embley River. The social environment of both Weipa and Napranum LGAs is summarised in Section 16.5.2.

The SSRC Act defines nearby regional communities, for the purpose of SIAs, as a town, any part of which is within a 125 km radius of the main access to a large resource project, and that has a population of more than 200 people. The nearby regional communities for the project are defined as Aurukun, Napranum, Mapoon and Weipa. Section 5 of the *Social Impact Assessment* (Appendix S) describes the nearby regional communities for the project, and also identifies the potentially affected communities for the project i.e. the study area (Section 16.4.1). Aurukun, Napranum and Weipa are considered potentially affected communities for the project.

16.4 METHODOLOGY

This section provides an overview of the SIA and EclA methodologies.

16.4.1 SIA Methodology

The methodology for the SIA included the following key components:

- Identifying the SIA Study Area including nearby regional communities as defined under the SSRC Act;
- Profiling the socio-economic environment of the SIA Study Area;
- Identifying and assessing potential socio-economic impacts; and
- Developing appropriate management measures to address socio-economic impacts and to enhance potential opportunities.

Each component of the SIA methodology is described further in the following sections. The methodology addresses the requirements of the SIA Guideline and SSRC Act.

Consultation with relevant stakeholders was inherent in each step of the SIA methodology. SIA consultation was conducted to gather information on community perceptions, to inform the characterisation of the current social setting and to assist in the prediction of potential social impacts and opportunities.

The purpose of SIA consultation was to:

- Gather and validate social baseline data including community values and aspirations;
- Understand cultural dynamics;
- Identify the different individuals, groups and communities that may be affected by the project;
- Inform an understanding of the different stakeholder perceptions of the project;
- Scope and validate project related social impacts and opportunities; and
- Inform development of management and enhancement measures.

Numerous consultation methods and tools (i.e. interviews, face-to-face meetings, presentations, telephone discussions, community information sessions, displays and stalls, and project information dissemination through physical handouts, images and updates to community members) were utilised to inform the SIA.

The SIA methodology and associated consultation is described in detail in the *Social Impact Assessment* (Appendix S).

Identification of the SIA Study Area

The SIA Study Area is summarised in Table 16-1 and described in detail in Section 5.3 of the *Social Impact Assessment* (Appendix S).

Table 16-1 SIA Study Area

STUDY AREA	DESCRIPTION
Local Study Area	<p>The Local Study Area encompasses the:</p> <ul style="list-style-type: none"> ● Project site within the Aurukun and Cook LGAs; ● Aurukun LGA, including Aurukun township and recreational locations used by Traditional Owners such as Waterfall Outstation; and ● Amban Outstation, the nearest sensitive receptor to the project site, located in the Cook LGA (Figure 16-3). <p>Aurukun township is the only community located within a one hour drive of the project site.</p>
Regional Study Area	<p>The Regional Study Area is defined by the boundaries of the Aurukun, Napranum and Weipa LGA and includes the regional communities of Aurukun, Weipa and Napranum, all of which have also been defined as potentially affected communities.</p>
SIA Economic Catchment	<p>For the purposes of the SIA, the project Economic Catchment of the project is defined as the combined area of Aurukun LGA, Kowanyama Aboriginal Shire Council LGA (Kowanyama LGA), Weipa LGA, Mapoon Aboriginal Shire Council LGA (Mapoon LGA), Napranum LGA, Pormpuraaw Aboriginal Shire Council LGA (Pormpuraaw LGA), Coen State Suburb (which includes the urban footprint of Coen) and Cairns Statistical Area Level 4 (SA4³). These areas are illustrated in Figure 16-1.</p>

It should be noted that whilst the Cook LGA is located adjacent to, and includes a portion of, the project site, it is not included in the SIA Study Area as there are no communities proximate to the project site (i.e. within 125 km of the project site), that are located in the Cook LGA. However, the Coen State Suburb, that is located within the Cook LGA, is considered within the SIA Economic Catchment as the township of Coen is located on the Peninsula Developmental Road and the community of Coen has strong Traditional Owner connections with the Aurukun township.

³ SA4 are geographical areas built from whole Statistical Areas Level 3. The SA4 regions are the largest sub-State regions in the Main Structure of the Australian Statistical Geography Standard and have been designed for the output of a variety of regional data, including data from the 2016 Census of Population and Housing (ABS, 2017).

Profiling of the Socio-economic Environment

A variety of desktop and consultative sources were used to profile the communities of the SIA Study Area. The principal sources included:

- Literature review;
- Quantitative data collection and analysis; and
- Project consultation programs, including consultation with Traditional Owners and the Aurukun community (Section 3 – Consultation).

The SIA was originally prepared in 2020 and based on data from the 2016 census. Although the ABS has undertaken a more recent census, there are issues with the accuracy of any census data in remote Aboriginal communities and consequently the SIA relies on other sources to confirm key social baseline data. For this reason, the 2021 Census data is not likely to provide a more accurate baseline on which to base the assessment of social impacts. For this reason, the SIA has not been updated to reflect the 2021 Census data, and continues to be based on the 2016 Census, supplemented, where necessary, with data from interviews with service providers, Government agencies and non-Government organisations.

Identification and Assessment of Potential Socio-economic Impacts

The potential socio-economic impacts and opportunities of each phase of the project were identified through an initial scoping exercise. Potential impacts and opportunities were then assessed with reference to the social baseline conditions and the findings of consultation with Aurukun residents and local service providers. The significance of each identified impact and opportunity was determined using a risk-based assessment framework, as described in the *Social Impact Assessment* (Appendix S). The assessment focused on the impacts and opportunities likely to affect communities.

A summary of the potential socio-economic impacts and opportunities of the project is presented in Section 16.7. A comprehensive description of the impacts and opportunities of the project is presented in the *Social Impact Assessment* (Appendix S).

Development of Appropriate Management Measures

Mitigation and management measures were identified in consultation with the proponent and key stakeholders. The timeframe for implementation, roles and responsibilities, stakeholders, and potential partnerships were also identified for each of the proposed management measures. These measures were considered in evaluating the likelihood and severity of potential impacts and opportunities.

16.4.2 A comprehensive description of the management measures is presented in the *Social Impact Assessment* (Appendix S). The *Social Impact Assessment* (Appendix S) also includes a SIMP. The SIMP is included as Appendix A of the *Social Impact Assessment* (Appendix S) and documents the primary strategies for the management and/or enhancement of key potential social impacts. EclA Methodology

The economic impacts and opportunities of the project have been estimated using CBA and RIA. The RIA was based on IO Analysis. CBA determines the costs and benefits of a project to all members of society (i.e. consumers, producers and the broader society as represented by the government). IO Analysis identifies the economic activity of a project on the economy in terms of the direct and indirect effects. The methodology addresses the regulatory requirements of the EIA Guideline.

The economic impacts and opportunities of the project have been identified for the following geographical areas:

- Western Cape (combined areas of the Aurukun LGA, Weipa LGA and Napranum LGA) – The Western Cape is defined as the local economy for the purposes of the EclA.
- Cairns SA4 – The project would draw on labour and suppliers in the Cairns region. The regional economy is therefore defined as Cairns SA4 for the EclA.

16.5 EXISTING SOCIO-ECONOMIC ENVIRONMENT

An overview of the existing socio-economic environment of the Local and Regional Study Areas is provided in the following sections. A more detailed description is included in the *Social Impact Assessment* (Appendix S).

16.5.1 Local Social Environment

Aurukun is home to the Wik and Wik Waya People. The Wik and Wik Waya People are united by a strong culture of kinship, ceremony and language.

Despite a turbulent history of governance by others, land rights and social unrest, the Aurukun people show resilience and a love for Aurukun township.

The socio-economic characteristics of Aurukun township are similar to other remote Indigenous communities and include:

- High levels of welfare dependency;
- Low levels of literacy and numeracy;
- Low levels of school attendance;
- Overcrowding of houses;
- Poor environmental health; and
- Endemic issues with substance abuse.

Aurukun residents experience significant barriers to workforce participation and job retention. This in turn has resulted in high levels of welfare dependency and a strong and continuous cycle of poverty in the Aurukun LGA.

Governance Arrangements

Local Government

The Aurukun Shire Council (ASC) has planning responsibility for the Aurukun LGA. Responsibilities of the ASC include the:

- Provision of traditional council services including road maintenance, water reticulation and supply, sewerage infrastructure and waste management, animal control, and food premises licensing;
- Management of Aurukun Airport;
- Allocation of social housing to the Aurukun community and management of ASC owned housing assets; and
- Provision and management of a range of community infrastructure and services including Chivaree Aged Care Centre, Sport and Recreation programs, Koolkan Early Childhood Centre and Family Support Hub, and the Wo'uw Ko'alam Community Centre (Figure 16-4).

Community Governance

In addition to the ASC, the community governance arrangements operating in Aurukun are summarised in Table 16-2.

Table 16-2 Aurukun Community Governance Arrangements

COMMUNITY GOVERNANCE	DESCRIPTION
Elders	Elders are considered leaders amongst the community. The elders in the Aurukun community provide a sense of governance in how Aurukun is managed and operated. An elder is typically an older person in community but can also be someone who holds cultural knowledge of Aurukun and the surrounding lands.
Family Responsibility Commission (FRC)	The FRC operates to restore local authority and has the ability to refer community members to support services to receive welfare benefits. The FRC is governed by the <i>Family Responsibilities Commission Act 2008</i> (Qld) (Family Responsibilities Commission, 2015).
Aurukun Community Justice Group (CJG)	The CJG provides essential support and services to Aboriginal and/or Torres Strait Islander people who have come into contact with the criminal justice system. The majority of the CJG members are respected elders and Traditional Owners in the community (Department of Justice and Attorney General, 2012).

Population and Demography

In 2019, the Aurukun LGA had an estimated resident population of 1,418 people (ABS, 2020). The estimated resident population at the time of the ABS 2016 Census was 1,269 people (ABS, 2017), suggesting growth in the Aurukun population over the following three years. However, this growth is likely due to short-term population fluctuations associated with changes in season and community events. Aurukun LGA has a very young population, with a median age of 28 years in 2016 compared to 37 years for Queensland in 2016. At the time of the 2016 ABS Census, 28.8% of the Aurukun LGA was aged less than 15 years old, and less than 5.0 % of the population was aged over 65 years old, compared to 19.4% and 15.3%, respectively, for Queensland (ABS, 2017). Family households make up 80.3% of the Aurukun LGA and couple families with children make up 40.7% of all families in the Aurukun LGA.

Wik and Wik Waya Cultural Identity

"[Indigenous cultural identity begins] at birth and is developed by the environment in which [people] grow up...cultural identity provides a sense of belonging. For Indigenous peoples, their culture is the essence of who they are, who they belong to, where they come from, how they relate to one another" (Indigenous Corporate Training Inc, 2018).

For the Wik and Wik Waya People, as Traditional Owners for the Aurukun area, cultural identity is defined primarily by:

- Language;
- Connection to country;
- Responsibility and obligation;
- Cultural practices; and

- Relationships between people.

Culture is at the centre of the social conditions of the Wik and Wik Waya People and determines how people live their everyday lives. During consultation with Wik and Wik Waya People, the importance of culture and doing things in a culturally appropriate manner was emphasised, and it was noted that there was a list of unwritten but well understood and respected rules. Wik and Wik Waya People themselves use the English word 'culture' primarily to refer to their various rituals, their origin and other myths, their totemic institutions, their relationship to land, and their languages. Language is an integral component of the Wik and Wik Waya cultural Identity. There have traditionally been many distinct languages used in the Aurukun community. Wik Mungkan is the common language of the Aurukun community.

The Aurukun community is rich in traditional cultural practices. Each of the five clan groups within the Aurukun community carry out different practices. Practices typically include those surrounding ceremonies, death, hunting, and artwork. Country is intrinsically linked with these practices and the histories, rituals and ceremonies of the Wik and Wik Waya People, and has been folded into the fabric of Wik and Wik Waya culture and consciousness. Ritual and ceremonial activities engender a type of religious connection with the land. Wik and Wik Waya People have a cultural responsibility to care for country.

Aboriginal cultural values also include a strong focus on family and wider kin relationships and responsibilities. These responsibilities extend to relationships with land, animals and plants. The sense of belonging to family and/or a kinship group shapes the identity of individuals (Environment Science and Services, 1995).

Local Values

The values of the Aurukun community are articulated in the *Wik Kath Min Community Values Statement*, signed by elders and family leaders from all the different clans (Limerick and Associates, 2018). The *Wik Kath Min Community Values Statement* is as follows:

*"We have an in-depth spiritual connection to our country and kin.
We care for and protect our children, our elders and our families.
We teach our children the right way – to follow Western laws and traditional cultural ways.
We empower our children through teaching them culture and sending them to school.
We are skilled at making peace and we have the hearts to forgive each other.
We seek worthwhile employment and training and mentoring so we can support our families and provide stability in our homes.
We are friendly and respectful to everyone in our community.
We care for others and share what we have.
We like to make connections and bring back experiences from the world outside Aurukun.
We love doing things together and feel connected by our shared experiences.
We like a nice place to live"* (pers.comm Aurukun Community, 2019).

These values underpin the concerns and aspirations raised by both directly affected Traditional Owners and residents of the Aurukun community in relation to the project (i.e. impacts on traditional country and cultural identity).

Housing and Accommodation

Housing provision and management within the Aurukun township is complex. Housing in Aurukun is a combination of social housing and State government leased housing. There is no private housing in Aurukun and hence there is no private sector housing market. In Aurukun, social housing is provided to permanent Indigenous residents of Aurukun. This housing is funded by the government.

There are also three short-term accommodation establishments in Aurukun: Wuungkam Lodge, Kooth Pach Guest House and Mackenzie Camp (1 and 2) (Figure 16-4). The ASC owns all short-term accommodation in Aurukun. Short-term accommodation in Aurukun is generally used to accommodate government agency and non-government staff and contractors.

Employment and Education

The Aurukun LGA is economically depressed. The local economy is extremely small and has limited diversity. Employment opportunities for local residents are correspondingly limited in number and diversity. Many job seekers in the Aurukun LGA are overcoming years of passive welfare, substance addictions and other personal challenges. In 2016, the Aurukun LGA had an unemployment rate of 37.2% (140 persons). All unemployed persons in the Aurukun LGA at this time identified as Indigenous. In 2019 the number of job seekers in the Aurukun LGA surpassed the number of jobs available locally (Cape York Partnership, 2019).

The labour pool in the Aurukun LGA is highly dynamic. There is a potential labour pool of approximately 400-450 community members. These people rotate between full-time employment, participation in the Community Development Program, incarceration, and general disengagement.

Many Indigenous Australians face a number of barriers to finding and sustaining paid employment. This is very evident in Aurukun township. Locals can face a range of barriers at different stages of employment, including recruitment and retention. Certain groups within the community, specifically vulnerable people, are also more likely to face other struggles when trying to enter the workforce (Gray, Boyd and Lohoar, 2012).

The following employment barriers were identified during SIA consultation with Aurukun residents:

- Compatibility of working conditions with the local lifestyles;
- Having a criminal record - Many people in Aurukun township have criminal records which makes these people ineligible for some roles;
- Alcohol and other drug addiction and dependencies;
- Mental health problems and poor physical health;
- Family violence; and
- A lack of literacy and numeracy.

It is also extremely difficult for Aurukun locals to obtain common employment requirements such as a birth certificate, tax file number, drivers licence, and unique student identifier. Whilst the majority of locals have the information required to obtain the necessary documents, they find navigating the application process daunting and time consuming. Many Aurukun locals also use multiple phones and phone numbers and find it difficult to navigate information that is sent via Short Message Service (SMS) (i.e. MyGov).

Vulnerability

The Aurukun community presents as a highly vulnerable community. Indicators of vulnerability that are evidenced within the Aurukun community include the levels of welfare dependency and educational attainment, access to housing, well-being (e.g. disability and disease), safety, and drug and alcohol dependency.

There is a very high rate of welfare dependency in the Aurukun community, significantly higher than equivalent Queensland rates. For example, in 2020 the rate⁴ of Job Seeker Allowance in Aurukun was 40.5 compared to 11.5 for Queensland (Queensland Government Statisticians Office, 2020).

⁴ Rate per 100 persons aged 22 to 64 years, as at 30 June 2019. Person counts are based on estimated resident population.

Vulnerability of the Aurukun community is exacerbated by the very low level of educational attainment across the population. In 2016, the percentage of total persons in Aurukun with highest level of schooling (recorded as year 11 or year 12) was 23.1% (203 persons) compared to 58.9% across Queensland.

Access to housing in Aurukun township for local people is problematic. Rates of overcrowding suggest there is an inadequate supply of housing for the population. Housing availability is also affected by cultural activities (i.e. sorry business), which may require houses to be vacated and closed, and a prevalence of uninhabitable housing, including housing that requires maintenance. A shortage of housing in Aurukun township means many locals do not have their own house and rely on being able to stay with family. SIA consultation identified that overcrowding in houses is a significant and widespread issue for Aurukun residents. In households that are severely overcrowded, the privacy, physical and mental health, and safety of occupants are all at risk (The Council to Homeless Persons, 2018). Consultation with Indigenous residents in Aurukun indicates that overcrowding inhibits their ability to successfully engage in activities such as work and education, ultimately limiting their ability to learn and retain employment. However, people in Aurukun with secure employment are also not immune from the effects of overcrowding. Overcrowding can also exacerbate domestic violence, depression, lack of hygiene, and the spread of diseases (Korff, 2019).

Aurukun people have a significantly lower life expectancy than those in other areas of Queensland and Australia. In 2016, the average life expectancy for people in the Aurukun LGA was 69.7 years (males) and 74.2 years (females) compared with 80.2 years (males) and 84.7 years (females) for Queensland (Public Health Network – Northern Queensland, 2016). This shows more than a 10-year gap in life expectancy for Aurukun people compared to the Queensland average.

Disability and disease are prevalent within the Aurukun community. This is evident in the proportion of the population receiving the disability support pension. As at March 2020, 71 Aurukun residents (approximately 5%) were on the National Disability Insurance Scheme (NDIS) (pers.comm NDIS Representative Cairns, March 2020). The most common chronic diseases in Aurukun include diabetes (Type 2), cardiovascular disease and kidney disease.

Aurukun township is frequently portrayed as an unsafe location, and a community that is in a state of unrest. SIA consultation with service providers, including the Queensland Police Service (QPS), suggests that crime rates are significantly higher in Aurukun compared to rates elsewhere in Queensland.

Alcohol and cannabis (“gunja”) are widely used in the Aurukun community, despite being illegal. Both community members and service providers view substance abuse as the most serious problem within the Aurukun community, and the cause of many complex and connected social problems. The impacts of alcohol and drug use in the community are linked to declining health and well-being, increased family and domestic violence, tensions from sourcing money (i.e. humbugging) to obtain substances, and overall declining participation in community life (Cape York Institute, 2019; Australian Institute of Criminology, 2006).

Social Infrastructure Accessibility

A wide range of government and non-government services and facilities are provided in Aurukun. These facilities have variable and inconsistent opening days and hours, and service delivery is frequently impacted by labour availability, cultural requirements (e.g. sorry business), and community unrest. Social services and infrastructure available in Aurukun (Figure 16-4) include:

- Island and Cape Supermarket, stocked with goods from a weekly Sea Swift barging service;
- Opportunity - Hub (the O-Hub) provides a range of programs (e.g. parenting and financial management programs) for Aurukun locals. These programs aim to lessen Indigenous disadvantage through rebuilding positive social norms;
- Cape York Employment services;
- Indigenous Knowledge Centre (i.e. library);

- Police Citizens Youth Club (PCYC);
- Wik and Kugu Arts Centre;
- Akay Koo'oilá Women's Art Centre;
- Koolkan Aurukun State School and Koolkan Early Childhood Centre;
- Chivaree Aged Care Centre;
- Maa'aathen Women's Shelter;
- Woúw Koálam Community Centre, used by playgroup and for community gatherings i.e. Aurukun Concert;
- Aurukun Health Service consisting of the Queensland Health Torres and Cape Health Service, and Apunipima; and
- QPS and Magistrates Court.

16.5.2 Regional Social Environment

Weipa LGA

The Weipa LGA is located on the west coast of Cape York Peninsula and shares boundaries with the Napranum LGA and the Cook LGA (Figure 16-2). The Weipa LGA covers an area of 11 km² and is classified as very remote⁵ reflecting low accessibility to services. Weipa township is the centre of the LGA and is located approximately 200 km south of the northern tip of Australia and approximately 800 km from Cairns (the nearest regional centre) by road. Access to Weipa township is primarily via air (Weipa Airport) or the Peninsula Developmental Road which connects Cairns to Weipa.

Weipa township was established in 1967 to support the growth of the surrounding mining industry. The majority of land surrounding Weipa township is leased to RTA Weipa Pty Ltd (Rio Tinto) for the purpose of bauxite mining. Since the 1980s, Weipa township has developed as a remote regional service centre for Federal and State government organisations. It provides remote pastoral property owners and several remote communities, including Aurukun and Napranum, with access to a range of goods and services including health and education services.

In 2016, the Weipa LGA had an estimated resident population of 4,024 people increasing to 4,333 by 2019 (ABS, 2020). This population growth can be attributed to an increase in mining activity proximate to the township of Weipa, and a corresponding increase in demand for workers. In 2016, the Weipa LGA had an Indigenous population of 763 people, equivalent to 19.5% of the total population. Between 2016 and 2041, the population of Weipa LGA is projected to increase by 33.6% to 5,374 people. In March 2020, the Weipa LGA had a working age population of 2,952 people and an unemployment rate of less than 3%. Unemployment has remained consistently low for the last 10 years.

Mining and manufacturing have been the mainstay of the Weipa LGA economy for many years, alongside retail, trade, education and training, and health care and social assistance sectors. People choose to reside in Weipa township because they are employed directly by the mining industry or related industries.

Business count data sourced from the ABS shows that the Weipa LGA had a total of 171 registered businesses in June 2019. Between 2015 and 2019, the number of registered businesses in the Weipa LGA increased by 13.2% (approximately 20 businesses) (ABS, 2019). Economic activity in the region is characterised by large-scale enterprises focussed on resource activity, agricultural activity, and small to medium-scale tourism enterprises (e.g. fishing).

⁵ Remoteness Areas divide Australia into 5 classes of remoteness (Major Cities, Inner Regional, Outer Regional, Remote, Very Remote) on the basis of a measure of relative access to services.

The majority of businesses that service other sectors are considered to be small private sector enterprises (micro-businesses) in supporting industries (i.e. retail, and social services).

Napranum LGA

The Napranum LGA is a predominantly Indigenous community situated approximately 10 km from the Weipa township. The Napranum LGA is managed by the Napranum Aboriginal Shire Council. Despite its close proximity to Weipa township, the socio-economic characteristics of the Napranum LGA differ considerably to the Weipa LGA. With limited services available, the Napranum community relies on the infrastructure and facilities available in Weipa township.

In 2019, the Napranum LGA had an estimated resident population of 1,077 people (ABS, 2020). In 2016, approximately 94.8% of the Napranum LGA population identified as Aboriginal and/or Torres Strait Islander. Between 2009 and 2019, the population of Napranum LGA increased by 19.5%, representing a steady population increase. During this time, the Weipa LGA experienced an even higher growth rate of 31.2%.

In 2016, the Napranum LGA had an unemployment rate of 32.3% and a median weekly income of \$826. These indicators are similar to that of other regional Indigenous communities, particularly Aurukun. In 2016, the Napranum LGA had a labour force of 217 persons, and a total of 153 employed persons. For employed persons, public administration and safety was the dominant industry of employment at 33.6%, followed closely by mining at 28.9%.

16.6 PROJECT CHARACTERISTICS

This section provides an overview of the project workforce characteristics. Detailed project workforce information is provided in the *Social Impact Assessment* (Appendix S). Section 4 – Project Description provides a detailed description of the proposed project activities and the schedule of works.

16.6.1 Project Workforce

A summary of the project workforce numbers, workforce recruitment and labour hire assumptions are provided in this section, as well as workforce accommodation, transport and logistics for the project.

Construction Phase

The project has a two-year construction phase referred to as Project Year -2 and Project Year -1. The construction workforce is expected to comprise an average of:

- 210 full-time equivalent (FTE) workers during Project Year -2; and
- 250 FTE workers during Project Year -1.

During the main periods of construction activity (i.e. during the dry season), the anticipated peak construction workforce on-site is expected to be approximately 316 workers.

Operations Phase

The operations phase mine workforce would vary over the 22 year life of the mine, reflecting the changes in the mining activities. The operations phase workforce is estimated to vary from 350 to 406 FTE workers.

Decommissioning Phase

Decommissioning would be undertaken from Project Year 23 to Project Year 25. The peak decommissioning workforce would be 170 persons in Project Year 23 decreasing to 16 persons by Project Year 25.

Monitoring and maintenance would be undertaken from Project Year 23 to Project Year 27. The monitoring and maintenance workforce would consist of up to eight FTE workers annually.

Workforce Recruitment

As discussed in Section 16.5.1, there are significant barriers to employment for Aurukun residents. However, the proponent's objective is to maximise employment opportunities for local people. The proponent will implement a number of specific strategies, including a Local Workforce Development Plan, to facilitate local workforce participation. The Local Workforce Development Plan consists of a number of programs with a focus on increasing community capabilities, work readiness, youth engagement, operational readiness, and mentoring. In addition, the project workforce recruitment hierarchy is designed to give priority to local Indigenous people.

The project workforce recruitment hierarchy is as follows:

1. Local Workforce Participant (LWP) – A LWP is defined as a person who:
 - a. Identifies as, or is recognised as, a Wik or Wik Waya Traditional Owner⁶. LWPs may include Wik or Wik Waya Traditional Owners that reside in Aurukun, other regional communities⁷ or Cairns SA4; or
 - b. Is a resident in Aurukun and is culturally accepted⁸ by Traditional Owners.
2. Regional Workforce Participant (RWP) – A RWP is defined as a person (Indigenous or non-Indigenous) resident in the regional communities of Weipa, Napranum or Mapoon, who is not an LWP.
3. Other Workforce Participant – This is defined as any person who is not considered an LWP or an RWP.

The required direct project workforce would be sourced through a range of recruitment processes, including local training, apprenticeships and trainee programs, and contract labour.

Labour Hire Assumptions

Table 16-3 presents the labour hire assumptions for the construction and operations workforce. It is anticipated that the majority of the construction workforce would be sourced from outside western Cape York communities. This is due to the size of the workforce, the relatively short duration of the construction phase (two years) and the limited pool of skilled labour available within the Aurukun LGA and other communities of western Cape York. The majority of the operations workforce is anticipated to be recruited from Cairns SA4. This reflects a range of factors including current labour availability in the local and regional areas.

Table 16-3 Labour Point of Hire Assumptions

LOCATION	ORIGIN OF WORKFORCE	
	CONSTRUCTION	OPERATIONS
Aurukun LGA	10%	15%
Weipa, Napranum and Mapoon LGAs	15%	15%
Cairns SA4	35%	50%

⁶ The Wik and Wik Waya People hold the Native Title rights over the project site.

⁷ Refers to the communities of Aurukun, Coen, Kowanyama, Mapoon, Napranum, Pormpuraaw and Weipa.

⁸ Cultural acceptance can be defined as when the decisions and action of a person are cognisant of the cultural values, traditions, and principles of the Wik and Wik Waya People. Cultural acceptance comes from working with the community in an authentic manner over an extended period of time. Cultural acceptance is underpinned by the work that is undertaken within a community, but also the work that is done with the community members and community outside of the community.

Other areas in Queensland ⁹	40%	20%
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Workforce Accommodation Assumptions

During consultation the majority of Aurukun locals who identified an interest in working at the mine also indicated a preference to be accommodated in an on-site workforce accommodation village during their roster, rather than commute daily to the mine site. All project employees resident in Aurukun will have the option to either:

- Reside in the on-site accommodation village during their shift; or
- Reside at their normal place of residence in Aurukun and commute daily to the mine site.

Housing availability and cultural sensitivities in Aurukun limit the extent to which the non-local workforce can reside permanently in Aurukun. For this reason, all non-local workers would be accommodated in an on-site workforce accommodation village (Accommodation Village).

The construction phase workforce would be accommodated on-site in the temporary Construction Village, and the operations phase workforce would be accommodated on-site in the Accommodation Village. Additional short-term accommodation in Aurukun (i.e. Mackenzie Camp located in Aurukun township) may be utilised for several weeks at the commencement of the construction phase, until the temporary Construction Village is completed. However, if necessary, the proponent would establish a 'fly camp' on the project site to accommodate the initial construction workforce until such time as the temporary Construction Village is completed.

Both the temporary Construction Village and the Accommodation Village would be dry facilities.

Workforce Transport and Logistics

The workforce transport arrangements are anticipated to be as follows:

- For local Aurukun residents – A commute from Aurukun to the Mine Site for rostered block shift periods using a bus service provided by the proponent.
- For the non-local workforce:
 - For workers travelling from or via Cairns – direct charter flights from Cairns to Aurukun.
 - For workers travelling from Napranum, Mapoon and Weipa – direct charter flights from Weipa to Aurukun in the wet season and travel via bus from Weipa (provided by the proponent) in the dry season (with collection and drop-off service to Napranum and Mapoon subject to workforce demand).

Tailored commute services for LWPs based in other regional communities of Coen, Kowanyama and Pormpuraaw would be considered if there is sufficient demand.

During the construction and operations phases, all workers arriving by air travel into Aurukun airport would be transported by a bus service (provided by the proponent) between Aurukun Airport and the Mine Site.

⁹ This includes the identified regional communities of Coen, Pormpuraaw and Kowanyama.

16.7 SOCIAL IMPACTS AND MANAGEMENT

The following sections provide a summary of the framework for social impact management for the project, the potential social impacts and opportunities arising from the project, and the proposed management measures.

16.7.1 Framework for Impact Management

The social impacts of the project will be managed and opportunities enhanced principally through the following three mechanisms:

- An Agreement/s negotiated with, or on behalf of, Traditional Owners (including those that form part of various regulatory requirements including the *Native Title Act 1993* (Cth) (NT Act) and the *Mineral Resources Act 1989* (Qld) (MR Act));
- Management of Aboriginal cultural heritage in accordance with the *Aboriginal Cultural Heritage Act 2003* (Qld) (ACH Act); and
- Implementation of the SIMP.

These mechanisms are briefly discussed in the following sections with a detailed explanation presented in Section 8 of the *Social Impact Assessment* (Appendix S).

Agreement Making

The proponent is seeking the consent of the directly affected Traditional Owners for the development of the project, through an Agreement making process that is capable of satisfying the specific regulatory requirements of the project relevant to agreements with native title holders and land owners. This will be done by:

- Establishing and registering an Indigenous Land Use Agreement (ILUA) with the Prescribed Body Corporate (Ngan Aak Kunch Aboriginal Corporation (NAK)) that meets the requirements of the NT Act as well as complying with NAK Rules (which require that common law holders understand the purpose and nature of the agreement and give their consent in accordance with a particular process for decision making aligned with traditional laws or as otherwise agreed); and
- Establishing a Compensation Agreement that meets the requirements of the MR Act with the holders of Aboriginal Freehold title (represented by NAK).

An Agreement would be the principal mechanism to offset the potential social impacts of the project on Wik Waya cultural identity and to ensure Traditional Owners and the Aurukun community benefit from the project over the long term. The following social impacts and opportunities identified in the *Social Impact Assessment* (Appendix S), will be addressed through the Agreement:

- Impacts to Wik and Wik Waya cultural identity;
- Impacts on Traditional Owner use and enjoyment of Amban Outstation;
- Potential restrictions on Traditional Owner access to the project site for hunting and collection of natural resources;
- Potential impacts on fishing activities undertaken by Traditional Owners in marine waters proximate to the Coastal Loading Facility (CLF); and
- Potential impacts on the fishing activities of Traditional Owners downstream of the Mine Site.

To support the Agreement making process, and having regard to the context of the community and traditional ownership, a Working Group model was adopted by the proponent, NAK and the directly affected Traditional Owners.

The proponent is discussing the concept of a Partnership Agreement with the Working Group. The proponent's intention is that the Partnership Agreement would:

- Be the primary Agreement between the proponent and the directly affected Traditional Owners;
- Reflect the agreement of Traditional Owners for the development of the project; and
- Be an outcome of a process seeking free, prior and informed consent.

On that basis, the Partnership Agreement would:

- Underpin the long-term relationship between the parties over the life of the mine;
- Capture and seek to implement the aspirations of directly affected Traditional Owners; and
- Inform the development of the various Agreements that are required by regulation or for implementation, including an ILUA under the NT Act, Compensation Agreement under the MR Act and management of cultural heritage under the ACH Act.

Section 3 – Consultation provides further detail on the Agreement making process. Section 22 of the EIS includes a description of key commitments to Traditional Owner participation in the project based on the feedback and discussions between the parties to date.

Cultural Heritage Management

Under Part 7 of the *Aboriginal Cultural Heritage Act 2003* (ACH Act) a cultural heritage management plan (CHMP) is required to be developed and approved for any project that is required to prepare an EIS unless a native title agreement is in place that covers cultural heritage.

Potential impacts to Aboriginal cultural heritage are considered outside of the EIS process in accordance with the requirements of the ACH Act. The management of cultural heritage is also intended to be addressed within the Partnership Agreement for the project.

The management of cultural heritage would include a framework for the management of archaeological sites, artefacts and cultural areas potentially affected by the project. The framework would:

- Clarify the roles and responsibilities in relation to cultural heritage management for the project;
- Include a process for assessing potential cultural heritage impacts; and
- Include a process for determining how cultural heritage impacts will be mitigated or managed.

The relevant Aboriginal party under the ACH Act is NAK, representing the native title holders (Wik and Wik Waya Peoples). Given that the relevant parties under the NT Act and the ACH Act for the project overlap, discussions regarding cultural heritage management have been incorporated into the Agreement making process and have been progressed in part through the Working Group for the project.

The Agreement on the management of Aboriginal cultural heritage will be a key component of the suite of mitigation measures focused on potential impacts on the Wik Waya cultural identity.

Although the findings of the assessment of non-indigenous heritage (Section 18.3.8) propose no specific management measures given the low significance of the places and the fact that they are recorded in Appendix X, it is recognised that some of these places have a shared history with the Aurukun community. Traditional Owner feedback on management measures for non-indigenous heritage places would be incorporated into the CHMP.

Social Impact Management Plan

The SIMP contains the following five plans:

- Community and Stakeholder Engagement Plan;
- Workforce Management Plan;
- Local Business and Industry Procurement Plan;
- Health and Community Well-being Plan; and
- Housing and Accommodation Plan.

Each plan includes:

- The desired management outcomes (objectives);
- The overall approach to management of potential impacts and enhancement of opportunities;
- A summary of key actions to achieve the desired management outcomes; and
- A framework for monitoring progress towards achieving the identified management outcomes.

The proponent will establish a Government Agency Reference Group for the project. The reference group will be established prior to the commencement of the construction phase, with representation from key Federal and State government agencies and the ASC. The proponent would seek to secure active participation in the Government Agency Reference Group from all government agencies with responsibility for service delivery in Aurukun. Given the number of government agencies with responsibility for delivering infrastructure, programs and resources to the Aurukun community and western Cape York, this group would provide a forum for ensuring alignment between the proponent's proposed social mitigation and enhancement measures and existing government initiatives.

16.7.2 Summary of Impacts and Management Measures

This section provides a summary of the potential social impacts and opportunities arising from the project and the proposed management measures. A detailed assessment of potential direct, indirect and cumulative impacts and opportunities, and a description of proposed management measures, is contained in the *Social Impact Assessment* (Appendix S).

Prior to the commencement of construction, the proponent will update the SIMP to reflect relevant elements of the Partnership Agreement with Traditional Owners and/or updated input from other local stakeholders.

Local Impacts and Opportunities

Table 16-4 provides a summary of the potential local impacts and management measures.

Table 16-4 Summary of Potential Local Impacts and Management Measures

IMPACT/OPPORTUNITY	MITIGATION AND MANAGEMENT
CULTURAL IDENTITY	
Impacts on the Wik Waya cultural identity.	<ul style="list-style-type: none"> ● The Agreement making process facilitated by the Working Group, and the various Agreements described in Section 16.7.1, to be developed with Traditional Owners. ● Implementing an Aurukun Bauxite Partnership Committee as the primary forum for involvement of Traditional Owners in mine plans and operations. This committee will be established during the construction phase. ● Providing continued access to Amban and Waterfall Outstations, and improvements (realignment and surfacing) to Amban Road.

IMPACT/OPPORTUNITY	MITIGATION AND MANAGEMENT
	<ul style="list-style-type: none"> ● Implementing a Cultural Respect Strategy during the construction and operations phase of the project that incorporates cultural awareness training, cultural competency, cultural responsiveness, and cultural leadership. ● Supporting Traditional Owner land and sea management initiatives and caring for country programs and facilitating Traditional Owners' participation in activities aimed at the protection of the environment and caring for traditional country. ● Ensuring that Traditional Owners have a voice and are involved in decisions related to the conduct of any project related activity on their land. The Agreement making process is designed to achieve this objective. ● Enabling the participation of Traditional Owners in all cultural heritage management activities on the project site. ● Enabling the participation of Traditional Owners in the development of the <i>Draft Proposed Progressive Rehabilitation and Closure Plan</i> (Appendix E). ● Implementing the cultural heritage management protocols described in the Agreement. ● Incorporating local language names into project signage. ● Incorporating the use of local language into workforce induction materials and site signage.
AURUKUN COMMUNITY SAFETY	
<p>Impacts on local road safety, including pedestrian safety in Aurukun.</p>	<ul style="list-style-type: none"> ● Implementation of workforce Driving Standards. ● All project related vehicles will be required to adhere to road safety guidelines and speed limits. ● No project related heavy vehicle movements (with the exception of buses used for transporting the project workforce) will be permitted on Kang Road between the Aurukun Airport and McKenzie Drive (within Aurukun township). ● Project traffic associated with the movement of goods and materials from Aurukun to the project site will utilise the local road network on the outer limits of town (i.e. McKenzie Drive). ● All workers will be transported from Aurukun to the project site by bus. This will significantly minimise project related traffic generation in Aurukun. The bus will utilise Kang Road and Aurukun Road to access the project site. ● Implementation of a Road Use Management Plan. ● Appropriate design of the proposed Mine Access Road/Aurukun Road intersection. ● Project Government Agency Reference Group. ● The proponent will establish an Aurukun Community Reference Group to facilitate two-way communication between the Aurukun community and the proponent, and to also provide a forum for the resolution of community issues. The proponent will establish the Aurukun Community Reference Group in consultation with relevant stakeholder groups during the pre-construction phase.

IMPACT/OPPORTUNITY	MITIGATION AND MANAGEMENT
LOCAL EMPLOYMENT AND BUSINESS DEVELOPMENT	
Local residents will be employed on the project leading to increased labour force participation in Aurukun.	<ul style="list-style-type: none"> ● Project recruitment hierarchy. ● Local Workforce Development Plan including: <ul style="list-style-type: none"> ● Community Capability Program; ● Work Readiness Program; ● Youth Engagement Program; ● Operational Readiness Program; and ● Mentoring Program. ● Project Government Agency Reference Group.
The project will support improvements in employability, capability, skill and competency across the Aurukun labour force.	<ul style="list-style-type: none"> ● Local Workforce Development Plan.
The project will support improved educational and training outcomes for Aurukun youths.	<ul style="list-style-type: none"> ● Local Workforce Development Plan including a: <ul style="list-style-type: none"> ● Youth Engagement Program; and ● Mentoring Program.
The project will stimulate the establishment or expansion of Indigenous business activities in Aurukun.	<ul style="list-style-type: none"> ● Local Business and Industry Procurement Plan including a tailored procurement strategy for the project.
Economic benefits from the project stimulate tourism activities.	<ul style="list-style-type: none"> ● The various Agreements described in Section 16.7.1 to be developed with Traditional Owners. ● Local Business and Industry Procurement Plan.
AURUKUN COMMUNITY COHESION	
Access to stable employment and increased income leads to increased substance abuse in Aurukun and a corresponding increase in community unrest, reducing community safety and security.	<ul style="list-style-type: none"> ● Aurukun Community Reference Group. ● Project Government Agency Reference Group. ● The proponent, in partnership with key government agencies, will complete a baseline study of health and community well-being, including establishing a suitable program for monitoring project impacts on health and community well-being. This baseline study will commence in the pre-construction phase and will be completed during the construction phase. ● The proponent will support the health promotion campaigns of the Aurukun Health Service during the construction and operations phases. ● The proponent will work closely with Aurukun QPS and relevant health service providers to remain abreast of trends in drug and alcohol use in the community over the life of the project. ● The proponent will implement an Employee Assistance Program. ● Local Workforce Development Plan.
Introduction of Illegal substances into Aurukun by the non-local workforce leads to an increase in substance abuse in community.	<ul style="list-style-type: none"> ● Project Government Agency Reference Group. ● The proponent will work closely with the Australian Federal Police with respect to workforce security checks at Cairns airport.

IMPACT/OPPORTUNITY	MITIGATION AND MANAGEMENT
	<ul style="list-style-type: none"> ● Project on-boarding will ensure that construction and operations phase workers are aware of the requirements of the Aurukun Alcohol Management Plan and the implications of non-compliance. ● The proponent will work closely with Aurukun QPS and relevant health service providers to remain abreast of trends in drug and alcohol use in the community. ● The Accommodation Village will be a dry camp. ● Implementation of Workforce Standards. ● Operation of a formal drug and alcohol testing program at the project site and in Aurukun. ● Requirement for project contractors to prepare a contractor social management plan.
<p>Access to project employment opportunities and increased income leads to improvements in way of life and quality of life for Aurukun residents.</p>	<ul style="list-style-type: none"> ● Project recruitment hierarchy. ● Local Workforce Development Plan. ● Implementation of the various Agreements described in Section 16.7.1. ● Project Government Agency Reference Group. ● Aurukun Community Reference Group.
<p>Access to project employment and associated higher incomes increases the income gap between Aurukun residents and results in community disharmony.</p>	<ul style="list-style-type: none"> ● Aurukun Community Reference Group.
USE AND ENJOYMENT OF AMBAN OUTSTATION	
<p>The project affects the use and enjoyment of Amban Outstation for Traditional Owners.</p>	<ul style="list-style-type: none"> ● Mitigation measures as described in Section 19 – Land Use. ● Implementation of the various Agreements described in Section 16.7.1. ● The proponent’s complaints and grievances process.
ACCESS TO NATURAL RESOURCES	
<p>Restrictions on access to the project site affect hunting and collection of natural resources by Traditional Owners.</p>	<ul style="list-style-type: none"> ● Implementation of the various Agreements described in Section 16.7.1 and resulting improvements in access to traditional country.
<p>Maritime restrictions around the Load-out Jetty and transshipment areas affect marine fishing activities of Traditional Owners.</p>	<ul style="list-style-type: none"> ● Implementation of communication and navigation protocols to support co-existence between the transshipment vessel and other marine users. ● Minimising the size of any required exclusion zone around the Load-out Jetty. ● No requirement for a designated channel.
<p>Project induced changes in downstream water quality and quantity in Tapplebang Creek and Coconut Creek affect Traditional Owner fishing activities and outcomes downstream.</p>	<ul style="list-style-type: none"> ● Mitigation measures as described in Section 7 – Surface Water and Section 9 – Aquatic Ecology.

IMPACT/OPPORTUNITY	MITIGATION AND MANAGEMENT
ACCESS TO SOCIAL INFRASTRUCTURE AND SERVICES IN AURUKUN	
Increased resident participation in employment leads to changes in the demand for child-care services and health care services in Aurukun.	<ul style="list-style-type: none"> ● Engage in further discussion with relevant stakeholders in the pre-construction and construction phases to determine actions to resolve accessibility to child-care services for local Indigenous workers.
The non-local workforce increases demand on local health services impacting access for local residents.	<ul style="list-style-type: none"> ● Project on-boarding will ensure that construction and operations phase workers are: <ul style="list-style-type: none"> ● Aware of the need to take care of routine health requirements in their home communities and mitigate demands on local services; and ● Adequately informed of the correct action to take in an emergency situation. ● Early development of protocols and agreements between the proponent and Aurukun Health Service and emergency services. ● Ongoing communication with the proponent, Aurukun Health Services and emergency service providers to monitor demand and anticipate and respond to changes in the cumulative context (as necessary). ● Provision of on-site paramedic and/or nurse resources during the construction and operation phases. ● Co-location of medical facility on-site with provision of first aid. ● On-site provision of an ambulance vehicle for emergency response and seriously injured patient transport. ● Provision of employee assistance program services and telehealth services.
The project increases demand for emergency services (e.g. emergency retrieval services) which impacts the capacity of emergency service providers to respond to local community emergencies.	<ul style="list-style-type: none"> ● On-site provision of an ambulance vehicle for emergency response and seriously injured patient transport. ● Project Government Agency Reference Group. ● Emergency Response Committee. ● Emergency Response Plan.
Initial construction phase workforce accommodation demands restrict access to short-term accommodation for service providers and people servicing other projects (e.g. housing maintenance).	<ul style="list-style-type: none"> ● Project Government Agency Reference Group. ● If necessary, the proponent will establish a 'fly camp' on the project site to accommodate the initial construction workforce.
COMMUNITY ASPIRATIONS	
The project will support the realisation of Aurukun community aspirations.	<ul style="list-style-type: none"> ● Implementation of the various Agreements described in Section 16.7.1. ● Local Business and Industry Procurement Plan. ● Local Workforce Development Plan. ● The proponent's <i>Aurukun Community Investment and Contribution Program</i>.
GOVERNMENT OUTCOMES	

IMPACT/OPPORTUNITY	MITIGATION AND MANAGEMENT
The project will support and strengthen the implementation of government policy with respect to improving outcomes for the Aurukun community.	<ul style="list-style-type: none"> ● Implementation of the various Agreements described in Section 16.7.1. ● Local Business and Industry Procurement Plan. ● Project recruitment hierarchy. ● Local Workforce Development Plan.

Regional Impacts and Opportunities

Table 16-5 provides a summary of the potential regional impacts and management measures.

Table 16-5 Summary of Potential Regional Impacts and Management Measures

IMPACT/OPPORTUNITY	MITIGATION/MANAGEMENT
REGIONAL PUBLIC SAFETY	
Given the current condition of the Peninsula Developmental Road, the project related traffic will exacerbate existing stakeholder concerns in relation to public road safety.	<ul style="list-style-type: none"> ● Government Agency Reference Group discussions. ● Monetary contributions to the Department of Transport and Main Roads (DTMR) in accordance with DTMR requirements. ● Implementation of workforce driver standards. ● All project related vehicles will be required to adhere to road safety guidelines and speed limits.
REGIONAL HOUSING AND ACCOMMODATION	
Housing affordability in Weipa limits the number of RWPs employed on the project.	<ul style="list-style-type: none"> ● Provision of a rental subsidy allowance to RWPs residing in Weipa.
REGIONAL EMPLOYMENT	
The project provides existing residents of Weipa and Napranum with long term employment security.	<ul style="list-style-type: none"> ● Project recruitment hierarchy. ● Regional Workforce Development Plan.
Regional workforce participation rates on the project are adversely affected by the condition of the Peninsula Developmental Road.	<ul style="list-style-type: none"> ● Government Agency Reference Group discussions. ● Monetary contributions to DTMR in accordance with DTMR requirements.
REGIONAL INFRASTRUCTURE	
Project generated demands on regional transport infrastructure (e.g. Weipa Airport) reduce access to this infrastructure or the capacity of the infrastructure for existing users.	<ul style="list-style-type: none"> ● Discussions with infrastructure owners (e.g. Rio Tinto regarding Weipa Airport) ● Government Agency Reference Group discussions.
BUSINESS AND INDUSTRY	
The participation of regional businesses in the project supply chain is adversely affected by the existing condition of the Peninsula Developmental Road.	<ul style="list-style-type: none"> ● Government Agency Reference Group discussions.

IMPACT/OPPORTUNITY	MITIGATION/MANAGEMENT
Regional businesses benefit from the project.	<ul style="list-style-type: none"> ● Local Business and Industry Procurement Plan including a range of procurement strategies.
Project labour demands lead to labour draw from regional businesses and industry impacting their operations.	<ul style="list-style-type: none"> ● Monitor labour market changes in Weipa and Napranum as the project develops to inform potential changes to recruitment practices. ● Where necessary, review and revise recruitment practices periodically across the project life, to reflect changes in the labour market.
INDUSTRY SECTOR IMPACTS	
Restriction of access for commercial fisherman, charter boat operators and recreational fishermen to valued fishing areas with flow-on effects to livelihood.	<ul style="list-style-type: none"> ● Project design elements (i.e. project infrastructure being specifically sited to avoid sensitive features). ● Hazardous materials handling and emergency spill response procedures. ● Communication and navigational protocols to support co-existence between the transshipment vessel and other marine users. ● Minimising the size of any required exclusion zone around the Load-out Jetty. ● Operation of port area with a pilotage exemption. ● No requirement for a designated channel.
Project related economic investment advances the development of the regional tourism sector.	<ul style="list-style-type: none"> ● Implementation of the various Agreements described in Section 16.7.1. ● Government Agency Reference Group. ● Project related royalty payments and taxes to the Queensland Government. ● Project facilitated road infrastructure upgrades. ● Local Business and Industry Procurement Plan.
ECONOMIC IMPACTS AND OPPORTUNITIES	
The project generates direct and indirect economic benefits at the local, regional and state level.	<ul style="list-style-type: none"> ● Project recruitment hierarchy. ● Project procurement activities and the implementation of the Local Business and Industry Procurement Plan.
Project related investment in western Cape York supports improved infrastructure and service delivery across western Cape York.	<ul style="list-style-type: none"> ● Government Agency Reference Group. ● Local Business and Industry Procurement Plan.

Cumulative Impacts and Opportunities

The *Social Impact Assessment* (Appendix S) concluded that the project will not contribute to any significant cumulative social impacts on the Aurukun township and on nearby communities. The cumulative impacts have been assessed with reference to both the construction and operations phases of the project. The cumulative impacts and opportunities of the project are presented in the *Social Impact Assessment* (Appendix S).

Cumulative impacts have been considered for the following thematic areas:

- Aboriginal cultural identity;

- Use and enjoyment of Amban Outstation; and
- Fishing industry sector.

16.8 ECONOMIC IMPACTS AND OPPORTUNITIES

16.8.1 Introduction

An EclA was undertaken by Gillespie Economics and is provided in the *Economic Impact Assessment* (Appendix T). The EclA included:

- Characterisation of the existing local, regional and state economies, including a targeted analysis of industries and businesses that could be beneficially or adversely affected by the project.
- Preparation of a cost benefit analysis (CBA) which considers the costs and benefits of the project over time, including the net community welfare (economic efficiency) impacts of the project.
- Preparation of a regional impact analysis (RIA), using IO analysis, which considers the likely short-term and long-term, direct and indirect, output, value-added, income and employment impacts of the project to the Western Cape (comprising the Aurukun LGA, Weipa LGA and Napranum LGA), Cairns SA4, and Queensland. This analysis also considered the potential impacts of the project on agriculture and its supply chains, housing, labour costs and services.
- Assessment of the beneficial and adverse impacts associated with the separate phases of the project, such as construction, operation and after cessation of operations, for Western Cape, Cairns and Queensland.
- Description of strategies to encourage participation by local industry and the local workforce.

16.8.2 Cost Benefit Analysis

The CBA concluded that the project is estimated to have a net social benefit to Australia of at least \$747 million and, hence, is desirable and justified from an economic efficiency perspective. The main environmental, cultural and social impacts were quantified and included in the project CBA. Any other residual environmental, cultural or social impacts that remain unquantified would need to be valued at \$747 million or more for the project to be questionable from an Australian economic efficiency perspective.

The estimated net production benefit of the project to Queensland is \$482 million present value, comprising \$415 million in royalties and \$67 million in company tax. Incorporating wage benefits and greenhouse gas costs, the net social benefit of the project to Queensland is estimated at between \$482 million and \$512 million. Any unquantified residual impacts of the project to Queensland after mitigation, offsetting and compensation would need to be valued at greater than between \$482 million and \$512 million present value, for the project to be questionable from a Queensland economic efficiency perspective.

16.8.3 Economic Activity Analysis

Construction

The economic impact of the peak year of construction (Project Year -2) on the Western Cape economy is estimated to be:

- \$140 million in direct and indirect regional output or business turnover;
- \$56 million in direct and indirect regional value-added;
- \$34 million in direct and indirect household income; and

- 247 direct jobs and 89 indirect jobs.

The economic impact of the peak year of construction on the Cairns SA4 is estimated to be:

- \$10 million in direct and indirect output;
- \$6 million in direct and indirect value added;
- \$2 million in direct and indirect household income; and
- 26 direct jobs and 14 indirect jobs¹⁰.

The construction phase workforce will generate indirect economic benefits over the two-year construction period to the Western Cape (Aurukun LGA, Weipa LGA and Napranum LGA). Flow on spending by employees in the Western Cape is anticipated during the construction phase. Further detail regarding the indirect economic impacts of the construction phase is provided in the *Economic Impact Assessment* (Appendix T).

Operations

In total, the operation phase of the project is estimated to make up to the following annual contribution to the Western Cape economy for 22 years:

- \$400 million in direct and indirect regional output or business turnover;
- \$364 million in direct and indirect regional value-added;
- \$18 million in direct and indirect household income; and
- 265 direct jobs and 125 indirect jobs.

The *Economic Impact Assessment* (Appendix T) also concludes that investment in the Western Cape through royalty payments and taxes could result in improved infrastructure and service delivery. Further detail regarding the direct and indirect economic impacts of the operations phase of the project is provided in the *Economic Impact Assessment* (Appendix T).

For the Cairns SA4 economy, the operation phase of the project is estimated to make up to the following annual contribution:

- \$80 million in direct and indirect output;
- \$41 million in direct and indirect value-added;
- \$16 million in direct and indirect household income; and
- 67 direct jobs and 154 indirect jobs.

Decommissioning

The decommissioning phase of the project will also contribute economic activity to the regional economies. However, this would be minor relative to the construction and operation phases and was not modelled in the EclA.

¹⁰ The construction activity is not located within the Cairns SA4 economy. The majority of direct and indirect jobs associated with the construction phase are located in the Western Cape economy.

16.8.4 Other Economic Impacts

The EclA assessed other potential economic impacts, including:

- Potential contraction in other sectors;
- Wage impacts; and
- Housing impacts.

As explained in the following sections, it concluded that no significant, adverse economic impacts are predicted.

Potential Contraction in Other Sections

Where employed and unemployed labour resources in the region are limited and the mobility of in-migrating or commuting labour from outside the region is restricted, there may be competition for regional labour resources that drives up regional wages. In these situations, there may be some "crowding out" of economic activity in other sectors of the regional economy.

"Crowding out" would be most prevalent if the Western Cape, Cairns and Queensland economies were at full employment and it was a closed economy with no potential to use labour and other resources that currently reside outside the region. However, the Western Cape, Cairns and Queensland economies are not at full employment and they each have access to external labour resources. 85% of the operations workforce is expected to migrate into the region. Consequently, little "crowding out" of economic activity in other sectors would be expected because of the project. "Crowding out" would be most prevalent for Queensland, but the impacts would be dispersed.

Where there is some "crowding out" of other economic activities, this does not indicate losses of jobs, rather the shifting of labour resources to higher valued economic activities. This reflects the operation of the market system where scarce resources are reallocated to where they are most highly valued and where society would benefit the most from them. This reallocation of resources is therefore considered a positive outcome for the economy not a negative.

Wage Impacts

In the short-term, increased regional demand for labour due to the project could potentially result in some increased pressure on wages in other sectors of the economy. The magnitude and duration of this upward wages pressure would depend on the level of demand for additional labour, the availability of labour resources in the region and the availability and mobility of labour from outside the region. However, because 75% of the construction workforce and 70% of the direct operational workforce is estimated to be non-local hires, wage impacts as a result of the project alone are not likely to be significant. Where upward pressure on regional wages occurs, it represents an economic transfer between employers and owners of skills and would attract skilled labour to the region, leading to downward pressure on wages.

Housing Impacts

Housing impacts in the local and regional areas are anticipated to be negligible. There is no private housing allocation in either the Aurukun or Napranum LGAs and therefore no private housing market. All housing is social housing or State government housing for service providers, government employees, and contractors. The non-local workforce associated with the project would not be able to reside permanently in the Aurukun LGA.

A small proportion of the workforce may choose to relocate to the areas of Weipa LGA and Cairns, but this is unlikely to cause any impacts to the housing supply/demand in these areas.

16.8.5 Economic Impact Management Strategy

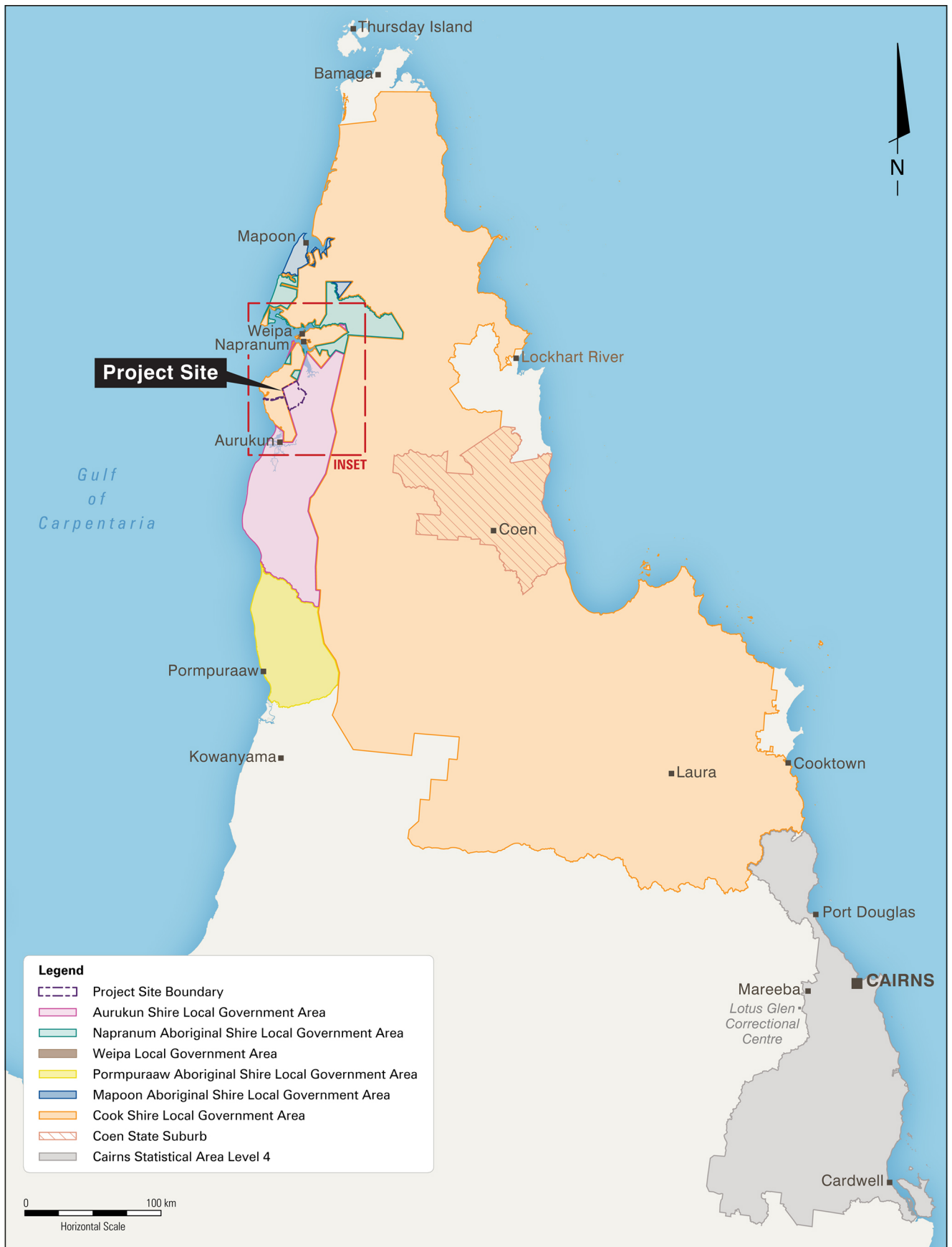
The SIMP includes a detailed Workforce Management Plan and a Local Business and Industry Procurement Plan. These plans document a range of actions to be undertaken by the proponent to support the realisation of the projected economic benefits of the project for the local and regional areas.

In this respect, a range of economic impact mitigation and management measures are proposed and would include:

- A recruitment hierarchy that is designed to give priority to local Indigenous people (Section 16.6.1).
- Implementation of a Local Workforce Development Plan to facilitate local workforce participation. The Local Workforce Development Plan consists of several programs with a focus on increasing community capabilities, work readiness, youth engagement, operational readiness, and mentoring.
- A Local Business and Industry Procurement Plan that focusses on:
 - Providing access for local businesses to project opportunities;
 - Supporting local business sustainability; and
 - Supporting local economic diversification and growth.

In addition to the above, a range of measures have been developed to mitigate, offset and compensate for the potential environmental, cultural and social impacts of the project.

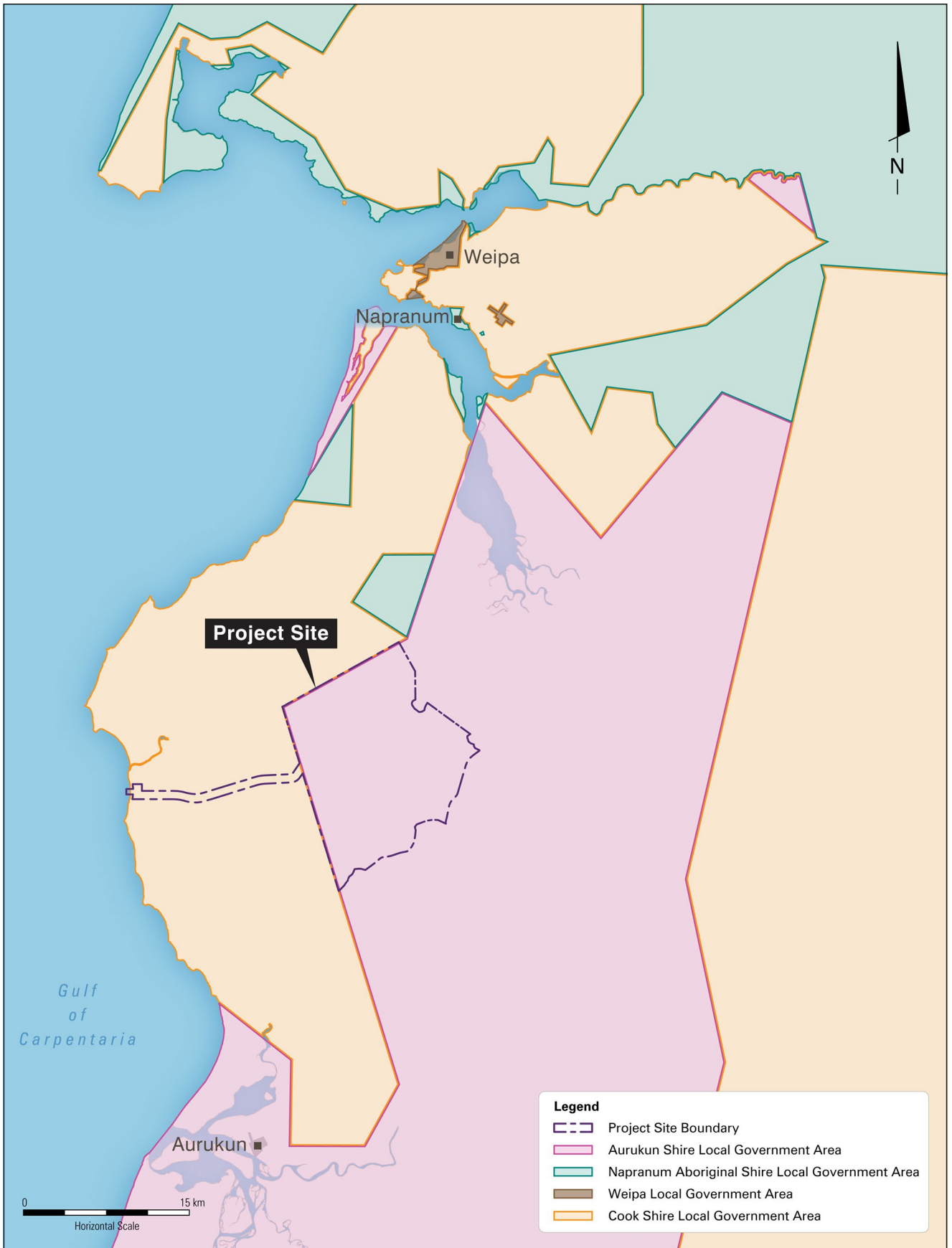
FIGURES



AURUKUN BAUXITE PROJECT

SIA Study Area

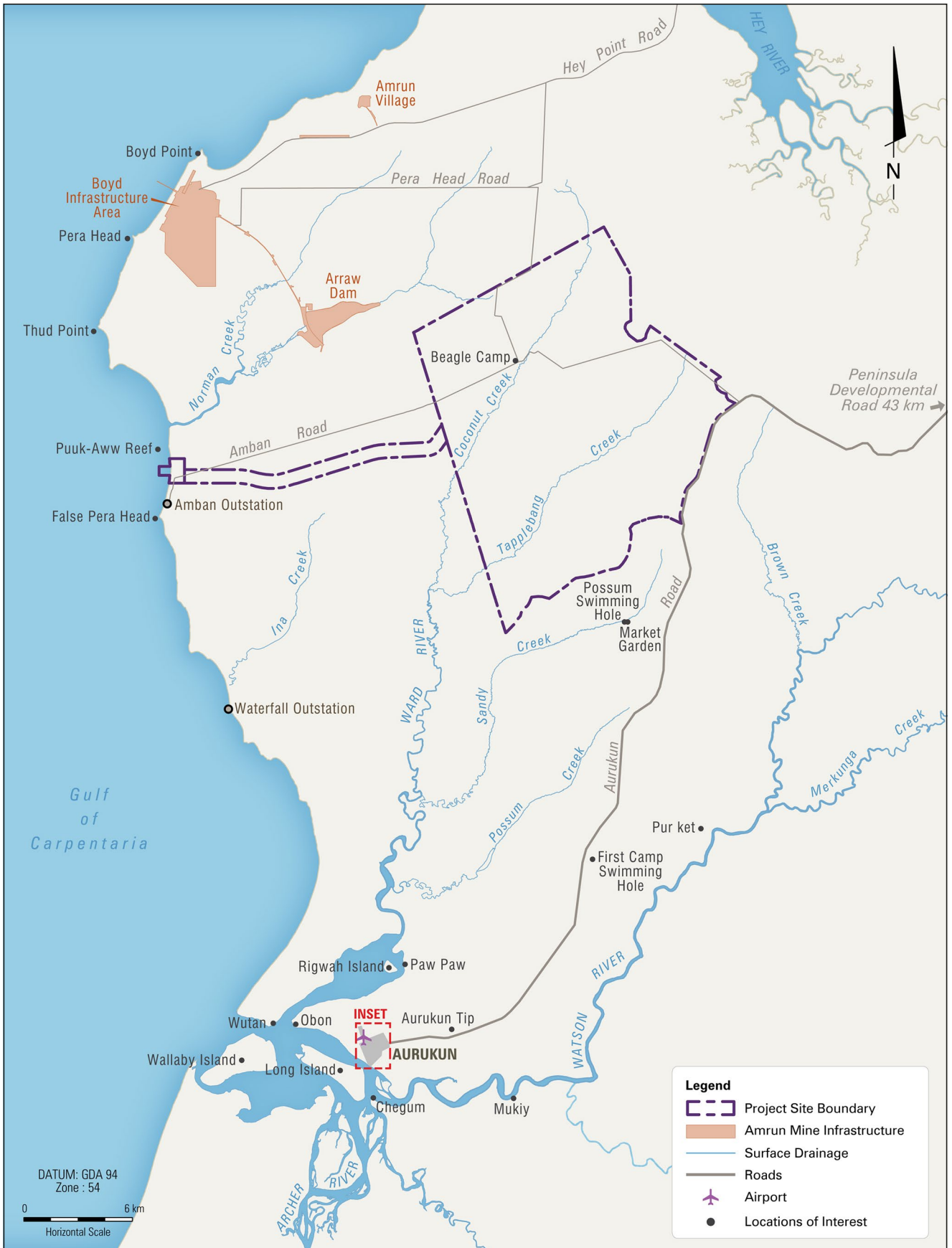
FIGURE 16-1



AURUKUN BAUXITE PROJECT

SIA Study Area (Inset)

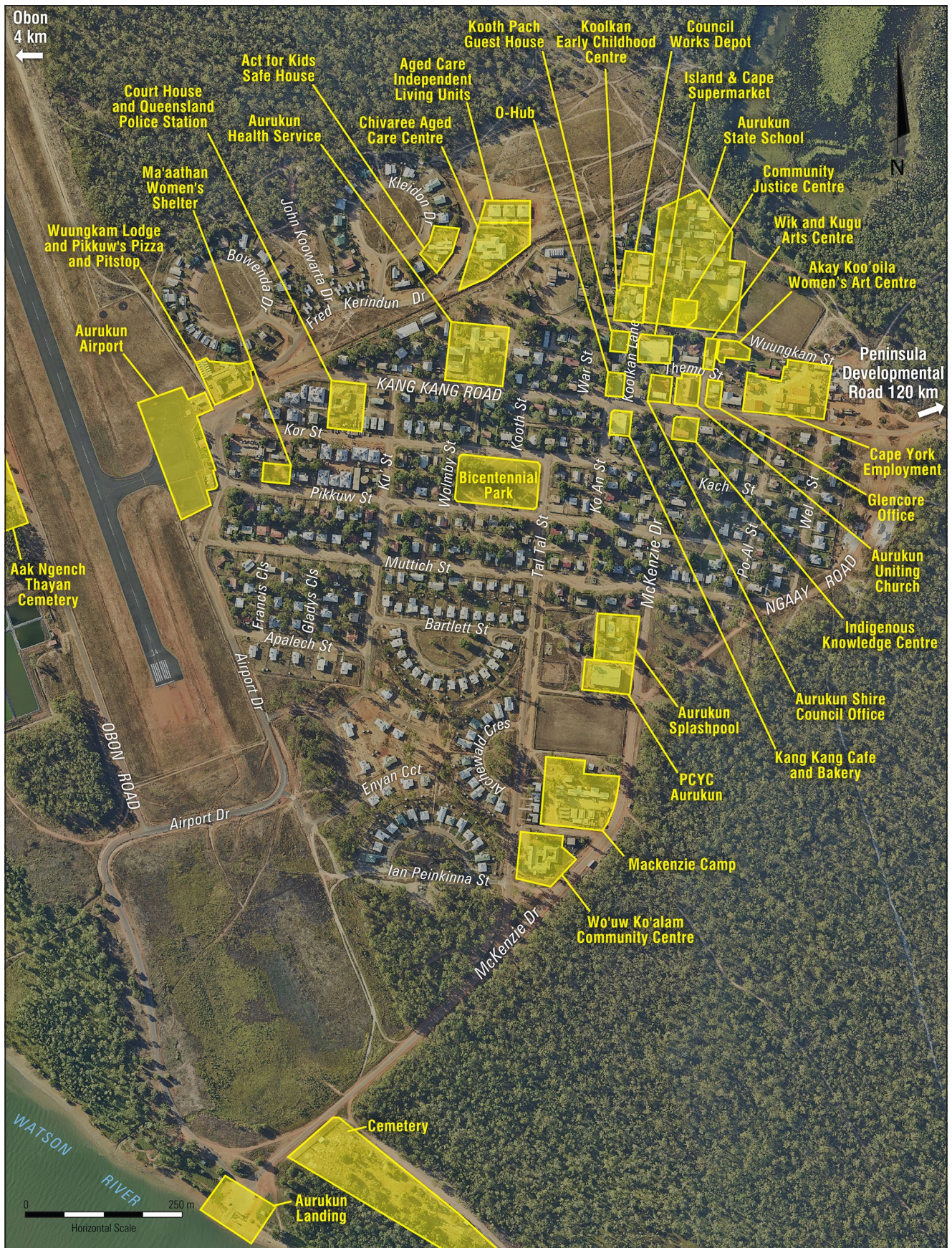
FIGURE 16-2



AURUKUN BAUXITE PROJECT

Local Setting

FIGURE 16-3



AURUKUN BAUXITE PROJECT

Local Setting - Aurukun Township (Inset)

FIGURE 16-4