Town of Port Hedland

Port Hedland INTERNATIONAL AIRPORT

Creating a modern gateway to Australia's North West

Port Hedland International Airport redevelopment strategy

May 2014

FOREWORD

The Port Hedland International Airport will soon transform into a modern and well-serviced welcoming gateway to Australia's North West. Its redevelopment will include terminal renovations, new freight and logistics zone, revised ground transport arrangements, improved airside operations and new commercial opportunities.

We are committed to being a vibrant meeting place that welcomes travellers to the friendly Port Hedland community and treasures of the Pilbara, coupled with our core business of providing efficient passenger and freight services to the North West.

This document provides an overview of:

- strategic review outcomes of the Port Hedland International Airport master plan, aeronautical compliance, passenger terminal, freight and logistics zone and ground transport
- place guidelines developed to identify what makes Port Hedland special and how this could be reflected in the airport redevelopment
- interim works program to ease congestion within the terminal, improve the amenity of the precinct and start to position the airport as a welcoming gateway to the North West that reflects Port Hedland's unique sense of place
- design concepts for terminal redevelopment, ground transport arrangements, freight and logistics zone and airside operations
- governance review to create more efficient and economically viable operating model
- program sequencing and budget estimates for key infrastructure projects.

The redevelopment strategy will require an investment of more than $100 million over the next five years. Funding sources include airport capital reserve, revenue from Kingsford Smith Business Park, new revenue sources and loan funds. Key capital projects have been sequenced to ensure delivery meets demand and commercial outcomes.

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1.0 EXECUTIVE SUMMARY

The Port Hedland International Airport will soon transform to a modern and well-serviced airport that provides a welcoming gateway to Australia's North West. The $100 million redevelopment program will include refurbishments, infrastructure upgrades, new subdivisions and new business opportunities.

The airport has experienced rapid growth with passenger numbers multiplying from 110,000 in 2005 to more than 515,000 in 2013. With this unprecedented growth, the airport needs to expand. There is now a significant opportunity to leverage existing work and deliver a modern and well-serviced airport for Port Hedland.

The Port Hedland International Airport master plan was finalised in March 2012. Given the dynamics of the mining industry and the rapid growth experienced across the town, the plan was reviewed in late 2013. Capital works programing and associated documentation was also reviewed to ensure it is current and relevant to Port Hedland and its current environment.

The Town of Port Hedland engaged consultancies to conduct a series of reviews – including the master plan (land use planning and aeronautical compliance), future growth planning for the terminal design, car parking/ground transport, place making and governance structure.

The key outcomes of the reviews were:

- **airside planning** outcomes offered logical, rational and sensible solutions which were appropriate to meet expected future aeronautical requirements – key programs include apron expansion, moving general aviation operations to a separate apron, new taxiway and changing to power-in/power-out aircraft operations
- nominated **land uses** were considered to be generally sound with strong stakeholder support to develop an international freight hub
- existing **passenger terminal** is undersized and operationally inefficient in peak periods – which provides an opportunity to significantly expand the terminal in its current location, including doubling footprint, creating mezzanine level and building extensive plaza and covered walkways
- reconfiguration of the **ground transport** and car parks is recommended – including creating shared zones, a separate bus parking area, expanding the short-term car park expansion, extending existing service roads and creating new two-way access to freight and logistics zone
- development of a new **freight and logistics zone** with direct airside access lots is recommended to leverage freight opportunities and relocate hire car operations
- incorporate a strong **sense of place** and reflect Port Hedland's unique identity and experience
- explore an alternative **governance structure** that is more efficient and economically viable

2.0 BACKGROUND AND CONTEXT

Port Hedland has been an important transport hub for more than 100 years. It is a dynamic town in Western Australia's Pilbara region set along a rugged and picturesque coastline and home to more than 20,000 people. The town's region is the economic might of the Australian economy on the back of an internationally significant resource industry. It is already the world's largest bulk tonnage export port. Current residential growth is at 5.5 percent which is nearly double the state's average and more than three times higher than the national average. The median personal income is also more than double the state's average.

Even bigger things are ahead – by 2035 Port Hedland will be a nationally significant friendly city where people want to live and are proud to call home. It will be home to 50,000 people and boast attractive and vibrant CBD areas with public open spaces, cafes, boutiques, restaurants, offices and residential areas.

The Port Hedland International Airport is central to this vision. Surrounded by vast landscapes and being some 1800 kilometers from Perth, the airport is the key route of transportation and symbolic gateway into the town as the first and last place people encounter. The airport services a booming fly-in/fly-out workforce of more than 3000 people.

As the world's largest bulk tonnage export port, Port Hedland is an industry driven town. The airport provides key access for not only the town's workforce and residential population, but also essential services such as freight and Royal Flying Doctors Service, on which the community rely.

We recognise the regional economic and social importance of the airport as a gateway to our region, thriving community and significant industry.

2.1 Port Hedland International Airport's history

The Port Hedland International Airport has always played a vital role connecting the town to Perth and beyond. In 1921 the first airfield was developed at the site of the current racetrack. The first regular service linking Port Hedland to Perth took two days and was through Western Australian Airlines. Among the first pilots was a young Charles Kingsford Smith who later became a famous Australian aviation icon when he was the first pilot to complete the trans-Pacific and trans-Tasman crossing.

The Royal Flying Doctor Services' first main base in Western Australia was founded in Port Hedland in October 1935, to provide emergency and primary health care services to remote Pilbara communities. The service was, and still is, a lifeline for the Port Hedland community.

During World War II, up to 70 bombs were dropped on the Port Hedland airfield severely damaging all runways and surrounding buildings.

Since the growth of the mining industry in the 1960s, air passenger numbers have been on a steady increase. In 1956 a fibro-cement terminal building was built to replace the original hut and by 1971 the terminal building was again rebuilt to cope with renewed demands from the mining sector. The building was upgraded in the late 1990s to accommodate the increasing passenger numbers.

2.2 Ownership and operational model

The Port Hedland International Airport is owned and operated by the Town of Port Hedland. Its development is overseen by the Airport Committee which comprises of elected members and community members.

The airport currently employs ten officers across the areas of compliance, operations and paid parking with business, project and administration (human resources, information technology etc) support provided by Town executive and officers.

Ground service agent, North West Aviation Services, mange aircraft movements and check-in facilities. Security services, including checked bag and passenger screening, are provided by MSS Security. AirServices Australia provide flight information and fire and rescue services. Fuel is administered by AirBP.

2.3 Previous plans

The Port Hedland International Airport master plan was finalised in March 2012. It provides a 20 year planning framework for future development of the airport to meet long-term business needs, operational objectives, and regional requirements. It summarises key aviation issues and opportunities and provides detail for the phasing of key infrastructure. The plan also outlines distinct precincts and suitable land uses for these precincts.

The Town had originally allocated a capital works program of $70.5 million over a five year period to transform the airport precinct. It was originally envisaged that in the coming years the airport would accommodate up to 700,000 passengers. Key projects included airside upgrades (apron extensions, runway reseal), landside developments (bus and taxi parking area, car park upgrades), infrastructure upgrades (electrical network, wastewater treatment plant), commercial developments (airport hotel, freight facility, logistics precinct) and terminal upgrades.

A request for proposal to develop an airport hotel was put to the market and while there was good interest, a suitable business case was not provided. This proposal was subsequently put on hold while the redevelopment review was being undertaken. Currently occupancy levels have stabilised and vacancy rates have increased, which has resulted in a softening of demand for new hotels – a review of the proposal has therefore been pushed out to 2015.

The main Regular Public Transport (RPT) apron expansion was progressed and competed in late 2013 with the expansion of the General Aviation northern apron planned for 2014.

Strategic reviews were required to ensure that the proposed planning framework met the region's future growth needs, including the originally proposed projects. As part of these reviews, the redevelopment program was tested and updated to ensure vital aviation infrastructure will be delivered when and where it is needed, as well as maximising the significant economic, social and environmental benefits.

2.4 State Aviation Strategy

The draft State Aviation Strategy was released in late 2013 and outlined the Western Australia government's vision to establish a world-class aviation network and infrastructure that supports and promotes State's economic and social development. It noted that West Australia has experienced rapid growth which brings associated challenges. There have been historical gross underestimates of growth which have resulted in underinvestment in infrastructure and therefore congestion and delays.

The State has identified an opportunity to review governance models for regional airports. Specifically it has identified a number of key actions:

- improve reliability and scope of aviation forecasting
- improve airport planning across the State
- provide long-term capacity (second airport) in Perth metro
- assist in timely delivery of Perth Airport infrastructure
- improve infrastructure planning and development at regional airports
    - develop master plan template
    - establish policy framework for master planning
    - actively engage with all stakeholders during master planning processes
    - engage with Perth Airport in coordinating aviation infrastructure across State's network
    - seek to resolve land tenure issues that restrict development and inhibit commercial viability
- seek aviation security cost recovery approach based on network pricing
- encourage private sector investment in regional airports to improve effectiveness and efficiency
- foster development of tourism
- encourage competition and seek reduction in high cost airfares
- conduct regulated route review
- conduct tender for Kimberley air services

Relevant to the development of Port Hedland International Airport is the consideration of alternative governance models and recognising that passenger forecasts have been grossly underestimated. These themes are explored further in this document.

3.0 VISION AND DEVELOPMENT OBJECTIVES

The Town of Port Hedland's strategic community plan outlines a goal to develop Port Hedland International Airport as a leading regional airport in the area of passenger and freight movements and customer satisfaction, including:

- redevelop and upgrade airport
- increase passenger and freight traffic
- increase revenue
- improve customer satisfaction

Our vision is for the Port Hedland International Airport to become a modern and well-serviced airport that provides a welcoming gateway to Australia's North West.

Our development philosophy is based around key objectives of:

- safety – ensuring that assets are fit for purpose and meet regulatory requirements
- facilitation – customer and stakeholder satisfaction
- sustainable growth management
    - master planning
    - operational
    - financial/commercial
    - social
    - environmental

4.0 PORT HEDLAND INTERNATIONAL AIRPORT TODAY

Port Hedland International Airport is experiencing rapid growth in the numbers of passengers and service providers for both domestic and international flights.

The airport land is divided into four precincts – terminal and surrounds (precinct 1), transient worker accommodation (precinct 2), Kingsford Smith Business Park (precinct 3) and unallocated areas (precinct 4). The terminal and surrounds is the key focus of the redevelopment strategy.

4.1 Existing facilities

The area around the terminal (precinct 1) is the most developed component of the airport and includes a variety of land uses. Most are directly or incidentally related to the function of the runway and terminal, including car hire, terminal services, Royal Flying Doctor Service and Bureau of Meteorology, as well as freight and general aviation. This area is currently considered to be cluttered and ad hoc, and does not function optimally.

The existing facilities at Port Hedland International Airport include:

- passenger terminal – including three departure gates, passenger and checked baggage screening, Qantas and Virgin Australia check-in desks and Qantas self-check-in kiosks, Qantas lounge, office space, hire car operator booths, Westpac ATM, amenities, international processing (customs and quarantine facilities) and bar and café with internal and external seating areas
- hire car operations such as workshops, ready bays and storage facilities for seven companies including Avis, Budget, Europcar, Hertz, McLaren Raw Hire, North West Rentals and Thrifty
- general aviation hangars and offices for Royal Flying Doctors Service, School of the Air, Polar Aviation and Russell Aviation
- domestic and international freight operators – respectively Port Hedland Air Freight and Pilbara Cargo Terminal
- Air BP fuelling facility
- air traffic control tower (to be reinstated)
- airport residences
- Bureau of Meteorology
- fire pump house facility and two 300,000 litre water storage tanks
- incinerator building
- old fire station facility (currently unused)
- new fire station (currently under construction)
- short and long-term paid parking
- staff car park
- Town of Port Hedland records archive building
- airport operations workshop

The passenger terminal is single level and caters for regional, domestic and international services. The existing total area of the terminal is approximately 2800m^2. The terminal is capacity constrained and expansion is required to meet current and future demand. Two stages of terminal development have been identified and are outlined in section 8.3.

There are a number of land use and activity conflicts within the terminal precinct, including:

- freight, general aviation (GA) and Regular Public Transport (RPT) activities which are located in close proximity and need to be separated

- there is insufficient car parking for vehicle hire and public car parking
- outdated facilities such as the terminal and car parking areas need to be expanded and upgraded – additionally as the airport continues to grow there will be increased demand for growth in freight and logistics, tourism and vehicle hire

To resolve these conflicts and provide for growth, the following needed to be considered:

- resolve existing land use conflicts by rationalising land uses, especially in close proximity to the terminal
- identify new locations for some existing uses
- provide for the expansion of land uses as required

These are outlined in section 8.3

4.2 Airside facilities

The existing airfield movement area consists of two runways and adjoining taxiways. The main runway 14/32 is 2500m long and 45m wide with turning bays at each end. Runway 18/36 is 1000m long and 18m wide. These runways are considered adequate for current operations and were therefore not subject to further review.

There are three sealed apron areas in use at Port Hedland International Airport:

- the northern general aviation (GA) apron
- the main Regular Public Transport (RPT) parking apron
- southern apron and helicopter operations area

There currently exist conflicts between GA, charter and helicopter operations and RPT operations. Additionally RPT services operate on a power-in power-out basis requiring aircraft to park at an angle to the terminal building. This results in a large amount of space being required to facilitate aircraft turning circles resulting in RPT parking being limited to four spaces. In peak periods, or in the event of an unscheduled arrival, the RPT apron parking area can reach full capacity. It also presents jet blast issues across the front of the terminal.

4.3 Aviation security

Port Hedland International Airport is classified as a level 4 security controlled airport under the federal *Aviation Transport Security Act 2004*. As owner and operator of the airport, the Town of Port Hedland is required to ensure the security integrity of the domestic and international aviation networks. This is achieved by the preparation and adherence to the Transport Security Plan. Passenger and checked baggage security screening measures are in place.

We take security very seriously and have implemented other key measures such as:

- CCTV operating across the precinct enabling monitoring of activity across the airport
- security fencing surrounding the airport
- conducting emergency exercises on a bi-annual basis to test and train emergency response and recovery processes

4.4 Aviation operations

The Port Hedland International Airport currently operates general passenger and freight flights to Perth, Melbourne, Brisbane, Broome and Denpasar (Bali). Several flights operate to transport workers from Port Hedland to remote mine

sites. Some international charter flights, such as Department of Immigration and Citizenship and private charters, stop at Port Hedland for fuel and customs checks.

Qantas currently operates B737-800 and B717 aircraft on the Perth, Brisbane and Melbourne routes. Virgin Australia operates B737-800 and Embraer 190 services on the Perth route, and F100 aircraft to Bali. Air North, Network Aviation, Alliance Aviation, Skytraders and Skippers Aviation also operate from Port Hedland. Other operations include irregular freight operations by Antonov 124 aircraft, corporate jet aviation, small itinerant aircraft and helicopter operations.

The airport is also designated as an alternate use and restricted use international airport by the Department of Infrastructure and Transport under the *Air Navigation Act 1920* for aircraft up to Code E size. This means that aircraft that are unable to land at Perth or other destinations due to weather or other incidents can land and be fuelled at Port Hedland if and when required. Customs, health and immigration procedures can only be made available on a restricted basis for flights with prior approval.

AirServices Australia operates an Aviation Flight Information Service from the airport and provide Aviation Fire and Rescue Services. There are plans underway to upgrade the information service to a control tower.

4.5 Infrastructure

The electrical network is outdated and requires an upgrade. The airport precinct operates its sewerage disposal on a septic system which is nearing capacity. Water is supplied from South Hedland. Section 9.0 outlines how the infrastructure will be upgraded.

5.0 AVIATION FORECASTS

Forecasts of passenger and aircraft movements were developed by Tourism Futures International (TFI) and update previous projections on which the 2012 Master Plan was based.

TFI considers it likely that the mining investment growth phase will peak by 2015 at around 500,000 to 600,000 passengers and stabilise around 400,000 to 500,000 passengers depending on the future mix of resident and fly-in/fly-out (FIFO) employment. Additional mining projects and construction of additional port facilities could increase these passenger numbers by more than 50,000. TFI's upper limit estimate for passenger traffic at Port Hedland by 2033 is 730,000 passengers.

Challenges in accurately forecasting future traffic for Port Hedland and other mining-driven airports were acknowledged within the TFI report. An alternative growth projection based on a compound annual growth rate of 5% per annum was developed by airport consulting group Rehbein to provide a sensitivity check. This growth, if it occurred, would result in approximately 1.36 million passengers by 2033. While this level of traffic may represent a longer-term proposition, it was considered to form an appropriate basis for the planning of passenger terminal facilities when taken in the context of a building life of 40 plus years.

The below table outlines the comparative growth projections:

	2010	**2015**	**2020**	**2025**	**2030**
TFI (2011 report)	297,000	610,000	641,000	671,000	702,000
TFI (2013 report)	297,000	523,000	573,000	648,000	709,000
5% growth p.a. (on 2013 figures)	297,000	566,000	722,000	921,000	1,175,000
3% growth p.a. (on 2013 figures)	297,000	544,000	631,000	731,000	848,000

6.0 STRATEGIC REVIEWS

The Town of Port Hedland engaged various specialised consultancies to conduct a series of reviews – including the master plan (land use planning and aeronautical compliance), future growth planning, terminal and car park design, freight and logistics zone, place making and governance structure.

The key outcomes of the reviews, which are explored further in this section, were:

- **airside planning** outcomes offered logical, rational and sensible solutions which were appropriate to meet expected future aeronautical requirements – key programs include apron expansion, moving general aviation operations to a separate apron, new taxiway and changing to power-in/power-out aircraft operations
- nominated **land uses** were considered to be generally sound with strong stakeholder support to develop an international freight hub
- existing **passenger terminal** is undersized and operationally inefficient in peak periods – which provides an opportunity to significantly expand the terminal in its current location, including doubling footprint, creating mezzanine level and building extensive plaza and covered walkways
- reconfiguration of the **ground transport** and car parks is recommended – including creating shared zones, a separate bus parking area, expanding the short-term car park expansion, extending existing service roads and creating new two-way access to freight and logistics zone
- development of a new **freight and logistics zone** with direct airside access lots is recommended to leverage freight opportunities and relocate hire car operations
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- explore an alternative **governance structure** that is more efficient and economically viable

6.1 Community engagement and consultation

Extensive consultation with key internal and external stakeholders was undertaken. This included data gathering, design and placemaking workshops. Workshops were held in Port Hedland on 3 and 4 September 2013 and in Port Hedland and Perth during the week of 28 October to 1 November 2013. They were attended by airline representatives, government agencies, tenants, resources companies, industry groups and community members. Governance workshops were held with key internal staff and elected members in late 2013 and early 2014. Further information sessions were provided to stakeholders and airport tenants.

A community perceptions survey was undertaken by the Town in early 2014 (with 641 respondents). While the survey addressed all of the Town's functions and services, there were a number of key insights specific to the airport. Respondents noted:

- happiness about security screening, check-in and car park facilities
- least happiness with taxi service, café, departure lounge and amenities
- concern about the cost of services and facilities such as café products, parking and flights – it should be noted that of these, the Town only controls parking costs
- concern regarding waiting times and that airport facilities were too small

6.2 Consultancies

To inform the redevelopment strategy, the Town of Port Hedland engaged specialised consultancies to conduct a series of reviews across the areas of master planning, place making and governance structure.

6.2.1 Master plan review and ultimate development outcomes (Rehbein Airport Consulting)

The Town commissioned Rehbein Airport Consulting to undertake a strategic review of the development proposals in the context of the Master Plan. The principal objective of the review was to ensure that existing plans would meet future growth needs and regional requirements to position Port Hedland as a vibrant city of 50,000 people by 2035.

The review focused on the main elements of the Master Plan. It assessed the requirements for each element in more detail and took into account how each element would interface with the others. Related projects, outside the review scope but with the potential to impact on or be impacted by the redevelopment proposals, were also considered as part of the review. The review was structured to cover five themes: airside planning, land use, passenger terminal, car park/ground transport and the freight/logistics zone. Specific objectives relating to each aspect of the review included:

- ensure future growth and regional needs are met
- verify the timing for infrastructure delivery
- maximise the economic, social and environmental benefits of the upgrade
- ensure an integrated, holistic approach
- provide a sound basis for investment.

6.2.2 Place plan (Village Well)

A Place Plan was developed by Village Well to help guide the airport's future redevelopment. The intention is that the redevelopment will be informed by clear placemaking directions shaped by the Port Hedland community.

6.2.3 Governance review (The Airport Group)

The Airport Group were engaged to review the airport's governance structure. Airport investments were previously funded through a combination of government grants and from the airport capital reserve. The scale of the future investments and increasing pressure on public finances may challenge the ability to completely fund future development from traditional sources. This presents an opportunity to review the future governance structure of the airport business to ensure it remains financially viable.

7.0 PLACE PLAN

Village Well was engaged to produce a place plan to guide future master planning and development and to integrate community perspectives and aspirations into the redevelopment project.

Placemaking is the art and science of making authentic, vibrant and resilient places that are valued by their communities and admired by visitors. It is a holistic approach to planning and developing places that involves understanding the culture, qualities and wisdom of the community. It involves collaboration between many stakeholders to articulate a vision for a place and to plan and deliver that vision.

The research phase of the project involved extensive desktop research and field studies in and around the town. Stakeholder engagement explored aspirations for the airport and placemaking opportunities and challenges.

The plan articulates the 'essence' of Port Hedland and outlines principles to guide the redevelopment – these are clear statements that outlined what is special about Port Hedland and how this can be captured in the future role and experience of the airport. The place plan is included at attachment 2.

The essence of Port Hedland was identified as:

- a coastal oasis of mangroves, red raw earth and endless Pilbara sky
- a welcoming, friendly and diverse community with active lifestyles
- many stories and proud traditions of indigenous culture, pearling, shipping, aviation and mining
- a hidden treasure trove of local enterprises, celebrating the convergence of different traditions and passions
- building new industries for the township as a lasting legacy of the mining boom

The principles to guide the redevelopment include:

Proudly sharing the stories and treasures of Port Hedland and the Pilbara	Port Hedland International Airport immerses visitors in the colours, shades and favours of the frontier township, its ancient culture and stunning landscape. In the terminal, the architecture and art collection combine to capture the spirit and vision of the community. Locally produced food and gifts of exceptional quality are on offer at the airport lounge.
A vibrant meeting place	The airport is not just a gateway but a destination and meeting place for the local community, including non-resident workers and business people from the region. Conveniently located between the Port and South Hedland it is a place where people choose to gather for welcome parties and farewells or to meet for business. The terminal is active day and night, and at low traffic times the carpark is a venue for community pop-up markets and events.
Connecting the Port Hedland community	The airport provides an immediate connection with the local community. Upon arrival visitors are met with friendly service and have instant access to community information about what's happening and what's worth a visit in town and beyond
Enjoying the wait	At Port Hedland Airport waiting is a pleasurable experience thanks to comfortable indoor and outdoor lounge areas, convenient services and a choice of quality food and beverage. Children can play and watch planes while departing passengers can enjoy a quiet moment before the flight. Airport operations are quiet and efficient – almost invisible. With smart technology and efficient design the airport services are hassle-free from check-in to boarding, leaving plenty of time for relaxation. A long, uncomfortable wait is a thing of the past.

8.0 AIRPORT DEVELOPMENT

The Town of Port Hedland has developed an ambitious $100 million redevelopment program for the Port Hedland International Airport that will see it transform into a modern and well-serviced welcoming gateway to Australia's North West. We are committed to being a vibrant meeting place that welcomes travellers to the friendly Port Hedland community and treasures of the Pilbara, coupled with our core business of providing efficient passenger and freight services.

A series of reviews were undertaken to inform the redevelopment program. A desktop review of the master plan and associated background material was undertaken by Rehbein Airport Consulting. The findings of this review were then tested in a series of workshops with internal and external stakeholders. The key outcomes are summarised in the following sub-sections:

- land use
- airside planning
- passenger terminal
- ground transport and car park
- freight and logistics zone
- apron extensions

The Town is committed to expanding the airport's domestic and international services. International route development will form a key part of commercial discussions with airlines to leverage Hedland's unique geographical position to Asia and Pilbara industry.

An interim improvements program was also developed to start to ease congestion within the terminal pending the significant redevelopment works.

8.1 Land use

The review identified that the nominated additional land uses were considered to be generally sound – these included commercial (hire cars, hotel, office space, service stations and convenience stores), transient worker accommodation, light-industrial, turf farm and solar plant.

To overcome the challenges noted in section 4.1, it is recommended that:

- land uses conflicting with RPT activities and terminal expansion, such as domestic freight operations and general aviation, are relocated
- new freight and logistics precinct is developed to accommodate these uses
- access and traffic flow around the terminal precinct is rationalized
- northern and southern GA aprons are extended to accommodate expansion opportunities
- landscaping and entry statements are upgraded

Significant upgrades to car parking and terminal facilities are proposed. Land has been allocated close to the terminal for uses directly related to the terminal, such as parking, storage and airport operations workshops. Uses that conflict with terminal activities, such as logistics and freight, are located within a specific precinct for this purpose. Similarly commercial airport uses such as vehicle hire and GA and charter services are located within specific areas.

8.2 Airside planning

The review acknowledged that the expansion of airfield and other airside infrastructure would be a logical, rational and sensible solution to meet expected future aeronautical requirements.

The airside planning review was based on forecast peak hour aircraft movement and stand demand. The airside planning concepts were developed to provide flexibility to respond in both the short term and long term aviation requirements. Planning has been based on a demand scenario where the airport may cater to regular services by wide bodied aircraft (both on domestic and international routes) supporting aircraft up to Code E.

To accommodate the previously mentioned aviation conflicts and planning parameters it was determined that a combination of apron extensions and changed aircraft parking operations to power-in pushback was required.

Specifically, the review noted:

- the majority of future passenger traffic will be served by Code C passenger aircraft size (Boeing 737-800/A320) with the potential for some services to operate using larger Code E aircraft such as Airbus A330-200
- provision for dedicated freight operations by aircraft up to Code F (Antonov an-224) size is required
- opportunity for future expansion of the southern apron to the south-west, running adjacent the boundary with precinct 2
- provision of a Code F taxiway connecting the southern apron and expansion to Taxiway B2 and Runway 14/32
- expansion of the GA apron to the north and widening to increase its capacity including for helicopter operations
- flexibility for apron and terminal facilities to respond to coincident international and domestic operations

The most influential development associated with this review is the proposed change from power-in/power-out to power-in/push back operations on the RPT apron. This change is proposed as part of the apron expansion project which has already been completed. The change will require agreement with the airlines and ground handling contractor in relation to the arrangements for procurement and operation of the necessary ground support equipment, as well as appropriate provision for staging, storage and maintenance.

The original master plan indicated a concept layout for the RPT apron development to accommodate a mix of Code C and Code E aircraft, a Code F connection from the Southern Apron to Taxiway B2 and Runway 14/32 with ultimate expansion to the south-west parallel to the boundary with Precincts 1 and 2.

The current design layout is considered appropriate for the aircraft parking needs at Port Hedland in the short-term. The review concludes that the aircraft parking arrangements as designed should be implemented as planned.

An ultimate apron concept layout was developed and included the following features:

- power-in/push-back parking adjacent to the passenger terminal for up to seven (7) B737-900 size aircraft, or three (3) B737-900 plus two (2) A330-200 aircraft
- A330-200 positions are limited to the western end of the terminal due to push-back interaction with aircraft parked on the Southern Apron
- provision for a covered passenger walkway adjacent the terminal face, head-of-stand airside road, tug zone and equipment staging areas
- a Code E apron edge taxiway with sufficient clearance to form a complete loop back to Taxiway B2
- power-in/power-out positions on the Southern Apron for two B737-800 aircraft or one wide-body aircraft up to AN-224 Code F
- future Code F taxiway linking the Southern Apron with Taxiway B2 and Runway 14/32

- implementation of currently designed aircraft parking arrangements – noting further expansion of the concrete hardstands at aircraft parking positions will be required at a future date to maximize flexibility
- future freight apron expansion adjacent to the Freight and Logistics Subdivision and continuing to the south west adjacent to Precinct 2

8.2.1 Runways and taxiways

The main runway will be improved in 2016 with a new overlay. Reconstruction of the taxiways are planned for late 2014.

8.2.2 Aprons

New concrete aircraft parking bays on the main apron will be constructed when power in/push back operations have commenced.

The extension to the northern apron to create a separate general aviation zone is scheduled to commence in late 2014. The northern apron will be extend 360 metres to the north and will be 65 metres wide. The area will have an asphalt finished surface. The most northern part will be constructed to accommodate helicopter operations.

8.2.3 Emergency services

AirServices Australia operate Aviation Fire and Rescue Services at the airport. An airport emergency plan is also in place which involves all the local services in across the Port Hedland area. Emergency exercises are held on a regular basis to ensure compliance with this place. The emergency plan covers incidents up to level 3 – 560 seats.

8.2.4 New control tower

The existing air traffic control tower is expected to be upgrade to class D in November 2014. AirServices Australia are proposing to build a new tower which should be completed by mid-2015.

8.3 Passenger terminal

The existing passenger terminal is more than 40 years old. It is unable to accommodate current peak period traffic levels, is operationally inefficient, and lacks the passenger comfort and amenities associated with modern airport terminal facilities.

The review identified that the passenger terminal should be retained in the current location with provision for significant expansion to the north, south, east and west. It initially identified a single phase redevelopment to accommodate 1.35 million passengers per year – however this was considered too costly and a staged approach should be adopted (the staged concept is included in appendix 1).

stage 1	**stage 2**
maintain existing location	maintain existing location
create internal area of 4600m^2 and unconditioned area of 2400m^2	create internal area of 7000m^2 and unconditioned area of 1800m^2

accommodate 850,000 passengers	accommodate 1,350,000 passengers
establish international departures and arrivals swing lounge	establish international departures and arrivals on a mezzanine level
create plaza areas to connect terminal and car park	create plaza areas to connect terminal and car park
build covered walkways along airside of terminal	build covered walkways along airside of terminal
invest $44 million	invest $78 million

The concept layouts take into account the functional area space requirements necessary to accommodate the design principles, the constraints to expansion, and parameters set out in the preceding sections. It adopts a spatial configuration which is considered to be optimal in terms of the available terminal site, interactions with adjacent airport activities, and the operational requirements particular to Port Hedland.

The ultimate concept incorporates the following elements (noting a staged approach will be implemented):

- **check-in** area at the eastern end of the terminal. This places the departures entry door at the start of the terminal kerbside, which is a standard arrangement at single-level airport terminals and typically understood by travellers. It also allows for interaction of airline and ground handling personnel between the check-in and baggage make-up areas, which is where the majority of operational workload takes place, with the adjacent airport operations area. The check-in area is nominally sized to accommodate 16 standard check-in/service desks or bag drop counters;
- area for **checked baggage screening and make-up** of baggage loads for outbound flights, located behind check-in to minimise baggage flow paths. The area maximises the flexibility to accommodate a baggage storage and circulation carousel, and enable access and egress of baggage tugs and barrows from the eastern end of the building to minimise interaction with passenger access to and from the terminal and the aircraft.
- landside **concourse** area, where travelling passengers can dwell to use amenities or farewell friends, family and colleagues prior to passing through to the secure departures areas. Non-travelling airport users may also use the concourse to partake in food and beverage or retail offerings, while awaiting arriving flights or visiting the airport for other purposes. This area also functions as general circulation between the check-in and arrivals spaces for passengers and operational personnel.
- passenger **security** screening point, located between the check-in and concourse areas and oriented towards the check-in area, in order to offer direct access to the primary flow of departing passengers for ease of wayfinding.
- **departures** lounge in which passengers dwell awaiting the departure of their domestic flight or prior to passing through further international security and immigration checks. The departures lounge is located centrally, in order to maximise allowable ceiling height within the applicable aerodrome obstacle restrictions. It provides direct connection to the apron and balances the width of apron frontage for passenger boarding gates with sufficient depth to allow comfortable circulation, provision of an appropriate level of retail and food and beverage offer, and space for airline premium lounges – all subject to relevant commercial arrangements.
- mezzanine area to accommodate additional security screening and outward immigration processes for **international departures**, and a waiting lounge with apron views. The mezzanine is conceptually located to the east side of the departures area so as to minimise the impact on full-height views of the apron from within the departures lounge as well as the potential for visual connectivity through from the landside concourse area. It is anticipated that vertical transportation to the mezzanine and back to apron level would be located adjacent the eastern wall.
- covered passenger **arrivals/departures walkway** allowing passenger flows across the terminal apron face while minimising interaction with vehicle operations on the apron.

- domestic **arrivals** via a dedicated corridor directly to the baggage reclaim area. This minimises counter-flows and congestion which can occur if arriving passengers pass back through the departures lounge.
- **international arrivals** through an adjacent corridor with dedicated space for duty free collection, primary line queuing and inwards immigration processes. A swing arrangement allows baggage collection from one of the reclaim carousels. Passengers then pass through a dedicated area for secondary examination processes which will incorporate offices and specific facilities for the use of the border protection agencies before re-entering the domestic arrivals corridor.
- **baggage breakdown** area at the western end, allowing baggage tugs and barrows to enter and exit from the north-west corner of the RPT apron, minimising the conflicts with passenger movements across the face of the terminal.
- external **plaza** areas to connect the terminal with the drop-off/pick up area and through to the short-term car park, rental car and shuttle bus zones and the long-term car parking beyond. It is envisaged this area will be appropriately shaded, and that the central portion in particular will be activated and connected to the internal concourse.

Further information on the proposed concepts is outlined in the Rehbein report at appendix 1.

8.4 Ground transport

Reconfiguration of the ground transport and car parks is recommended to ensure optimal traffic flow, including creating a separate bus parking area, expanding the short-term car park, extending the existing service roads and installing a new two-way access to freight and logistics zone.

The master plan set out a broad concept for car parking and ground transport with short-term and rental parking immediately to the north of the terminal reserve, long term parking further north, and bus parking to the east of the terminal access road. The review identified that the existing infrastructure should be maintained and re-used as far as possible with some adjustments to maximise its practicality.

Airport front-of-house security requirements make it necessary to limit the size and number of vehicles permitted access to the terminal kerbside and dictate enforcement of waiting time restrictions. At the same time, emergency vehicle access as close as possible to the terminal needs to be facilitated in the event of fire. It is therefore proposed that a separate bus parking area is installed away from the front of the terminal.

Rental vehicles form a large proportion of transport demand at the airport. However rental car companies find it challenging to provide estimates of future demand as this is fundamentally driven by resource company shift patterns. This tends to exacerbate the need for additional ready-bays in close proximity to the terminal during peak flight periods. Therefore some flexibility in the number of rental vehicle ready bays provided is required.

As with the passenger terminal, moving to the ultimate plan was determined too costly. A staged approach is recommended (the staged concept is included in appendix 1):

stage 1	stage 2
maintain existing traffic flow	install new access roads and improve traffic flow
create shared pick-up/drop-off through short term car park and terminal plaza with double exit boom gates	create shared pick-up/drop-off through short term car park and terminal plaza with double exit boom gates
develop remote bus parking area	develop remote bus parking area

extend car rental areas	extend car rental areas and short term car park
maintain existing long-term car park	maintain existing long-term car park
install pedestrian access routes	install pedestrian access routes
extend GA apron service road	extend GA apron service road
invest $4 million	invest $10 million

Key highlights of the ultimate ground transport arrangements (noting a staged approach will be implemented) are:

- relocation of the pick-up/drop off zone to the north to accommodate terminal expansion with access is to be co-located with the entry to the short-term car park and controlled via a boom gate and terminal
- reconfiguration of the existing short-term car park entry and exit arrangements to provide for direct access to the short-term parking from the pick-up/drop off area for users that exceed the permitted free time allocation, or those who wish to drop off passengers prior to parking
- provision of dual exit gates from the short term parking to alleviate congestion and queuing during peak periods
- incorporation of permanent mini-bus and coach parking area to better address resource company requirements for transit of employees.
- remove transverse circulation roadway to the north of the existing short-term car park and therefore the constraint on relocation of the short-term parking to accommodate terminal expansion and the need for pedestrians transiting to and from the rental car and bus parking areas to cross any significant roadways
- development of expanded short-term parking to the north of the existing, and formalisation and expansion of the rental car parking area to the south of the existing long-term parking. Whilst the full development requires relocation of the existing car rental facilities and fire water storage tanks, sub-stages of this development in accordance with the overall concept could be considered.
- provision of 185 short-term public car park spaces and 265 rental car ready-bay spaces
- boundary between the short-term public and rental car ready bays is to be of a flexible nature, utilising relocatable bollards or other ‘soft’ barriers rather than hard form such as kerbs, so that relative number of spaces for each use may be easily adjusted in the future to suit actual demand
- location of access and egress to the rental car and bus/coach parking from the existing transverse road to the south of the long-term parking.
- retention of the existing long term parking area without alteration
- dual, well-defined and relatively direct pedestrian access routes linking the terminal plaza with a central node surrounding the bus and coach parking and northwards to the long-term parking
- a new seagull intersection to enable extension of the existing service road serving the northern apron hangars to be aligned more closely to and parallel with the main terminal egress – this facilitates further hangar development in this area.
- removal of staff parking from the main paid car parking areas with provision of staff parking spaces to the south of the Polar Aviation hangar, accessed via the service road
- provision of a new two-way access to the freight and logistics subdivision passing to the north and east of the airport personnel houses to facilitate connectivity between the rental car ready-bays and the storage lots in the subdivision, in particular for vehicles travelling to the ready bays

8.5 Freight and logistics zone

International air freight has been identified as a potential area for growth for the airport. An area has been reserved for this activity on both the airside (through development of a dedicated Code F capable freight apron) and landside (through reserving an appropriate size block of land for a possible cargo terminal). The provision of a new cargo and freight facilities will be driven by the developing business needs and will require sufficient landside area and access roads to keep freight trucks off the main airport access roads.

The master plan proposed the development of facilities for freight and logistics uses in an area to the south and east of the terminal. An area reserved for airport operations uses was also identified to the east and north of the terminal.

The recommended concept layout for the freight and logistics subdivision is included at appendix 1 and has the following features:

- provision of thirteen (13) lots with five (5) direct airside lots
- provision for airport operations lot
- allowance for internal roads, rather than access road along airside perimeter as is currently in place

The area to the north of the existing Air BP facility has limited access to the airside due to the location immediately adjacent the RPT Apron. This area would therefore be best suited for the consolidation of airport operations activities including an airport operations centre, emergency operations facilities, ground service equipment storage and maintenance, administration and support.

Proposed airside access lots provide a logical location for international and domestic freight facilities. This area offers convenient access to dedicated freight operations on the existing southern apron and any future expansion of this to the south-west, as well as for handling of belly-hold freight in passenger aircraft on the RPT apron.

8.6 Apron extensions

The existing northern apron will be extended to create a separate general aviation area. This will include a 360 metre extension to the north. It will be 65m wide and have an asphalt finished surface. The new apron will allow for additional hangars to be built along the east side with direct apron access. Additional parking will be available for light aircraft.

The most northerly part of the new apron will be designated for helicopters. A new main aiming point and helicopter areas will be constructed.

8.7 Interim improvements

A series of works were identified to ease congestion within the terminal, improve the amenity of the precinct and start to position the airport as a welcoming gateway to the North West that reflects Port Hedland's unique sense of place.

The $2 million program will see the creation of a larger departures area, introduction of public art and visitor information, and improved seating options. External to the terminal, works will include installing shade sails across front of terminal, shaded seating areas, new signage and painting. A separate bus facility will also be installed.

8.8 International route development

Port Hedland International Airport is the only international RPT close charter airport north of Perth. Virgin Australia currently operate a direct Bali flight on weekends with extended services during peak school holiday periods and the airport services international freight operations with a licensed international freight cargo terminal operator. The airport also acts as a technical fuel stop for international charters and processing point for Department of Immigration and Citizenship flights.

The Town recognizes there is significant opportunity to expand these services and leverage Port Hedland's unique geographical position to Asia and Pilbara industry.

Outcomes from stakeholder workshops recognized the unique opportunity to expand these freight services and position Port Hedland as the international freight hub of the North West – this directly links with our booming industry, port operations and accessible location along the Great Northern Highway in relative close proximity to resource operations and mine sites. Anecdotal evidence suggests that freight is flown from Asia to Perth and transferred to road trains for delivery to the Pilbara – there is an opportunity for this freight to be delivered directly into Port Hedland.

With the increase in freight operations also comes the opportunity to expand passenger services with new airlines and routes. Together with this, and through the establishment of interconnection routes between the regional Pilbara airports there exists a larger catchment opportunity for international passenger services. The Town is continuing these discussions with respective airlines.

9.0 INFRASTRUCTURE SERVICES

A review of infrastructure services has identified the need to significantly upgrade the existing essential services – electricity, water and wastewater.

9.1 Electricity

The airport has a 1 million volt-amperes (MVA) low voltage electrical distribution system. To accommodate the redevelopment program, future growth and demand it is anticipated that the airport will require a 4.5MVA high voltage electrical distribution system (to provide 3.6 megawatts to the precinct). This requires significant upgrades to the existing infrastructure and the provision of new equipment and infrastructure, including:

- upgrade to low-voltage distribution network
- replacement of the old low voltage ring main with a more effective radial network
- establishment of new high-voltage distribution network to deliver:
    - power to the new freight and logistics subdivision
    - power to the new passenger terminal
    - power to new Northern Apron expansion
    - capacity to provide power to new AirServices Australia fire station and air traffic control tower
    - capacity to receive solar power from the pilot site
- installation of two new generators
- installation of three additional sub-stations allowing separate meters
- upgrade of Horizon Power's connection to the airport precinct allowing additional power provision
- installation of airside lighting control unit

9.2 Solar power

A pilot solar power site within the Kingsford Smith Business Park area is being considered by the Town. The project is anticipated to initially provide 2 megawatts, increasing to 10 megawatts within a couple of years. The pilot program focuses initially on a 3 hectare site with potential to accommodate a further 17 hectares. There is potential for the airport to access this power as well as surrounding tenancies.

9.3 Water

It was identified that to accommodate the redevelopment program, future growth and demands that the water mains to the airport would need to be upgraded. This could include extension of works being undertaken to the Kingsford Smith Business Park. The Town is working with Water Corporation to undertake this project.

9.4 Sewerage

The airport currently maintains a septic system. To provide greater capacity to meet future demand, the Town is investigating either a wastewater treatment plant or wastewater pumping system to the South Hedland Water Treatment Plant.

The upgrade of these essential water and sewerage services will benefit both the airport and its surrounding areas laying the foundation for economic development within the area. As a key example wastewater upgrades will enable the existing accommodation providers to move from their current septic facilities to a wastewater connection to the South Hedland wastewater treatment plant. In addition these upgrades would significantly improve wildlife hazard management (by removing waste water ponds and associated bird attraction issues) and environmental impacts across the airport precincts.

The Town is working with Water Corporation to undertake this project.

10.0 GOVERNANCE REVIEW

The Airport Group was engaged to review the airport's governance structure. Airport investments were previously funded through a combination of government grants and from the airport capital reserve. The scale of the future investments and increasing pressure on public finances may challenge the ability to completely fund future development from traditional sources. This presents an opportunity to review the future governance structure of the airport business to ensure it remains financially viable.

As part of the review several workshops were held with key staff and elected members. The review identified several alternate governance approaches to be further investigated. Of the governance and ownership options examined it was identified that:

- there is a clear preference for a council controlled organisation (that will include increased commercialisation), together with a lease option, since these options will retain airport ownership
- there is no support for a freehold sale, and little support for amalgamations, shared services, management agreements or owner/operator

10.1 Objectives

The agreed governance objectives that will underpin the consideration of a future governance model include:

- retain ownership of the asset
- overall financial return must be better than the status quo if any change is to proceed (for example comparable financial return, plus a sizeable initial financial incentive)
- real figures of the cash flow and the asset value of the airport as a stand-alone entity must be used in any decision on the governance model
- essential services (such as Royal Flying Doctor Service) must be maintained
- there must be an expanded benefit (for example sense of place) to the local community
- depth of management expertise must be enhanced through access to a wider pool of qualified people
- the overall level of risk to the Council must be reduced through an appropriate governance structure (for example financial and operational risks must be capped, limited or transferred)
- maximise the use and the return from the existing land and facility at the airport through smart planning and infrastructure, irrespective of the governance model chosen

10.2 Critical success factors

The following critical success factors were identified as a prerequisite for any governance transition:

- allowing greater access to debt funding against airport asset base and quarantining of debt risk to the airport assets
- establishing an appropriate level of airport operator autonomy and maintaining a reasonable degree of strategic influence while maximising financial returns to the Town
- establishing a greater level of commercial focus by allowing for sufficient decision making flexibly to ensure financial sustainability
- ongoing operational decision making and operating and capital expenditure rests with others, who have the necessary airport management expertise to efficiently run the airport
- allowing access to qualified staff and greater economies of scale through wider commercial network.

The Town will continue to review the governance structure and determine the most appropriate model for the airport.

11.0 IMPLEMENTATION

The ambitious $100 million redevelopment program for the Port Hedland International Airport that will see it transform into a modern and well-serviced welcoming gateway to Australia's North West.

11.1 Funding and timeline

More than $100 million of projects have been identified and are programmed to be completed over next five years, including:

project	budget estimate	timeline
terminal	$ 44,000,000	provisionally scheduled to commence construction in late 2017 with completion anticipated for end 2018. Although it is noted that with the increased scope of the interim works program additional departure lounge capacity will be created, which it is anticipated will extend the existing terminal's life by up to five additional years
car park	$4,000,000	provisionally scheduled to commence construction in late 2016, but with the introduction of the staged planning framework this project has been broken up into a number of elements which can be undertaken much earlier – subject to phasing considerations
freight and logistics zone	$ 8,500,000	programed to commence construction in late 2014 and is scheduled for completion by mid-2015
apron extension	$ 9,000,000	the main RPT apron expansion has now been completed and the northern general aviation expansion is scheduled for completion by end 2014
runway rebuild and runway resheet	$5,500,000	currently scheduled to commence in mid-2015 but is under technical review and may be deferred to later in the five year program
security fencing	$1,500,000	scheduled for mid-2014
water/wastewater services	$ 14,000,000	it is anticipated that construction may commence as early as end 2014 with the entire project expected to take two years to complete. The Town has commenced negotiations with the Pilbara Development Commission for co-contribution to the upgrade
electrical network	$5,000,000	commenced in late 2013 and is expected to be completed by end 2014 – it is noted that potential upgrades to Horizon Power's north west interconnected system may be required, which could add an additional $3,000,000 to budgeted costs. The Town has commenced negotiations with the Pilbara Development Commission for co-contribution to the upgrade
other related infrastructure	$16,000,000	program varies depending on project item

and upgrades		

11.1.1 Funding sources

A number of funding sources have been identified including:

- airport capital reserve
- revenue (sale and lease) from Kingsford Smith Business Park
- new revenue sources (retail, airfreight, general aviation hangars, uplift to concessions)
- loan funds and additional Town funds

Given the proposed timing and size of the capex program there are a number of challenges associated with the funding task. Over the five to seven year program $30 million in funding has been budgeted from site rents and lot sales within the Kingsford Smith Business Park Precinct with $10 million of this funding budgeted to be provided within the first year. However, there have been delays in the issuing of titles, which is impacting on this funding source.

Around $52 million in surplus funds from future operations and new revenue initiatives have also been identified with $6.7 million relying on new revenue sources. This also assumes airport revenues will grow at 5% per annum while expenditure only grows at 3.5% per annum.

In terms of municipal reserves potential funding of $19 million has been assumed which will be coming from airport reserve. Finally, and to achieve a balanced capex to funding budget, a further $13.5 million would need to be sourced from debt. Given the above it is noted there does exist some funding risks. These risks are being considered as part of the governance review.

This program will be by its nature is subject to regular and constant review and various elements and amounts may and will change over time. An indicative five year program and cashflow have been included at appendix 3.

11.2 Communications and engagement strategy

The Town is committed to engaging with the community, stakeholders and tenants as the redevelopment program moves forwards. This will include:

- launch and promotion of airport redevelopment program
- provision of regular and timely information
- maintain clear airport visual identity

REHBEIN AIRPORT CONSULTING

DATE 06 January, 2014

CONTACT BEN HARGREAVES

Port Hedland International Airport Redevelopment Program Review for Town of Port Hedland

EXECUTIVE SUMMARY

The Town of Port Hedland, which owns and operates the Port Hedland International Airport, has made a commitment to transform the airport precinct into a modern and well-serviced facility that provides a welcoming gateway to the North West.

This commitment is based on the Port Hedland International Airport Master Plan which was finalised in March 2012 and incorporates work undertaken by various consultants across a period of two to three years.

The Town commissioned REHBEIN Airport Consulting to undertake a strategic review of the development proposals in the context of the Master Plan. The principal objective of the review was to ensure that existing plans will meet future growth needs and regional requirements to position Port Hedland as a vibrant city of 50,000 people by 2035.

The review has been structured to cover five themes: airside planning, land use, passenger terminal, car park/ground transport and the freight/logistics zone. Specific objectives relating to each aspect of the review included:

- The need to validate previous plans, in order to:
  - Ensure future growth and regional needs are met
  - Verify the timing for infrastructure delivery; and
  - Maximise the economic, social and environmental benefits of the upgrade;
- Ensure an integrated, holistic approach; and
- Provide a sound basis for investment.

Extensive consultation with key internal and external stakeholders through data gathering and design workshops was undertaken, as well as participation in 'placemaking' workshops. Workshops were held in Port Hedland on 3 and 4 September 2013 and in Port Hedland and Perth during the week of 28 October to 1 November 2013. The final design concepts were ultimately informed by stakeholder and community feedback and the workshop outcomes.

Revised forecasts of passenger and aircraft movements were developed by Tourism Futures International (TFI) – these update previous projections on which the Master Plan was based. TFI considers it likely that the mining investment growth phase will peak by 2015 at around 500,000 to 600,000 passengers and stabilise around 400,000 to 500,000 passengers depending on the future mix of resident and fly-in/fly-out (FIFO) employment. Additional mining projects and construction of additional port facilities could increase these passenger numbers by more than 50,000. TFI's upper limit estimate for passenger traffic at Port Hedland by 2033 is 730,000 passengers.

Challenges in accurately forecasting future traffic for Port Hedland and other mining-driven airports are acknowledged within the TFI report. An alternative growth projection based on a compound annual growth rate of 5% per annum was developed by REHBEIN to provide a sensitivity check. This growth, if it occurred, would result in approximately 1.36 million passengers by 2033. While this level of traffic may represent a longer-term proposition, it is considered to form an appropriate basis for the planning of passenger terminal facilities when taken in the context of a building life of 40 plus years.

The review has tested the previous concepts and identifies appropriate refinements to meet the previously noted objectives and accommodate 1.36 million passengers. The key outcomes are intended to inform the subsequent detailed design process and are summarised as follows:

Airside Planning

- The proposed concepts (contained in the Master Plan) for airfield and airside infrastructure expansion offer logical, rational and sensible solutions which are appropriate to expected future aeronautical requirements.
- The change from power-in/power-out to power-in/push-back operations and implementation of new aircraft parking arrangements is endorsed, however it is recommended that the proposed concrete aircraft parking positions are omitted to preserve maximum flexibility.
- A number of principles from these concepts are fully endorsed including:
  - Future expansion of the Southern Apron to the south-west, running adjacent the boundary with Precinct 2;
  - Provision of a future Code F taxiway connecting the Southern Apron and expansion to Taxiway B2 and Runway 14/32;
  - Expansion of the general aviation (GA) apron to the north and widening to increase its capacity including for helicopter operations; and
  - Flexibility for apron and terminal facilities to respond to concurrent international and domestic operations.

Land Use

- The proposed non-aeronautical land-use strategy set out in the Master Plan is considered to be generally sound and the proposed lot layouts and land uses within Precincts 2, 3 and 4 are mostly reasonable.
- The lot layout within Precinct 2 should be reviewed in relation to preserving the capability for ultimate expansion of freight and other major aviation support activities once Precinct 1 is fully occupied.
- The stakeholder consultation revealed a widespread consensus that there is a potential opportunity in the short to medium-term to develop an international freight hub at the airport and that existing proposals for a freight and logistics subdivision within Precinct 1 should be modified if necessary to accommodate this.
- Relocation of the existing freight facilities is essential in order to facilitate the expansion of the terminal to the east.
- The proposed lot layout of the freight/logistics zone needed to be rationalised to facilitate common user international airfreight facilities.

Passenger Terminal

- The existing passenger terminal location should be retained.
- The existing facility is undersized in relation to current peak period traffic levels, operationally inefficient, and lacks the passenger comfort and amenities associated with modern airport terminal facilities.

- Expansion in a single phase to a total footprint of approximately 11,930m^2 is recommended (8,800 m^2 internal and 3,130 m^2 external).
- Incorporation of international departures facilities would be best on a mezzanine to maximise flexibility for concurrent international and domestic operations.
- A covered walkway to the apron face of the terminal should be provided.
- An extensive plaza area connecting terminal to ground transport arrangements will assist with proposals to generate a sense of place and smooth the transition between transport modes.

Car Park/Ground Transport

- Provision of a shared-use pick-up/drop off zone and reconfiguration of the existing short-term car park entry and exit arrangements is recommended.
- Incorporation of a permanent mini-bus and coach parking area to the north of the short-term car park, to address front-of-house security concerns and resource company requirements for transit of employees.
- Development of expanded short-term parking to the north of the existing, and formalisation and expansion of the rental car parking area to the south of the existing long-term parking. The boundary between these areas should be of a flexible nature so that relative number of spaces for each use may be easily adjusted in the future to suit actual demand.
- Retention of the existing long-term parking area without alteration.
- Extension of the existing service road to facilitate further hangar development in this area and a new intersection with the main airport access road.
- Provision of staff parking spaces to the south of the Polar Aviation hangar.
- Development of a new two-way access to the freight and logistics subdivision to facilitate connectivity between the rental car ready-bays and the storage lots in the subdivision.

Freight/Logistics Zone

- Retain the existing layout of Lots 1-8.
- Adjust the road layout creating direct airside access from the Air BP site.
- Develop a new area immediately north of the Air BP site for consolidation of airport operations activities.
- Consolidate proposed Lots 9/10 and 12/13 to provide larger lots with airside access.
- Identification of four lots with direct landside and airside access suitable for development of international and domestic freight hub facilities, individually or in various combinations.

There are a number of matters for consideration for each of the program areas and these are explored further in the report.

As the redevelopment of the airport precinct will be undertaken within and around a live operating airport, there are a number of project sequencing issues that need to be addressed. The key steps in the development sequence are as follows.

- Provision of services (water, wastewater, electricity) and establishment of road access to the proposed lots in the Freight/Logistics Zone.
- Construction of the northern GA apron expansion and provision of additional hangar sites, which will enable relocation of existing general aviation tenants within the airport operations zone.
- Relocation of the existing freight operations to the new freight hub and rental car facilities to the logistics zone.
- Reconfiguration of the short-term car park to accommodate the proposed expansion of the terminal to the north.
- Demolition of the existing building to the west of the terminal.
- Construction of the proposed terminal extension in stages commencing with a new check-in hall at the eastern end.

Indicative costs for key elements of the redevelopment along with appropriate contingencies have been identified for budget purposes and are provided within the report.

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Document Control Page

Revision	Date	Description	Author	Signature	Verifier	Signature	Approver	Signature
0	11/12/13	PRELIMINARY	BJH		JSL/MJ		BJH	
1	18/12/13	DRAFT	BJH		JSL/MJ		BJH	
2	19/12/13	FINAL	BJH		JSL/MJ		BJH	
3	06/01/2014	FINAL	BJH		JSL/MJ		BJH	

1.0 INTRODUCTION

1.1 BACKGROUND

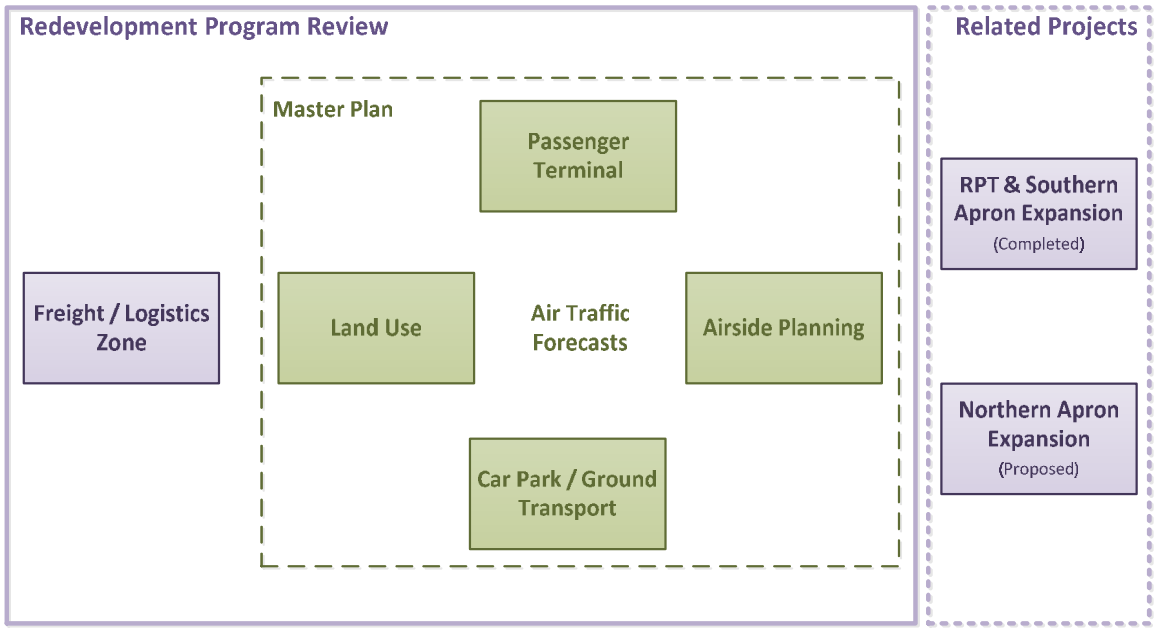
The Town of Port Hedland, which owns and operates the Port Hedland International Airport, has made a commitment to transform the airport precinct into a modern and well-serviced facility that provides a welcoming gateway to the North West.

This commitment is based on the Port Hedland International Airport Master Plan which was finalised in March 2012 and incorporates work undertaken by various consultants across a period of two to three years.

The Town commissioned REHBEIN Airport Consulting to undertake a strategic review of the development proposals in the context of the Master Plan. The principal objective of the review was to ensure that existing plans will meet future growth needs and regional requirements to position Port Hedland as a vibrant city of 50,000 people by 2035.

The review focusses on the main elements of the Master Plan. It assesses the requirements for each element in more detail and takes into account how each element will interface with the others. Related projects, outside the review scope but with the potential to impact on or be impacted by the redevelopment proposals, are also considered. Figure 1 illustrates the various components of the review.

Figure 1: PHIA Review Elements



In preparation for the investment of more than $70 million over the next five years, to transform the airport into a modern, well-serviced facility that will provide a welcoming gateway to the North West, the Town of Port Hedland (The

Town) commissioned REHBEIN Airport Consulting to undertake a strategic review of the development proposals in the context of the Master Plan.

1.2 REVIEW OBJECTIVES

The principal objective of the review was to ensure that existing plans will meet future growth needs and regional requirements to position Port Hedland as a vibrant city of 50,000 people by 2035.

The review was structured to cover four themes established by previous detailed studies: airside planning, land use, passenger terminal and car park/ground transport. A fifth aspect – freight facilities – was subsequently incorporated following initial stakeholder workshops.

Specific objectives relating to each aspect of the review included:

- The need to validate previous plans, in order to:
  - Ensure future growth and regional needs are met
  - Verify the timing for infrastructure delivery; and
  - Maximise the economic, social and environmental benefits of the upgrade;
- Ensure an integrated, holistic approach; and
- Provide a sound basis for investment.

The review has tested the previous concepts and identifies appropriate refinements to meet these objectives. The key outcomes are intended to inform the subsequent detailed design process.

1.3 BACKGROUND MATERIAL

The review has made reference to relevant background material, which includes:

- Port Hedland International Airport Master Plan, March 2012, prepared by Airbiz[1];
- Port Hedland Airport Terminal Plan Stakeholder Consultation, 8 December 2010, Prepared by Airbiz;
- Port Hedland International Airport Master Plan, January 2011, prepared by Whelans Town Planning and Parsons Brinckerhoff;
- Air Traffic Forecasts for Port Hedland Airport, Draft Report, March 2011, prepared by Tourism Futures International;
- Port Hedland International Airport Terminal Redevelopment Concept Master Plan, July 2011, prepared by Thinc Projects, Sandover Pinder and Rider Levitt Bucknall;
- Port Hedland Airport Car Parking Study, November 2010, prepared by Cardno Eppell Olsen;
- Port Hedland Airport Terminal Plan Commercial and Retail Demand, 24 November 2010, prepared by Airbiz;

[1] This document will be referred to hereafter as the Master Plan. Other background documents will be identified by their full name, date and organisation. Some of these background documents were also appended to the Master Plan.

- Port Hedland Airport Car Park Redevelopment Concept, Drawings PE_WAPH0012(2), June 2011, prepared by Opus;
- Port Hedland International Airport Hire Car and Freight Area, Proposed Construction of Earthworks, Roads, Drainage, Waste Water, Water and Associated Works, Town of Port Hedland, June – 2013 (WAPC No 145870), prepared by Parsons Brinckerhoff;
- Drawing No. 2346-A-031/B Port Hedland International Airport Apron Extension Aircraft Marking Plan Push Back – Sequence 1 prepared by Enesar Pty Ltd.

1.4 ENGAGEMENT AND CONSULTATION PROCESS

The review has included extensive consultation with key internal and external stakeholders, through a series of workshops. Key workshop sessions were held at the commencement of the review process, and again once initial concepts had been prepared.

Participation in community and stakeholder 'placemaking' workshops, conducted as part of a complementary Town of Port Hedland initiative, was also undertaken. The ideas generated within these workshops and the subsequent recommendations from the placemaking consultancy, have provided important guidance in relation to several of the concept elements.

Feedback from these reviews and workshops has formed an essential element in guiding the development of the concepts and testing these against future requirements and existing constraints.

Key workshops were held in Port Hedland on 3 and 4 September 2013, and in Port Hedland and Perth during the week of 28 October to 1 November 2013.

1.5 AIR TRAFFIC FORECASTS

Revised forecasts of passenger and aircraft movements have been developed for the Town of Port Hedland by Tourism Futures International (TFI) as part of the redevelopment strategy review. The forecasts are set out and described in the TFI report *Air Traffic Prospects for Port Hedland Airport, Final Report October 2013*. These forecasts review and update the previous projections prepared by TFI in 2011 on which the Master Plan was based.

1.5.1 HISTORICAL GROWTH

Table 1-1 shows the annual passenger and RPT aircraft movement traffic at Port Hedland for selected years since 2005. Growth in passengers has resulted in a sustained compound annual growth rate of almost 25% since 2005.

Table 1-1: Port Hedland International Airport Traffic Growth

Year	2005	2010	2012	2013 Estimated
Passengers	100,430	296,810	473,979	513,000
RPT Aircraft	2,791	3,477	5,450	5,800

Source: TFI, 2013

Growth in aircraft movements has lagged somewhat, but substantial increases over the last three years have resulted in a compound annual growth rate of around 20% over the period since 2005. Weekly return services increased from 45 in 2011 to 58 in 2013. This increase has been almost entirely attributable to an increase in Qantas and QantasLink services.

1.5.2 PROJECTED TRAFFIC

The 2011 TFI forecasts projected annual traffic rising rapidly to between 450,000 and 610,000 by 2014 and between 424,000 and 700,000 by 2031. In its 2013 update of the air traffic forecasts, TFI considers it likely that the mining investment growth phase will peak with a year or so if it has not done so already. Following a peak of around 500,000 to 600,000 passengers, TFI expects the level of passenger traffic to stabilise in the range of 400,000 to 500,000 passengers depending on the mix of resident to FIFO employment in the future. Additional mining projects and construction of additional port facilities could add a further 50,000+ passengers in the years of construction, again depending on the resident/FIFO mix. Based on this projection, passenger traffic at Port Hedland may already be at its peak levels. TFI's upper limit scenario for traffic in 2033 is 730,000 passengers.

Whilst it is recognised that the TFI forecasts are based on extensive research and consideration of a comprehensive range of relevant factors, the challenges in accurately forecasting future traffic for Port Hedland and other mining-driven airports are acknowledged within the TFI report. Similarly, whilst it is important that infrastructure be provided, as far as possible in line with demand, the downside risks associated with planning long-term redevelopment around a particular passenger traffic forecasts are also significant. If an upgrade of the existing facilities is to be undertaken, it is essential that sufficient capacity and flexibility are built in to the development proposals to ensure that any unforeseen future surges in traffic growth can be accommodated without unacceptable operational impacts.

An alternative growth projection was developed by REHBEIN Airport Consulting. This projection was based on a compound annual growth rate of 5% per annum. This growth, if it occurred, would result in approximately 1.36 million passengers by 2033. In light of the TFI report, it is acknowledged that this level of traffic may represent a longer-term proposition than a 20-year horizon. Nonetheless, when taken in the context of a building life of 40+ years, it is considered to form an appropriate basis for the planning of passenger terminal facilities. Bearing in mind that a new terminal is unlikely to be fully operational before 2015, and allowing for a 30-year life beyond that prior to additional expansion, 1.36 million passengers by 2045 would require an average annual growth of just 3% per year which is relatively modest in terms of global air traffic forecasts.

Table 1-2 summarises the various growth forecasts to 2030

Table 1-2: Port Hedland International Airport Traffic Growth Forecasts

Forecast	2010	2015	2020	2025	2030	2045
TFI 2011	297,000	610,000	641,000	671,000	702,000	N/A
TFI 2013	297,000	523,000	573,000	648,000	709,000	N/A
5% p.a. on 2013	297,000	566,000	722,000	921,000	1,175,000	2,444,000
3% p.a. on 2013	297,000	544,000	631,000	731,000	848,000	1,321,000

2.0 KEY REVIEW FINDINGS

A desktop review of the Master Plan and associated background material was undertaken by REHBEIN Airport Consulting. The findings of this review were then tested in a series of workshops with internal and external stakeholders. The key findings of these reviews in relation to each element of the redevelopment program are summarised in the following sub-sections.

2.1 LAND USE

- The proposed non-aeronautical land-use strategy set out in the Master Plan[2] is considered to be generally sound.
- Proposed lot layouts and land uses within Precincts 2, 3 and 4 are mostly reasonable. The suggestion that a wind farm could be accommodated in Precinct 4 or anywhere in the vicinity of the airport is considered to be unacceptable given the associated risks to aircraft safety.
- The lot layout within Precinct 2 should be reviewed in relation to preserving the capability for ultimate expansion of freight and other major aviation support activities once Precinct 1 is fully occupied.
- Relocation of the existing freight facilities is essential in order to facilitate the expansion of the terminal to the east. The existing facilities are aged and in urgent need of replacement.
- The stakeholder consultation revealed a widespread consensus that there is a potential opportunity in the short- to medium-term to develop an international freight hub at the airport and that existing proposals for a freight and logistics subdivision within Precinct 1 should be modified if necessary to accommodate this.
- The lot layout within Precinct 1 should be reviewed in light of recent developments and reconsidered in detail as part of this review.
- The stakeholder feedback highlighted that the current infrastructure to support airport operations is spread across several locations. Operations personnel are housed in facilities that were generally not designed for, and are not optimal for, the required purpose.

2.2 AIRSIDE PLANNING

- The proposed concepts for expansion of airfield and other airside infrastructure set out in the Master Plan are considered, in general, to offer logical, rational and sensible solutions which are appropriate to expected future aeronautical requirements.
- The proposals within the Master Plan are based on the majority of passenger traffic in future being served by Code C passenger aircraft such as Boeing 737-800/A320 size aircraft, with the potential for some services to operate using larger Code E aircraft such as Airbus A330-200. This was confirmed as an appropriate planning strategy by stakeholders.

[2] Port Hedland International Airport Master Plan, January 2011, Whelans Town Planning / Parsons Brinckerhoff (incorporated at Appendix II of the 2012 PHIA Master Plan)

- The Master Plan makes provision for dedicated freight operations by aircraft up to Code F (Antonov AN-224) size
- A number of principles from these concepts are fully endorsed and adopted by the review, including:
  - Future expansion of the Southern Apron to the south-west, running adjacent the boundary with Precinct 2;
  - Provision of a Code F taxiway connecting the Southern Apron and expansion to Taxiway B2 and Runway 14/32;
  - Expansion of the GA apron to the north and widening to increase its capacity including for helicopter operations;
  - Flexibility for apron and terminal facilities to respond to coincident international and domestic operations.
- The most influential development associated with this review is the proposed change from power-in/power-out to power-in/push back operations on the RPT apron. This change is proposed as part of the apron expansion project whose design predates the review, but is consistent with the concept set out in the Master Plan. This change will require agreement with the airlines and ground handling contractor in relation to the arrangements for procurement and operation of the necessary ground support equipment (GSE), as well as appropriate provision for GSE staging, storage and maintenance.

2.3 PASSENGER TERMINAL

- The Master Plan retains the existing passenger terminal location and reserves provision for future expansion.
- The existing terminal is over 40 years old and whilst it has remained functional until this point it is undersized in relation to current peak period traffic levels, is operationally inefficient, and lacks the passenger comfort and amenities associated with modern airport terminal facilities. Stakeholder feedback offered no argument for retaining or attempting to re-use any of the existing building structure.
- The stakeholder consultations identified a number of operational issues which the terminal redevelopment concept needs to consider.
- Several previous terminal redevelopment concepts were reviewed as part of the desktop study and initial drafts of alternative concepts were put forward for stakeholder feedback.
- Space requirements and underlying assumptions were re-considered in light of stakeholder input, especially that resulting from the industry workshops and parallel community placemaking process.
- The layout and interrelationship of the different functional areas within the terminal was reviewed and tested for interaction with adjacent internal and external areas including the apron and car park.
- As a result of the above reviews, a number of changes were made to the internal concept layout of the terminal.

2.4 CAR PARK / GROUND TRANSPORT

- The Master Plan had identified a location immediately to the east of the short-term car park to be dedicated for the use of shuttle buses utilised to transport resource company personnel. Mixed feedback was received from

stakeholders in relation to the most appropriate way to accommodate buses within the constraints posed by aviation security requirements, the operational and HR considerations of resources companies, and community 'sense of place' aspirations.

- Airport front-of-house security requirements make it necessary to limit the size and number of vehicles permitted access to the terminal kerbside and dictate enforcement of waiting time restrictions. At the same time, emergency vehicle access as close as possible to the terminal needs to be facilitated in the event of fire.
- In conjunction with the long-term bus parking arrangements, the construction of interim facilities to accommodate buses away from the terminal kerbside whilst the redevelopment program is implemented is proposed by the Town of Port Hedland.
- Rental vehicles form a large proportion of transport demand at the airport. However rental car companies find it challenging to provide estimates of future demand as this is fundamentally driven by resource company shift patterns. This tends to exacerbate the need for additional ready-bays in close proximity to the terminal during peak flight periods. Some flexibility in the number of rental vehicle ready bays provided is therefore suggested.
- General feedback was received that the single boom gate exit from the existing short-term car park was inadequate and could lead to lengthy queues to exit the car park at peak times.
- Clear feedback was received from organisations who have operations in and around the passenger terminal of the need for safe, accessible and cost-effective car parking to be available for the use of their employees.
- Convenient access to the rental car storage lots and servicing facilities proposed within the freight and logistics subdivision of Precinct 1 is important.

3.0 RECOMMENDED DEVELOPMENT PROPOSALS

Drawing B13341-A-001 at Appendix A shows the key elements of the redevelopment proposals resulting from the review. The proposals are divided into four separate but inter-related areas:

- Freight and Logistics Subdivision;
- Airside Planning;
- Passenger Terminal Expansion; and
- Ground Transport.

The recommended development proposals for each area are summarised in the following sub-sections. Further background and rationale for the proposals, along with key matters which require further consideration in the subsequent detailed design phase, is provided in Sections 4.0 through 7.0 following.

3.1 FREIGHT / LOGISTICS ZONE

The recommended concept layout for the Freight and Logistics Subdivision is shown on Drawing B13341-A-002 at Appendix A. Key development proposals include:

- Development of the previously approved subdivision lot layout for eight (8) lots to the north of Roads 1 and 2;
- Adjustment to the proposed road layout thereby creating direct airside access from the Air BP site;
- Development of a new lot immediately to the south of the existing Air BP site;
- Consolidation of some previously approved lots; and
- Identification of four (4) lots with direct landside and airside access that would be suitable for development of international and domestic freight hub facilities, individually or in various combinations.

3.2 AIRSIDE PLANNING

As a result of the findings of the review, development proposals in relation to airside planning have been limited to consideration of the ultimate aircraft parking layout and future expansion of the Southern Apron. A concept layout showing the envisaged ultimate apron arrangement for RPT and freight operations is shown on Drawing B13341-A-003 at Appendix A. Key development proposals include:

- Implementation of currently designed aircraft parking arrangements, but omission of the proposed concrete hardstands at aircraft parking positions in order to preserve maximum flexibility for the future; and
- Future provision of a Code F taxiway access linking the Southern Apron to Taxiway B2 and Runway 14/32; and

- Ultimate freight apron development to the south west in general accordance with Master Plan proposals.

3.3 PASSENGER TERMINAL

The recommended concept layout for the passenger terminal expansion is shown on Drawing B13341-A-004 at Appendix B. Key development proposals include:

- Expansion in a single phase to a total internal area of footprint of approximately 8,800m^2, capable of handling an estimated 1.35 million passengers per year;
- Incorporation of international departures facilities on a mezzanine level to maximise flexibility in timing of international and domestic services;
- Provision of an extensive plaza area connecting the terminal to ground transport arrangements; and
- Provision for a covered walkway to the apron face of the terminal.

3.4 CAR PARK / GROUND TRANSPORT

A concept layout for car parking and ground transport facilities is shown on Drawing B13341-A-005 at Appendix A. Key development proposals include:

- A shared-use pick-up/drop off zone, reconfiguration of the existing short-term car park entry and exit arrangements;
- Incorporation of permanent mini-bus and coach parking area in the location identified for interim facilities;
- Development of expanded short-term and rental car parking areas to north and south of the bus/coach parking area, with a flexible boundary so that relative number of spaces for each use may be easily adjusted in the future to suit actual demand;
- Retention of the existing long term parking area without alteration;
- Dual, well-defined and relatively direct north-south pedestrian access routes;
- A new seagull intersection with an extension of the existing service road serving the northern apron hangars, facilitating further hangar development in this area;
- Provision of staff parking spaces to the south of the Polar Aviation hangar, accessed via the service road; and
- Provision of a new two-way access to the freight and logistics subdivision, passing to the north and east of the airport personnel houses.

4.0 FREIGHT / LOGISTICS ZONE

4.1 PREVIOUS PROPOSALS

The Master Plan proposes the development of facilities for freight and logistics uses within Precinct 1, in an area to the south and east of the terminal. An area reserved for Airport Operations uses was also identified to the east and north of the terminal.

The layout within the July 2011 Land Use Master Plan was subsequently modified during the detailed design process in an attempt to maximise the value of the subdivision and increase the number of lots with direct airside access. The resulting arrangement of 13 lots, three with direct airside access, was submitted and approved by the Western Australia Planning Commission (WAPC)[3].

Valuable and significant feedback on airport operational uses was obtained during the stakeholder consultation process undertaken as part of the review. In particular the extent of space and facilities necessary for the storage and maintenance of the significant items of ground support equipment (GSE) was identified by airport operations and ground handling representatives.

Additional GSE will be generated as a result of:

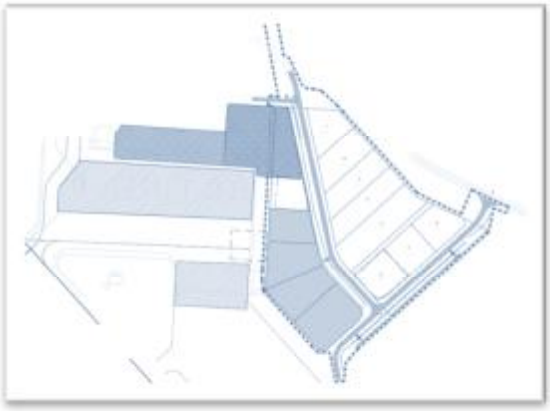
- The proposed change to power-in/push-back operations on the RPT apron; as well as
- The potential for handling wide-body aircraft including unit load devices (ULDs), dollies and loaders.

Additionally, ground handling agents indicated a need for adequate floor space within the terminal to accommodate a number of facilities such as manager's office, training room, lunch room and operations area. By nature of the constraints on the available terminal footprint, it may not be feasible to accommodate all of these internally in the passenger terminal building. It is likely to prove more efficient to provide these facilities separate, but located in close proximity to, the terminal itself.

4.2 RECOMMENDED CONCEPT LAYOUT

The proposed layout of the freight and logistics subdivision is indicated on Drawing B13341-A-002 at Appendix A. The layout:

- Retains the existing layout of Lots 1-8 in accordance with plans previously approved by WAPC;
- Removes the previously proposed publicly accessible Road 3 immediately adjacent the airport perimeter fence between the existing Air BP fuel facility and proposed Lots 9 and 10;
- Consolidates the previously proposed Lots 9/10 and 12/13 to provide larger lots with airside access;



[3] Port Hedland International Airport Hire Car and Freight Area, Proposed Construction of Earthworks, Roads, Drainage, Waste Water, Water and Associated Works, Town of Port Hedland, June – 2013 (WAPC No 145870)

- Retains the existing Air BP facility but provides for direct airside access onto the existing apron taxiway; and
- Modifies the alignment of Road 2 to remain east of the drain, before continuing north to connect with the proposed rental car ready-bay parking area.

The area to the north of the existing Air BP facility has limited access to the airside due to the location immediately adjacent the RPT Apron. This area would therefore be best suited for the consolidation of airport operations activities including an airport operations centre, emergency operations facilities, GSE storage and maintenance, administration and support.

Proposed Lots 9, 10, 11 and 12, individually or in combination, comprise the logical location for international and domestic freight facilities. This area offers convenient access to dedicated freight operations on the existing Southern Apron and any future expansion of this to the south-west, as well as for handling of belly-hold freight in passenger aircraft on the RPT apron.

4.3 MATTERS FOR CONSIDERATION

- Road access to Lots 9-12 would be required across a substantial drain. It will need to be determined whether access is provided by the Town, or to be provided by the lot developer to suit their own layout and operational arrangements.
- An alternative location will need to be found for the proposed pump station.
- The exact location of the airside boundary, lot lease boundaries and associated responsibility for the construction and maintenance of pavement tie-ins and access to edge of existing apron pavement will need to be addressed. It is suggested that an airside road be provided along the eastern perimeter of the airside to provide connectivity for operational vehicles to the RPT apron.

5.0 AIRSIDE PLANNING

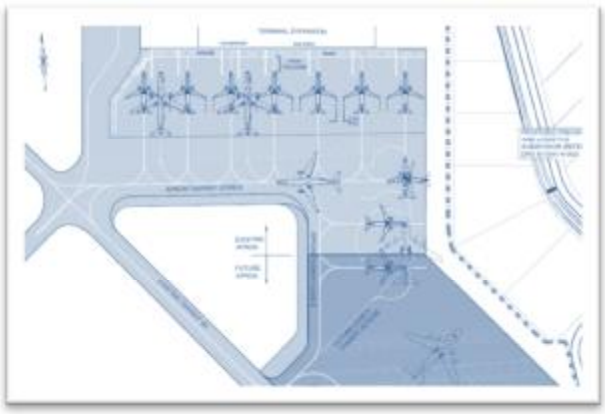
5.1 PREVIOUS PROPOSALS

The Master Plan indicates a concept layout for the RPT apron development to accommodate a mix of Code C and Code E aircraft, a Code F connection from the Southern Apron to Taxiway B2 and Runway 14/32 with ultimate expansion to the south-west parallel to the boundary with Precincts 1 and 2.

As part of the RPT and Southern Apron Extension project, which was underway at the commencement of the review, a more detailed design layout for aircraft parking on the expanded apron was also developed[4].

5.2 RECOMMENDED CONCEPT LAYOUT

The current design layout is considered appropriate for the aircraft parking needs at Port Hedland in the short-term. The review concludes that the aircraft parking arrangements as designed should be implemented as planned.



As part of the review, REHBEIN Airport Consulting undertook an assessment to determine the likely maximum capacity of the extended apron.

This review tested the ability of the apron extent to accommodate potential future parking needs with respect to the following:

- The mix of RPT aircraft that could be accommodated on power-in/push-back positions adjacent the terminal;
- Interaction between passenger movements, GSE operations and the interface with the terminal;
- Push-back operational arrangements; and
- Freight aircraft parking arrangements and the interface with the freight hub facilities.

The ultimate apron concept layout is illustrated in Drawing B13341 A-003 at Appendix A and accommodates the following features:

- Power-in/push-back parking adjacent to the passenger terminal for up to seven (7) B737-900 size aircraft, or three (3) B737-900 plus two (2) A330-200 aircraft;
- A330-200 positions are limited to the western end of the terminal due to push-back interaction with aircraft parked on the Southern Apron;
- Provision for a covered passenger walkway adjacent the terminal face, head-of-stand airside road, tug zone and equipment staging areas;
- A Code E apron edge taxiway with sufficient clearance to form a complete loop back to Taxiway B2;

[4] Enesar Pty Ltd Drg. No. 2346-A-031/B Port Hedland International Airport Apron Extension Aircraft Marking Plan Push Back – Sequence 1

- Power-in, power-out positions on the Southern Apron for two B737-800 aircraft or one wide-body aircraft up to AN-224 Code F;
- Future Code F taxiway linking the Southern Apron with Taxiway B2 and Runway 14/32; and
- Future freight apron expansion adjacent to the Freight and Logistics Subdivision and continuing to the south west adjacent to Precinct 2.

It is, however, recommended that the proposed concrete pads located on aircraft parking positions not be constructed. These would limit the ability of the apron to be reconfigured in future to suit changing demands.

5.3 MATTERS FOR CONSIDERATION

- The Town could consider bringing forward the future Code F taxiway connection to allow a full Code E apron loop in conjunction with some minor extension to the Southern Apron. The taxiway loop is potentially useful to maximise capacity and minimise delays on the RPT apron when multiple aircraft are operating in cul-de-sac arrangement.
- Future expansion of the Southern Apron to the south west beyond the boundary of Precinct 1 could result in interface issues, in relation to interaction with Precinct 2. As a result, land uses proposed for landside areas within Precinct 2 adjacent to the future apron should take into consideration the potential need for apron access.

6.0 PASSENGER TERMINAL

6.1 PREVIOUS PROPOSALS

The Master Plan identified a terminal reserve to the west, east and south of the existing terminal, and also proposed two phases of expansion. Phase I expansion reflects the short- to medium-term market potential of four busy hour domestic narrow body aircraft and an international wide body service. Expansion of the terminal to accommodate this would occur within a footprint of approximately 10,000m^2. Phase II of the expansion would increase the terminal to a total footprint of approximately 11,000m^2 and is based on the ultimate demand scenario envisaged by the Master Plan (the Master Plan does not indicate a particular level of traffic associated with this scenario).

Detailed planning work was undertaken in parallel with the preparation of the Master Plan[5]. This work resulted in a proposed concept plan for the terminal which formed the starting point for discussion with stakeholders. Whilst the high-level concept appears sound, the desktop review conducted by REHBEIN Airport Consulting concluded that some aspects of the layout proved sub-optimal. The redevelopment review process therefore identified a number of potential improvements that could be made to provide additional confidence that the integrity of the final concept can be maintained through the detailed design process.

In addition to this concept, a preliminary terminal upgrade concept plan[6] prepared in-house by the Town of Port Hedland was provided for consideration.

6.2 RECOMMENDED CONCEPT LAYOUT

6.2.1 CONSTRAINTS

Several potential constraints to the expansion of the terminal were identified during the initial desktop review and stakeholder workshop phase of the review. These were:

i) Extensive existing in-ground services running in the verge between the existing front-of-terminal road and the short-term car park, which would be costly to relocate. This effectively sets the northern limit of the new building façade line to the kerb line between the verge and the terminal road. This is approximately 12m north of the existing façade.

ii) As part of the RPT and Southern Apron Extension project, the existing apron floodlighting poles are to be moved to the south sufficiently to accommodate a 15m extension of the terminal. Although there is potential for these lights to moved further south in conjunction with further apron expansion in the future, this effectively sets the limit on the southern façade of the terminal building.

iii) The existing Polar Aviation hangar lease area to the north and west of the terminal presents a potential constraint on access to the western end of the northern façade of the terminal, depending on the extent of construction.

[5] Port Hedland International Airport Terminal Redevelopment Concept Master Plan, July 2011, Thinc Projects, Sandover Pinder and Rider Levitt Bucknall

[6] Designtech Drawing. No. 1224-M-0001/1 – Port Hedland International Airport Main Terminal Building Upgrade Plan

iv) The existing building housing airport operations and other Town personnel immediately to the west of the existing terminal presents a potential constraint. Given its age and condition, there is little value in the retention of this facility other than in the short term. Provision is to be made for alternative Airport Operations facilities as part of the redevelopment program. However, alternative accommodation would need to be found for the various occupants of this building in a timeframe which fits with the redevelopment program.

v) The existing hangar facility to the east of the existing freight shed (currently occupied by Russell Aviation, previously Golden Eagle Airlines) presents a potential constraint to the expansion of the terminal to the east. The Town has negotiated a clause in the lease agreement requiring the lessee to relocate if necessary as part of the redevelopment program. However, timing and availability of an alternative location would need to be considered. Expansion of the Northern Apron currently represents the only suitable site for relocation.

The existing freight shed immediately to the east of the terminal is not considered a constraint. However, these facilities would need to be relocated and so an alternative location, permanent or temporary, would need to be made available.

Constraints (i) and (ii) above effectively limit the depth of the terminal to approximately 55-60m. However, a width of over 200m is potentially available if required.

6.2.2 CONCEPTUAL PLANNING PRINCIPLES

The conceptual planning of the terminal expansion has adopted the following key principles, which were developed through reference to the overall objectives of the review set out in Section 1.2, as well as taking into account stakeholder and community feedback obtained through the consultation process. The principles were:

- Redevelopment of the terminal within an expanded footprint in the same location as the existing facilities, but assuming that all existing building structure will be removed as part of the redevelopment;
- Establishment of a terminal concept capable of accommodating potential long-term growth in traffic, beyond the 20-year forecasting period;
- Provision of a high quality of service and passenger experience, and the flexibility to incorporate aspects contributing to a strong sense of place for the benefit of local residents and visitors to Port Hedland; and
- The ability to facilitate efficient operations to minimise the impacts of FIFO workforce transfer through airport on the operations of the attendant resource companies.

6.2.3 DESIGN PARAMETERS

Design Traffic Loading

Passenger terminals consist of several distinct functional areas where core processing of departing or arriving passengers or baggage is conducted.

A number of approaches exist for estimating the relevant design loading on various elements the common fundamental principle is that each of these processes can be analysed in terms of the number of users (passengers or bags) demanding 'service' over a period of time, the capacity of the facilities and personnel to serve this demand.

At a conceptual level, the 'busy-hour rate' is often used to approximate the complex and often highly variable flow of passengers through a terminal. At relatively high overall flow rates, the busy-hour rate used in combination with an assumed dwell time can provide a reasonable representation of passenger demand. However in cases where flows vary significantly over shorter time periods, this simplification can under-estimate the necessary space required to deliver a particular passenger perception of service quality. Furthermore, due to interactions between sequential processes, a single busy-hour rate does not necessary apply to all of the functional areas. For these reasons, in relation to Port Hedland, some additional consideration of likely flow patterns and the consequential peak demand loading on individual functional areas can offer a more robust approach.

Previous planning work had identified several scenarios with numbers of assumed busy-hour passengers varying from 410 – 544 passengers in the peak hour[7]. In order to validate the spatial planning undertaken previously, REHBEIN Airport Consulting developed a notional future peak-period flight schedule. The schedule was based on the existing weekly flight schedule, with the number of flights and size of some aircraft increased in order to deliver the long-term traffic projection of approximately 1.3 million annual passengers as discussed in Section 1.5. The assumed peak hour demand on the terminal facilities is indicated in Table 6-1.

In order to translate these peak hour nominal flight schedules into assumed design loadings on the processes within the terminal, relevant assumptions are made about how passengers will move from one functional area to another. These assumed flows dictate the demand and service rates which need to be accommodated in order to meet defined queuing time parameters. This in turn determines the maximum number of waiting passengers to be accommodated.

[7] At Port Hedland, due to flight scheduling characteristics the peak period corresponds sufficiently closely to a one hour period that the term 'peak hour' is in fact a valid description.

Table 6-1: Assumed Peak Hour Terminal Demand

Aircraft Type	Number	Seats	LF	Pax
A330-200 (1)	2	278	70%	389
B737-800	2	168	80%	269
B717-200	1	117	90%	105
Total	5	1009	76%	763

(1) In terms of design loading this is equivalent to three 168-seat B737-800 aircraft operating at a load factor of 80%

Level of Service

As described by IATA[8], Level of Service can be considered as an assessment of the ability of supply to meet demand. Level of Service is measured as a range of values from A to F and can be applied to individual processes and the areas dedicated to them to accommodate passengers. This provides an indication of the conditions experienced by passengers subjected to each process and allows comparison between different processes and areas.

Level of Service C is recommended as the minimum design objective by IATA and is described in the IATA Airport Development Manual as:

> *'Good level of service. Conditions of stable flow, acceptable delays for short periods of time and adequate levels of comfort.'*

Based on the conceptual design principles set out above, a minimum Level of Service C in relation to the long-term design loading is considered appropriate. This will provide a much higher level of service in the early years of service of the terminal, until actual traffic reaches the assumed design level.

Spatial requirements for each functional area are defined by IATA with reference to the desired Level of Service and the number of design passengers.

Other Design Assumptions

In order to estimate spatial requirements for key functional areas, a number of other assumptions regarding the design operating day characteristics and service quality parameters need to be made. These assumptions have been established from a combination of reference to previous planning reports, experience in relation to other airports, the expected characteristics of traffic at Port Hedland, and the aspirations of the project with respect to passenger comfort.

There is a relatively large degree of uncertainty in relation to several of these assumptions, many of which require large datasets to accurately determine. Several parameters are also subject to likely changes in technology and process requirements over the life of the terminal, the impacts of which are hard to predict with accuracy. The general approach in these situations has been to adopt assumptions which lead to slightly conservative estimation of space requirements, in order to preserve maximum flexibility for changes which can be expected to occur over time.

Key design assumptions adopted in the development and validation of the passenger terminal concept are summarised in Table 6-2.

[8] Airport Development Reference Manual, 9th Edition 2004, International Airport Transport Association (IATA)

Table 6-2: Key Design Assumptions for Spatial Concept Planning

CHECK-IN	
Proportion of pax using mobile/web check-in	10%
Proportion of pax using kiosk only (no bag drop)	15%
Proportion of pax utilising bag-drop	75%
Average processing time at bag drop	1 min/pax
Maximum queue time at bag-drop	15 mins
Average no of well-wishers per pax	0.2
Minimum no of bag-drop desks	10(1)
Service desks	2
PASSENGER SECURITY SCREENING	
Service rate	3 pax/min/lane
Maximum queue time	10 mins
No of screening lanes	4
DEPARTURES (DOMESTIC)	
Maximum no of pax	531 (2)
Proportion of pax seated	80%
Proportion of food and beverage outlet seating @ average 2.1m^2 per pax (3)	70%
Proportion of gate lounge seating @ average 1.7m^2 per pax	30%
Proportion of pax standing @ average.1.2m^2 per pax	20%
Occupancy Level	65%
Retail tenancy area	400m^2
Airline lounge area	1,000m^2 (4)
Airline lounge occupancy	250 pax (5)
Amenities	150m^2
DEPARTURES (INTERNATIONAL)	
Outwards immigration service rate	80 pax/hour/desk
No of immigration desks	2
Maximum immigration queue time	15 mins
Maximum pax in waiting lounge	209 (6)
Proportion of pax seated	80%
Proportion of food and beverage outlet seating @ average 2.1m^2 per pax (3)	0%
Proportion of gate lounge seating @ average 1.7m^2 per pax	100%
Proportion of pax standing @ average.1.2m^2 per pax	20%

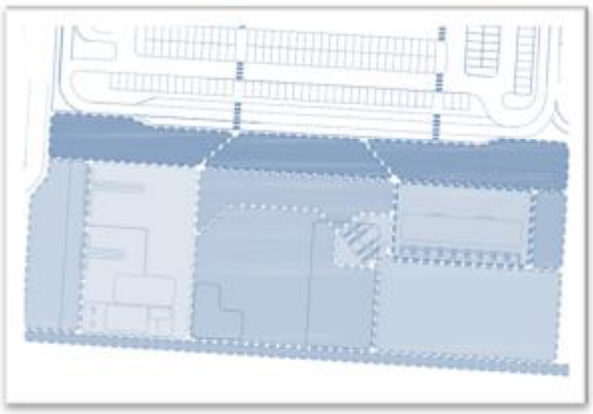
Retail tenancy area	150m² (7)
Amenities	50m²
ARRIVALS	
Number of Carousels	2
Carousel presentation length	1 x 30m + 1 x 45m
Maximum passengers at carousels	185
No of primary line desks	4
Average primary line service rate	1 pax/min/desk
Maximum primary line queue length	160 pax

Notes:

(1) The minimum desk requirement assumes common-user desks and common queuing. In order to take account of permanently allocated desks to carriers, and allow for segregation of each carrier's passengers into premium and non-premium service areas, additional desks will be required. A total of 16 desks have been allowed for.
(2) Includes an allowance for an additional 5% of well-wishers. In terms of 'busy-hour rate' analysis, this maximum occupancy is equivalent to an assumed busy-hour rate of 763 passengers per hour and an assumed average dwell time in departures of around 40 minutes prior to boarding. .
(3) Average space per passenger includes allowance for food and beverage back-of-house preparation area
(4) Based on advice from airlines of 400m² and 600m² respectively
(5) Based on an assumed 4m² per passenger in airline lounges which would be typical of capital city ports. Suggested occupancy figures provided by airlines indicate that an average space provision of 1.6 - 2.7m² per pax might be acceptable in peak periods.
(6) Based on long-term 278-seat A330-200 at 75% load factor.
(7) Allowance of 100m² for duty free and 50m² for retail/food and beverage

6.2.4 CONCEPT LAYOUT

A number of concept layout variations were developed in the course of the review. This included the testing of an option which sought to arrange the various functional elements in a manner which minimised the cost impact of relocating costly elements such as amenities and baggage handling infrastructure. Due to the scale of expansion required, it was not considered possible to achieve a workable solution in terms of operational or passenger flow arrangements, nor would it have met the Town's objective for a modern, well-serviced and efficient facility.



The concept layout which is proposed and recommended takes into account the functional area space requirements necessary to accommodate the design principles, the constraints to expansion, and parameters set out in the preceding sections. The recommended concept layout is indicated on Drawing B13341-A-004 at Appendix A.

The concept adopts a spatial configuration which is considered to be optimal in terms of the available terminal site, interactions with adjacent airport activities, and the operational requirements particular to Port Hedland, and incorporates the following elements:

- A check-in area at the eastern end of the terminal. This places the departures entry door at the start of the terminal kerbside, which is a standard arrangement at single-level airport terminals and typically understood by travellers. It also allows for interaction of airline and ground handling personnel between the check-in and baggage make-up areas, which is where the majority of operational workload takes place, with the adjacent airport operations area. The check-in area is nominally sized to accommodate 16 standard check-in/service desks or bag drop counters;
- An area for checked baggage screening and make-up of baggage loads for outbound flights, located behind check-in to minimise baggage flow paths. The area maximises the flexibility to accommodate a baggage storage and circulation carousel, and enable access and egress of baggage tugs and barrows from the eastern end of the building to minimise interaction with passenger access to and from aircraft.
- A landside concourse area, where travelling passengers can dwell to use amenities or farewell friends, family and colleagues prior to passing through to the secure departures areas. Non-travelling airport users may also use the concourse to partake in food and beverage or retail offerings, while awaiting arriving flights or visiting the airport for other purposes. This area also functions as general circulation between the check-in and arrivals spaces for passengers and operational personnel.
- A passenger security screening point, located between the check-in and concourse areas and oriented towards the check-in area, in order to offer direct access to the primary flow of departing passengers for ease of wayfinding.
- A departures lounge in which passengers dwell awaiting the departure of their domestic flight or prior to passing through further international security and immigration checks. The departures lounge is located centrally, in order to maximise allowable ceiling height within the applicable aerodrome obstacle restrictions. It provides direct connection to the apron and balances the width of apron frontage for passenger boarding gates with sufficient depth to allow comfortable circulation, provision of an appropriate level of retail and food and beverage offer, and space for airline premium lounges – all subject to relevant commercial arrangements.
- A mezzanine area to accommodate additional security screening and outward immigration processes for international departures, and a waiting lounge with apron views. The mezzanine is conceptually located to the east side of the departures area so as to minimise the impact on full-height views of the apron from within the departures lounge as well as the potential for visual connectivity through from the landside concourse area. It is anticipated that vertical transportation to the mezzanine and back to apron level would be located adjacent the eastern wall.
- A covered passenger arrivals/departures walkway allowing passenger flows across the terminal apron face while minimising interaction with vehicle operations on the apron.
- Domestic arrivals via a dedicated corridor directly to the baggage reclaim area. This minimises counter-flows and congestion which can occur if arriving passengers pass back through the departures lounge.
- International arrivals through an adjacent corridor with dedicated space for duty free collection, primary line queuing and inwards immigration processes. A swing arrangement allows baggage collection from one of the reclaim carousels. Passengers then pass through a dedicated area for secondary examination processes which

will incorporate offices and specific facilities for the use of the border protection agencies before re-entering the domestic arrivals corridor.

- A baggage breakdown area at the western end, allowing baggage tugs and barrows to enter and exit from the north-west corner of the RPT apron, minimising the conflicts with passenger movements across the face of the terminal.
- An external plaza areas to connect the terminal with the drop-off/pick up area and through to the short-term car park, rental car and shuttle bus zones and the long-term car parking beyond. It is envisaged this area will be appropriately shaded, and that the central portion in particular will be activated and connected to the internal concourse.

6.3 MATTERS FOR CONSIDERATION

Although the concept layout is considered to have comprehensively addressed the fundamental requirements of the terminal, there remain a number of matters which require more detailed consideration and resolution during the detailed design development process. Many of these relate to the architectural form of the building, engineering, provision of mechanical and electrical services, interior design of spaces and external landscaping. However, the following key operational details will need to be incorporated as the design of these aspects progresses.

- The concept layout is based on an ultimate passenger traffic level of approximately 1.35 million passengers even though the timing of this level of traffic is uncertain from the detailed passenger traffic projections which have been developed for the next 20 years. Staging of the building footprint is not recommended, however consideration should be given in the detailed design to the potential for cost-efficiencies to be introduced with respect to the initial development, whilst preserving the option to quickly and easily expand the fit-out as required. For example, areas not required for functional processing initially might be used as offices or meeting facilities until such time as demand dictates they be reallocated.
- The layout of retail and food and beverage facilities should be in accordance with specialist recommendations in relation to passenger flows and behaviour. This is especially the case within the departures lounge where these elements are likely to compete with other demands for particular elements of the space, such as airline premium lounges.
- Airline premium lounge locations need to be agreed. Airlines have expressed a preference for these to be located on the ground floor of the departures lounge, however care should be taken not to detract the functionality, comfort or experience within the public area. This includes the potential to establish visual connectivity between passengers and well-wishers in the concourse, passengers in the departures lounge, and the aircraft on the apron.
- The baggage make-up area should ideally incorporate a baggage make-up loop consisting of carousel fed from the checked baggage screening via overhead conveyor feed to allow baggage tug and barrow circulation. Provision for simultaneous make-up of up to six flights, with a further flight may be required in the long-term peak period.

- The baggage make-up area and baggage system should also allow for the circulation of baggage dollies and universal load devices (ULDs) used on wide-body aircraft. These are generally more manoeuvrable than open barrows, but are significantly higher, so ceiling heights will need to take account of this in design.
- Ground handling agents and airline representatives have indicated that compliance and training requirements have increased significantly during the past five years. Adequate floor space is required for these purposes and a number of other essential activities including space for housekeeping of proof documents. It may be necessary for some of this space to be located outside the terminal itself, for reasons of both practicality and cost.
- Connectivity for authorised personnel between the check-in area, airline and ground handling administration offices, baggage make-up area and related facilities to be located in the adjacent airport operations area will need to be properly understood and provided for to maximise operational efficiency.

7.0 GROUND TRANSPORT

7.1 PREVIOUS PROPOSALS

The Master Plan sets out a broad concept for car parking and ground transport. It placed short-term and rental parking immediately to the north of the terminal reserve, long term parking further north, and bus parking to the east of the terminal access road.

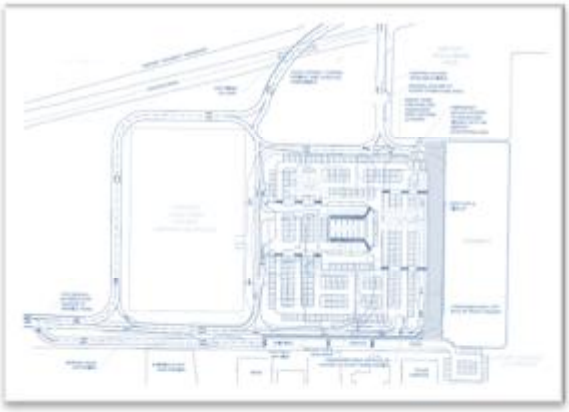
The present car park was developed in 2011 when new short and long-term car parks were constructed and paid-parking introduced. Actual development has followed a slightly different path from the original proposal as the new long-term parking was developed further to the north, in accordance with proposals developed by Opus[9]. The ultimate development of the Opus concept culminates with in-fill of the area between the short-term and long-term parking with rental car and staff car parking. This area currently accommodates some rental car parking, in a somewhat ad-hoc manner, along with car rental company facilities and existing fire service water storage tanks.

The Opus concept sets out a one-way clockwise circulatory system, with the parking separated into three distinct areas by transverse connections. Bus parking is indicated in a linear fashion adjacent the northern edge of the short-term parking in contrast to the Master Plan. The Opus concept also does not make allowance for the expansion of the terminal to the north towards the short-term parking.

The concept proposed a roundabout intersection at the northern extent of the car park area to allow access to the existing service road. It envisages that all access to the freight and logistics subdivision will be via the existing left-turn intersection to the north-east of the terminal.

7.2 RECOMMENDED CONCEPT LAYOUT

The Opus concept is generally considered to be appropriate. The concept recommended as a result of the review therefore aims to maintain and re-use existing infrastructure as far as possible, to maximise the cost-effectiveness of this element of the redevelopment program and allow expenditure to be focussed on other areas. However some adjustments are recommended to address some of the issues raised during the stakeholder workshops and to maximise the practicality of implementation.



[9] Port Hedland Airport Car Park Redevelopment Concept, Drawings PE_WAPH0012(2), June 2011

The recommended concept layout is shown on Drawing B13341-A-005 at Appendix A and the key points are outlined below.

- Relocation of the pick-up/drop off zone to the north to accommodate terminal expansion. Access is to be co-located with the entry to the short-term car park and controlled via a boom gate and terminal.
- Reconfiguration of the existing short-term car park entry and exit arrangements to provide for direct access to the short-term parking from the pick-up/drop off area for users that exceed the permitted free time allocation, or those who wish to drop off passengers prior to parking.
- Provision of dual exit gates from the short term parking to alleviate congestion and queuing during peak periods.
- Incorporation of permanent mini-bus and coach parking area in the location identified for interim facilities, to minimise the re-work required and to better address resource company requirements for transit of employees.
- Removal of the transverse circulation roadway to the north of the existing short-term car park. This removes the constraint on relocation of the short-term parking to accommodate terminal expansion and the need for pedestrians transiting to and from the rental car and bus parking areas to cross any significant roadways.
- Development of expanded short-term parking to the north of the existing, and formalisation and expansion of the rental car parking area to the south of the existing long-term parking. Whilst the full development requires relocation of the existing car rental facilities and fire water storage tanks, sub-stages of this development in accordance with the overall concept could be considered.
- The concept layout provides initially for 185 short-term public car park spaces and 265 rental car ready-bay spaces.
- The boundary between the short-term public and rental car ready bays is to be of a flexible nature, utilising relocatable bollards or other ‘soft’ barriers rather than hard form such as kerbs, so that relative number of spaces for each use may be easily adjusted in the future to suit actual demand.
- Location of access and egress to the rental car and bus/coach parking from the existing transverse road to the south of the long-term parking.
- Retention of the existing long term parking area without alteration.
- Dual, well-defined and relatively direct pedestrian access routes linking the terminal plaza with a central node surrounding the bus and coach parking and northwards to the long-term parking.
- A new seagull intersection to enable extension of the existing service road serving the northern apron hangars to be aligned more closely to and parallel with the main terminal egress. This facilitates further hangar development in this area.
- Removal of staff parking from the main paid car parking areas with provision of staff parking spaces to the south of the Polar Aviation hangar, accessed via the service road.
- Provision of a new two-way access to the freight and logistics subdivision passing to the north and east of the airport personnel houses to facilitate connectivity between the rental car ready-bays and the storage lots in the subdivision, in particular for vehicles travelling to the ready bays.

7.3 MATTERS FOR CONSIDERATION

- As a result of the terminal expansion, the existing airside access gate to the east of the terminal between the existing freight facility and the Golden Eagle hangar may need to be relocated, and access to this will need to be provided via the adjacent airport operations area.
- Landscape and street-furniture treatments for the pick-up/drop-off area, short-term parking, area around the bus/coach parking area and the pedestrian paths linking these areas will need to be determined appropriately to ensure the desired placemaking objectives are successfully achieved.

8.0 SEQUENCING AND INDICATIVE COSTS

8.1 SEQUENCING

As the redevelopment of the airport precinct will be undertaken within and around a live airport operation which must remain functional, safe and secure throughout the works, there are a number of project sequencing issues that need to be addressed. An indicative program schedule and project sequence has been developed by the Town. The key steps in the development sequence are as follows.

- Provision of services (water, wastewater, electricity) and establishment of road access to the proposed lots in the Freight/Logistics Zone.
- Construction of the Northern General Aviation Apron expansion and provision of additional hangar sites, which will enable relocation of existing general aviation tenants within the airport operations zone.
- Relocation of the existing freight operations to the new freight hub and rental car facilities to the logistics zone.
- Reconfiguration of the short-term car park to accommodate the proposed expansion of the terminal to the north.
- Demolition of the existing building to the west of the terminal.
- Construction of the proposed terminal extension in stages commencing with a new check-in hall at the eastern end.

It is recognised that there will be overlap between some of these key activities, with some stages able to commence prior to the completion of preceding steps.

8.2 INDICATIVE COSTS

Indicative costs have been developed in relation to the passenger terminal expansion and ground transport elements of the redevelopment program review. These are summarised in Table 8-1.

Table 8-1: Indicative Terminal and Car Park Redevelopment Costs

Element	Quantity	Unit	Rate	Indicative Cost
Major Road (2 lanes) pavement, kerbs, drainage and lighting	7,800	m^2	$400.00	$3.12m
Circulation Road (2 lanes) pavement, kerbs, drainage and lighting	2,100	m^2	$300.00	$0.63m
Service Road (2 lanes) pavement, kerbs, drainage and lighting	1,300	m^2	$300.00	$0.39m
Car park pavement, kerbs, drainage and lighting	18,000	m^2	$300.00	$5.40m
Drop-off/Pick-up area pavement incl kerbs, drainage and lighting	1,100	m^2	$155.00	$0.71m
Bus pedestrian waiting area	1,200	m^2	$195.00	$0.23m
External plaza	2,200	m^2	$225.00	$0.50m
Terminal – single story internal conditioned	7,000	m^2	$4,250.00	$29.75m
Terminal – mezzanine	800	m^2	$5,425.00	$4.34m
Terminal – internal unconditioned	1,800	m^2	$1,250.00	$2.25m

Element	Quantity	Unit	Rate	Indicative Cost
Terminal – external service areas	950	m^2	$400.00	$0.38m
Baggage system and specialist terminal equipment	1	Item	$850,000	$0.85m
Service relocation and protection	1	Item	$750,000	$0.75m
Contract Preliminaries	1	Item	20%	$9.86m
			Subtotal	$59.2m
Design Contingency	1	Item	15.0%	$8.88m
Escalation	1	Item	12.5%	$8.51m
			Expected Contract Value	$76.6m
Design and Project Management Fees	1	Item	7.5%	$5.75m
Construction Contingency	1	Item	10.0%	$7.66m
			TOTAL PROJECT COST ESTIMATE	$90.0m

The indicative costs are based on typical unit rates for elements of work, adjusted to suit the Pilbara market, but are necessarily based only on the available conceptual designs. Contingency allocations have been made in order to cover the high level of uncertainty with respect to the conceptual level of the design detail and existing conditions, pending proper investigation of these aspects during the design development. They are considered suitable for the establishment of project budget, however further detailed investigation and design work is required to increase the level of confidence in these cost estimates as the design and scope are defined. It is expected that opportunities will eventuate to ensure the cost-effectiveness of the overall redevelopment, without sacrificing the intent of the concepts set out in this review, through regular and appropriate evaluation of the design as it develops.

Costs for the freight/logistics zone subdivision have not been re-estimated, however the proposed changes to lot and road layout should not result in significant changes from the previous detailed design elements. A major component of the cost of this element of the works relates to the servicing of the subdivision.

Given the timeframes for future apron expansion these works are not recommended immediately nor are they anticipated in the short- or medium term and therefore have not been estimated at this stage.

9.0 CONCLUSION

The Town of Port Hedland, which owns and operates the Port Hedland International Airport, has made a commitment to transform the airport precinct it into a modern and well-serviced facility that provides a welcoming gateway to the North West.

This review of the redevelopment proposals has tested the previous concepts for airside planning, land use, passenger terminal and car park/ground transport facilities. The process involved detailed desktop review and extensive consultation and engagement with a wide range of stakeholders. As a result of the review, a number of the previous concept proposals have been validated against the Town's objectives. Appropriate refinements to the other proposals have been made to ensure the redevelopment meets the key requirements.

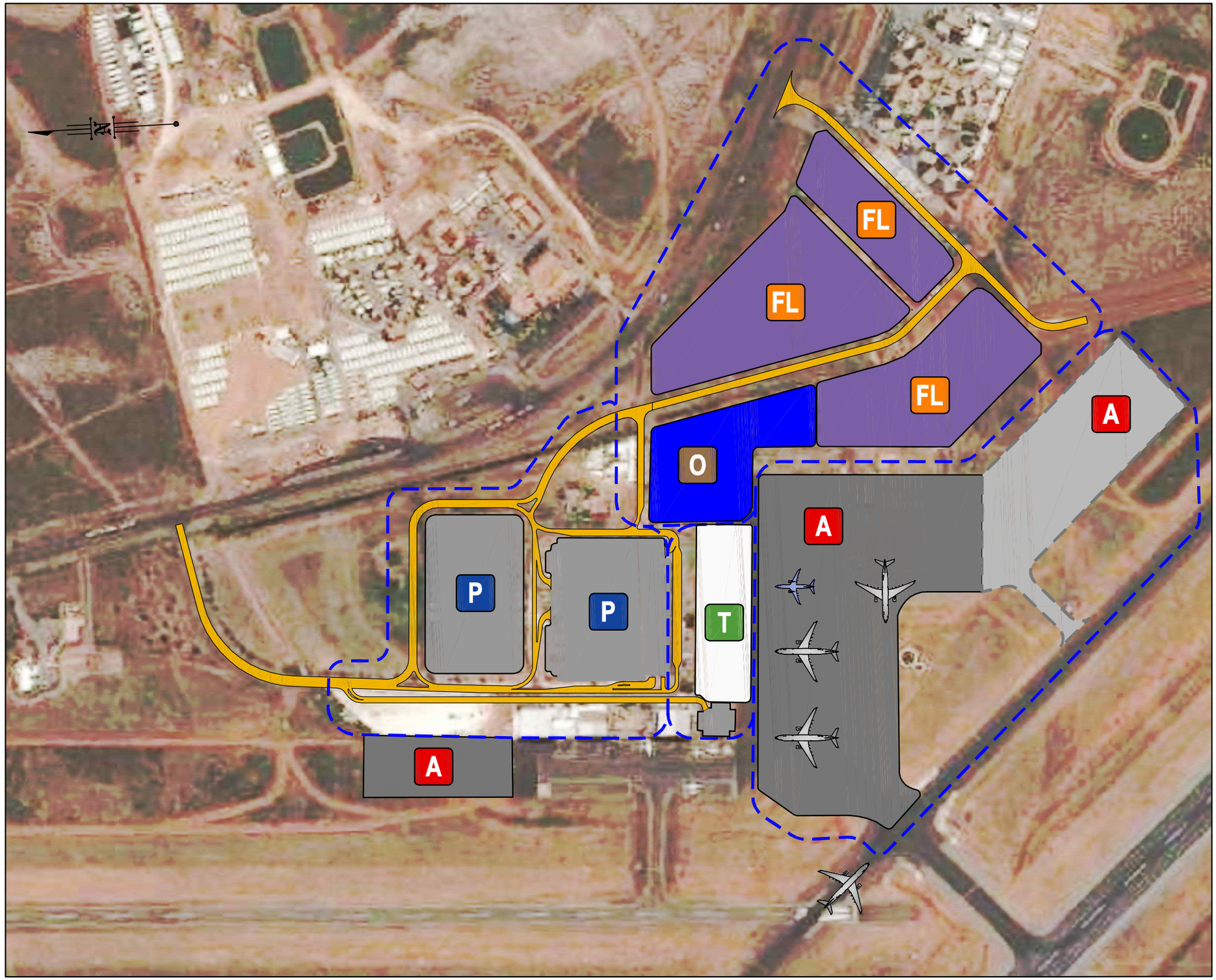
The key outcomes of the review are presented with this report which is intended to inform the subsequent detailed design process. The concepts developed as a result of this review offer a holistic solution to the Port Hedland International Airport's requirements in the medium and long-term. It is recommended that they form the basis for the preparation of detailed design documentation which will be required to procure the construction of the various elements of the redevelopment.

APPENDIX A

DRAWINGS

LEGEND

- P — CARPARK EXPANSION
- FL — FREIGHT & LOGISTICS SUBDIVISION
- T — TERMINAL EXPANSION
- A — APRON EXPANSION
- O — AIRPORT OPERATIONS



0 40 80 120 160m

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2	19/12/13	MJ	FINAL	BJH
1	10/12/13	SJ	DRAFT	BJH
0	05/12/13	MJ	DRAFT FOR COMMENT	BJH

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L&R (SEQ) Pty Ltd
A.C.N. 110685160
ABN. 77126939768

Project: PORT HEDLAND INTERNATIONAL AIRPORT REDEVELOPMENT PROGRAM REVIEW

Title: OVERALL CONCEPT LAYOUT

Client: *TOWN OF PORT HEDLAND*

Draftsperson: LT	Checked: BJH	Sheet Size: A3	Drawing No.: B13341-A-001
Designer: LT	Approved:		
Scale: 1:4000	Date: 02/12/13	0 / 1 / 2	

AREA RESERVED FOR AIRPORT OPERATIONS INCLUDING GSE STORAGE AND MAINTENANCE

PROPOSED PASSENGER TERMINAL EXPANSION

EXISTING RPT APRON

EXISTING FUEL FACILITY (AIR BP)

NEW LOT

PREVIOUSLY APPROVED LOTS 9 & 10 CONSOLIDATED

EXISTING SOUTHERN APRON

New Wind Sock Location

PROPOSED LOTS 9-12 AVAILABLE FOR FREIGHT HUB FACILITIES EITHER INDIVIDUALLY OR IN COMBINATION

COMBINED AREAS	
LOTS 9 + 10	8715m²
LOTS 10 + 11	10,015m²
LOTS 11 + 12	11,495m²
LOTS 9 + 10 + 11	13,795m²
LOTS 10 + 11 + 12	16,430m²

FUTURE APRON EXPANSION

LOTS 1-8 UNCHANGED FROM APPROVED DEVELOPMENT

1 4505m²

2 4500m²

3 4505m²

4 5240m²

5 7505m²

6 3570m²

7 3570m²

EXISTING TOPH DEPOT (RELOCATED TO AIRPORT OPERATIONS AREA)

GREAT NORTHERN HIGHWAY

PREVIOUSLY APPROVED LOTS 12 & 13 CONSOLIDATED

N

0 20 40 60 80m

SCALE 1 : 2000

No.	Date	By	Amendment	Checked
2	19/12/13	MJ	FINAL	BJH
1	10/12/13	SJ	DRAFT	BJH
0	27/11/13	LT	DRAFT FOR COMMENT	BJH

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Project: PORT HEDLAND INTERNATIONAL AIRPORT REDEVELOPMENT PROGRAM REVIEW

Title: FREIGHT/LOGISTICS ZONE CONCEPT LAYOUT

Client: TOWN OF PORT HEDLAND

Draftsperson: LT
Designer: LT
Scale: 1:2000
Checked: BJH
Approved: BJH
Date: 20/10/13
Sheet Size: A3
Drawing No. B13341-A-002
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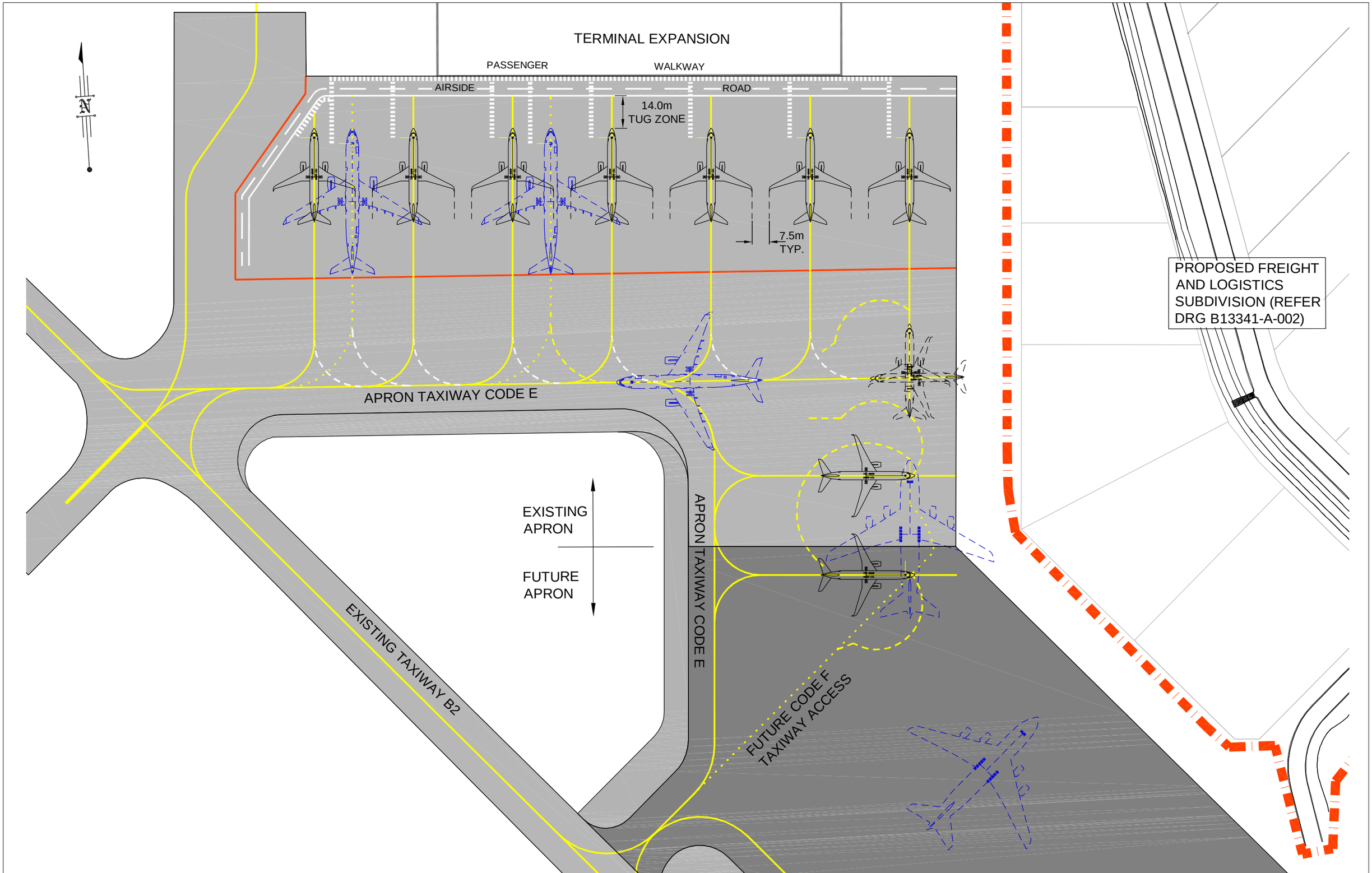

0 15 30 45m

SCALE 1 : 1500

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1	10/12/13	SJ	DRAFT	BJH
0	06/12/13	MJ	DRAFT FOR COMMENT	BJH

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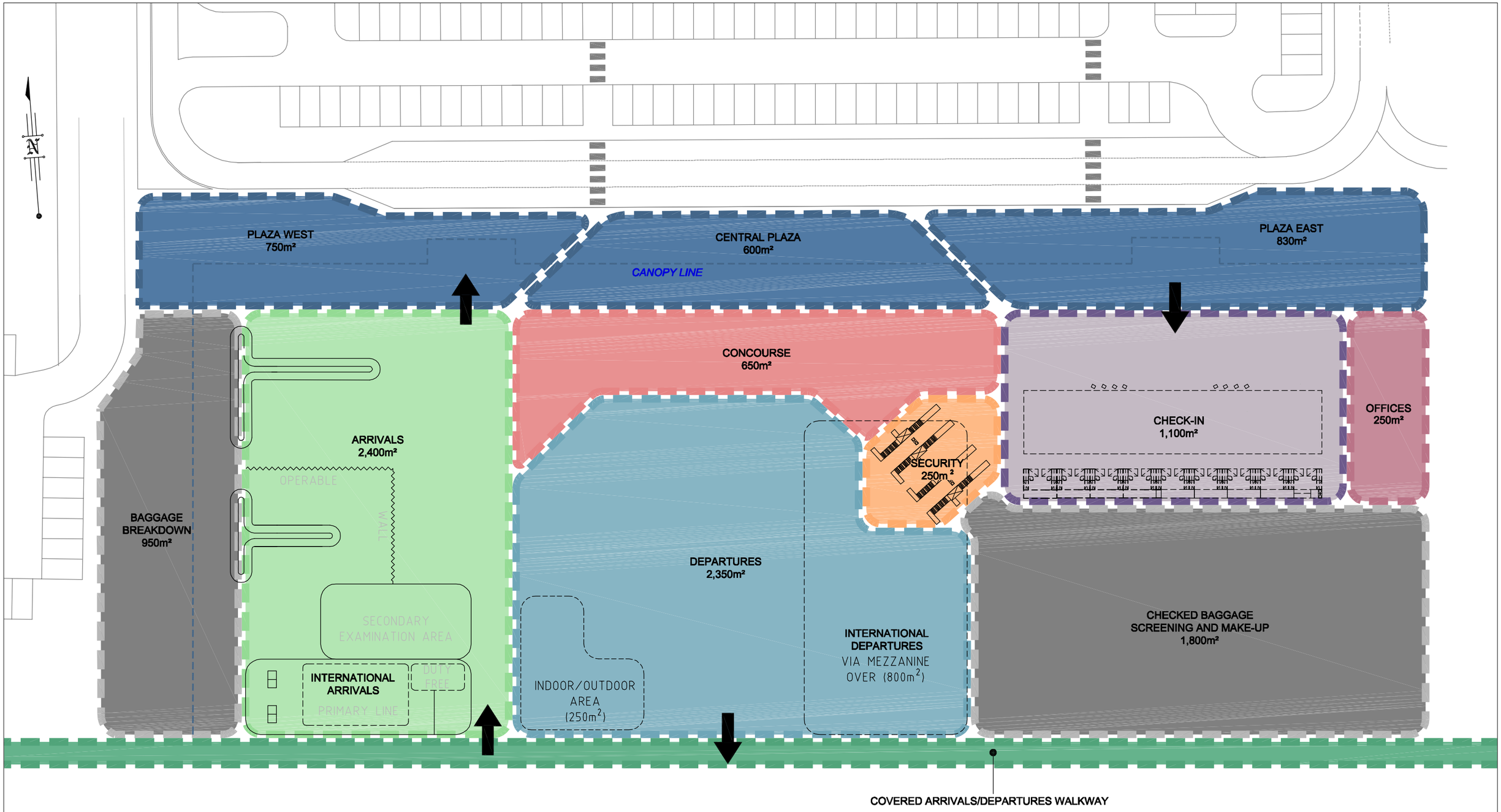
Project: PORT HEDLAND INTERNATIONAL AIRPORT
REDEVELOPMENT PROGRAM REVIEW

Title: AIRSIDE PLANNING
APRON CONCEPT LAYOUT

Client: *TOWN OF PORT HEDLAND*

Draftsperson: CF	Checked: BJH	Sheet Size: A3	Drawing No.: B13341-A-003
Designer: CF	Approved: BJH		
Scale: 1:1500	Date: 03/12/13	0 / 1 / 2	



INTERNAL AREA 8,800m²
EXTERNAL AREA 3,130m²

0 5 10 15m

SCALE 1 : 500

No.	Date	By	Amendment	Checked
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2	10/12/13	SJ	DRAFT	BJH
1	05/12/13	MJ	DRAFT FOR COMMENT	BJH
0	02/12/13	LT	DRAFT FOR COMMENT	BJH

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ABN. 77126939768

Project: PORT HEDLAND INTERNATIONAL AIRPORT REDEVELOPMENT PROGRAM REVIEW

Title: PASSENGER TERMINAL CONCEPT PLAN

Client: *TOWN OF PORT HEDLAND*

Draftsperson: LT	Checked: BJH
Designer: LT	Approved: BJH
Scale: 1:500	Date: 29/11/13

Sheet Size: A3

Drawing No.: B13341-A-004

0 1 2 3

AIRPORT PROPERTY BOUNDARY

EXISTING DRAIN

NEW PIPED CULVERT

2-WAY ACCESS TO/FROM FREIGHT AND LOGISTICS SUBDIVISION

AIRPORT OPERATIONS AREA

EXISTING ACCESS ROAD MAINTAINED

GENERAL ACCESS TO AIPORT OPERATIONS AREA

SHORT TERM CAR PARK AND PASSENGER DROP OFF/PICK UP ENTRY

EMERGENCY VEHICLE ACCESS TO RELOCATED AIRSIDE GATE VIA AIRPORT OPERATIONS AREA

RENTAL CAR PARKING (265 SPACES)

EXISTING LONG TERM PARKING (APPROX 550 SPACES)

BUS PARKING

6 COACH

9 MINI-BUS

SHORT TERM PARKING (185 SPACES)

DROP OFF & PICK UP

TERMINAL

NEW SEAGULL INTERSECTION ACCESS TO SERVICE ROAD

PASSENGER DROP OFF/ PICK UP TICKET READER

EXISTING SERVICE ROAD

FOOTPATH 1.8m WIDE

RELOCATABLE BOLLARDS

PASSENGER DROP OFF/PICK UP ACCESS TO SHORT TERM PARKING

SERVICE ROAD EXTENSION

EXISTING STAFF CAR PARKING

RFDS

POLAR AVIATION

STAFF PARKING (42 SPACES)

0 25 50m

SCALE 1 : 1250

No.	Date	By	Amendment	Checked
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1	10/12/13	SJ	DRAFT FOR COMMENT	BJH
0	02/12/13	MJ	DRAFT FOR COMMENT	BJH

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A.C.N. 110685160
ABN. 77126939768

Project: **PORT HEDLAND INTERNATIONAL AIRPORT REDEVELOPMENT PROGRAM REVIEW**

Title: **CARPARK/GROUND TRANSPORT CONCEPT LAYOUT**

Client: *TOWN OF PORT HEDLAND*

Draftsperson: MJ	Checked: BJH
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PORT HEDLAND INTERNATIONAL AIRPORT
PLACE PLAN

PREPARED BY VILLAGE WELL
27 / 02 / 2014

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Village Well

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EXECUTIVE SUMMARY

Port Hedland has been an important transport hub for over 100 years, and for many thousands of years before that it was a meeting place for Indigenous people from all over the Pilbara. Today, Port Hedland is the primary shipping port in the State's booming northwest and is also playing an increasingly important role as an air transport hub for the region.

The Town of Port Hedland recognises the regional economic importance of its airport and also understands its potential symbolic and social importance for the town: as a gateway to a thriving community and the region's industrial and tourism destinations, built on pioneering aviation territory; and also potentially as a social focus for the community, being ideally located mid-way between the two parts of the divided town.

In 2012, the Town of Port Hedland commenced planning for the expansion of the Town's airport to cater for the projected substantial increase in air passenger and freight traffic as a result of growth in the region's mining sector. A key part of this planning process was the commissioning of a Place Plan, informed by key stakeholders, including the local community.

OBJECTIVES AND METHODOLOGY

Village Well was engaged by the Town Council to produce the Place Plan with the specific objectives of guiding future masterplanning and development and engaging authentically with the Port Hedland community to integrate community perspectives and aspirations and build community support for the project.

The research phase of the project involved extensive desktop research into the place and its strategic context and field studies in and around the town.

Stakeholder engagement explored aspirations for the airport and placemaking opportunities and challenges. It involved:

- A community workshop attended by 30 local residents, business people and Councillors
- A strategic stakeholder workshop including representatives of the airlines and regional development agencies; and
- A community survey conducted with 94 responses from residents, non-resident workers and visitors.

The findings from the place research and engagement informed the articulation of the Essence of Port Hedland and the Vision and Place Principles for the Airport, which are clear statements of what is special about Port Hedland and the future role and experience of the airport.

This Port Hedland International Airport Place Plan report summarises the place research and stakeholder consultation and articulates the shared vision for the new airport. The Plan provides succinct placemaking directions and recommendations in an annotated site plan.

KEY FINDINGS

Port Hedland is distinctive amongst the boom towns of Australia's West – it has a strong sense of identity and community, by virtue of its long history, its natural assets and its strategic location relative to the region and proximity to Australia's Asian neighbours, most importantly Indonesia.

There are dimensions of local culture that provide rich placemaking opportunities – thriving Indigenous culture, active arts groups, local

enterprises and community organisations. Representatives of these groups will ideally play a specific role in the creation of the place experience and related ongoing operations. The Place Plan recommends specific ideas and opportunities.

There are also challenges in respect to attracting and sustaining community activity at the airport terminal. Lack of public transport, high peaks of activity mid week and low periods of airport activity on weekends, high turnover of transient workers and lack of affordable accommodation are the main issues that will impact on the creation of a place that is connected to the Town's community. The Place Plan recommends ways to overcome some of these issues.

BENCHMARKING AIRPORTS

Traditionally, airports have been deemed to be purely functional facilities, focused on the safe, secure and efficient movement of large numbers of people. Consequently, they generally make for a liminal experience, to be endured rather than enjoyed. Airports tend to be non-places.

However, in recent years, many regional and international airports around the world have taken on a different character altogether, providing a wide range of services and experiences to travellers and even becoming shopping and leisure destinations for local communities, in preference to traditional town centres.

The Place Plan draws inspiration for Port Hedland from selected Australian and international airports including Charlotte Douglas International Airport and Darwin International Airport.

THE AIRPORT VISION

The airport vision is an aspirational statement about the future airport's role and experience, supported by key principles noted in the report:

The airport is a vibrant meeting place in the centre of Port Hedland that welcomes travellers to the friendly Port community and the treasures of the Pilbara.

Building on the endeavours of pioneering generations, the Airport provides efficient passenger and freight services to Western Australia's booming North West.

PLACEMAKING DIRECTIONS AND RECOMMENDATIONS

The Place Plan is structured around a framework of five Placemaking Directions, which the development needs to deliver to achieve a strong place identity and experience.

1. A quintessential Port Hedland experience
2. Create spacious, comfortable and flexible areas for meeting and relaxing
3. Quality food and local products available from morning until evenings
4. Connecting with Port Hedlanders with what's here and what's happening
5. Improved facilities and operations.

These directions are supported in the plan by more detailed recommendations regarding how to achieve the goals. These are noted in the final chapter of the report, accompanied by annotated plans indicating locations and relationships between activities and experiences.

The plans illustrate the primary arrival and departure journeys through the terminal; important experiences; key visual connections within and beyond the airport terminal; and recommended zones for art, interpretation and garden treatments.

APPLICATION OF THE PLACE PLAN

The Place Plan is intended to guide the Town of Port Hedland in planning and delivering the airport, particularly in the project masterplanning, architectural design, commercial leasing and operations. It is envisaged that the Place Plan will be part of suite of documents provided to teams and consultants working in these areas.

Port Hedland Town and Pier Hotel - Dalgety House Museum

1.0 INTRODUCTION

Port Hedland International Airport is undergoing a major transformation that is intended to consolidate the airport as the North West's leading passenger and freight hub.

An airport is as much an important route of transportation as it is a symbolic gateway to a place – the first site of encounter and the last impression of a place. In Port Hedland, there is significant opportunity for the airport to both impress visitors and build community through the creation of meaningful and multilayered experiences that express the enduring stories and aspirations of the town's dynamic community.

A placemaking approach establishes a compelling vision for the airport that is shared by the various stakeholders including the local community. The Town of Port Hedland recognised that placemaking would be an important part of the early planning of the airport redevelopment to ensure that Council's aspirations and those of the town's community would be effectively realised. Council engaged Village Well to work with the Township's Airport Redevelopment team and key stakeholders to develop a Place Plan that would guide the redevelopment.

The objectives of the placemaking project have been to:

- Engage authentically with the Port Hedland community to integrate community perspectives and aspirations for the airport;

- Develop a Place Plan that will guide the design and development of the Airport.

1.1 WHAT IS PLACEMAKING?

Placemaking is the art and science of making authentic, vibrant and resilient places that are valued by their communities and admired by visitors.

It is a holistic, multi-disciplinary approach to planning and developing places that involves understanding the culture and qualities of a place and the wisdom of its community. It involves collaboration between many stakeholders to articulate a vision for a place and to plan and deliver the vision.

Placemaking incorporates and influences other traditional areas of place development, including masterplanning, urban design, social and economic development, community engagement, retail planning, sustainable development and arts and culture.

Placemaking benefits the broader community as much as it benefits investors, developers and owners of places.

Placemaking builds community goodwill, gives investors and businesses confidence, enables innovative solutions and creates places that people love.

1.2 ABOUT VILLAGE WELL

Founded in 1992, Village Well is Australia's leading creative placemaking consultancy. Village Well works with a range of clients and stakeholders - including property developers and owners, government agencies, community groups and institutions to envisage, facilitate, make and manage places. Over the past two decades, Village Well has refined and developed unique processes of analysis, engagement, innovation, research and project management, tapping into community potential and to discover the DNA of a place that informs its development and use.

Village Well's team has many years of experience in urban planning, design and development and in community engagement and place management. We assist clients, partners and communities to understand the potential of places, to develop and share a vision, to plan and to deliver outcomes 'on the ground' and to celebrate success.

Village Well's robust placemaking model has been proven on many projects ranging in scale and complexity. The model includes a critical analysis of place from the five perspectives of people, physical environment, product, program and planet - the 5 Ps of placemaking. Our placemaking recommendations are presented in a series of inspirational, informative and actionable reports that enable the project owners and stakeholders to deliver great places.

1.3 A PLACEMAKING APPROACH FOR PORT HEDLAND INTERNATIONAL AIRPORT

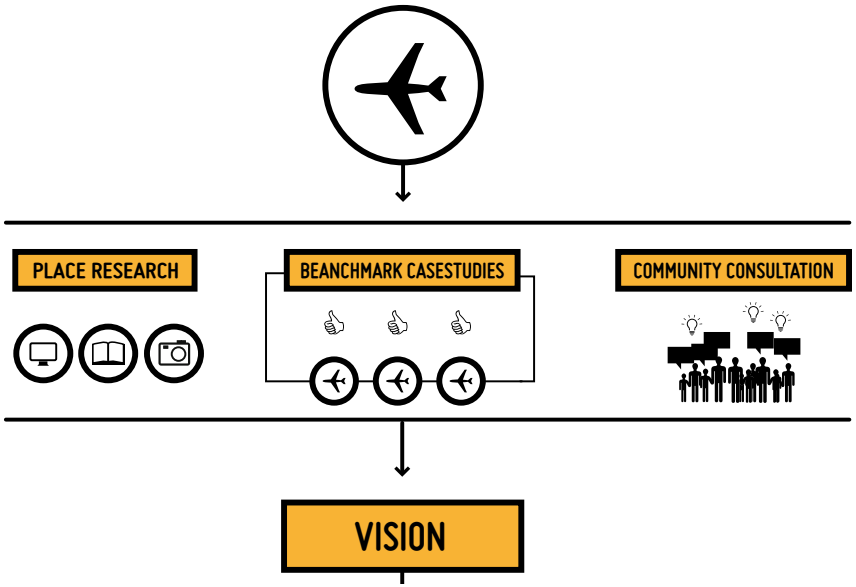
Village Well led a holistic approach to the redevelopment of Port Hedland International Airport, through 'on the ground' and background research, in order to make the airport a truly unique and memorable experience.

Initially Village Well conducted a detailed research of the context of the airport and the town, including:

- Onsite investigation of the character and culture of Port Hedland;
- A review of the existing plans and strategies of the Town of Port Hedland;
- Research of exemplar airports from the placemaking point of view.

Village Well then conducted workshops and a survey to consult widely with community stakeholders regarding issues and aspirations for the new airport.

Multidisciplinary analysis by the Village Well team informed the development of a compelling Airport Vision, Place Principles and a set of Placemaking Directions to guide future design and development.



1.4 ABOUT THIS PLACE PLAN REPORT

This Place Plan for Port Hedland Airport captures the essence of place, which is shaped by its past, present and future. It is a summary of findings from Village Well's place research and community consultation process as well as a vision and recommendations to guide the development of the Port Hedland Airport.

This Place Plan Report consists of the following sections:

Lay of the Land
A brief summary of the local context, local experiences, local history and a snapshot of Port Hedland's community.

The current airport is briefly introduced within this context, followed by benchmarking case studies of other airports that have succeeded in creating a memorable experience for passengers.

Consultation Findings
Discusses the key findings from the two workshops – a community and a stakeholder workshop – as well as from the community survey.

Essence of Port Hedland
Five themes that capture the most distinctive qualities of the place, derived from existing strategic documents, research and consultation.

Vision and Place Principles
The Vision, an aspirational statement about the future airport, is supported by Place Principles.

Opportunities and Challenges
Key opportunities, gaps and challenges are identified based on the analysis of the 'Lay of the Land', engagement findings, and the preliminary design of the Airport.

Placemaking Directions and Recommendations
Placemaking Directions articulate strategic directions that support realisation of the vision for Port Hedland Airport. Each direction is accompanied by a set of specific recommendations.

Following the recommendations, a series of plans illustrate the airport journey, experience, view lines as well as zones for art, interpretation and gardens.

2.0
LAY OF THE LAND

2.1 INTRODUCTION

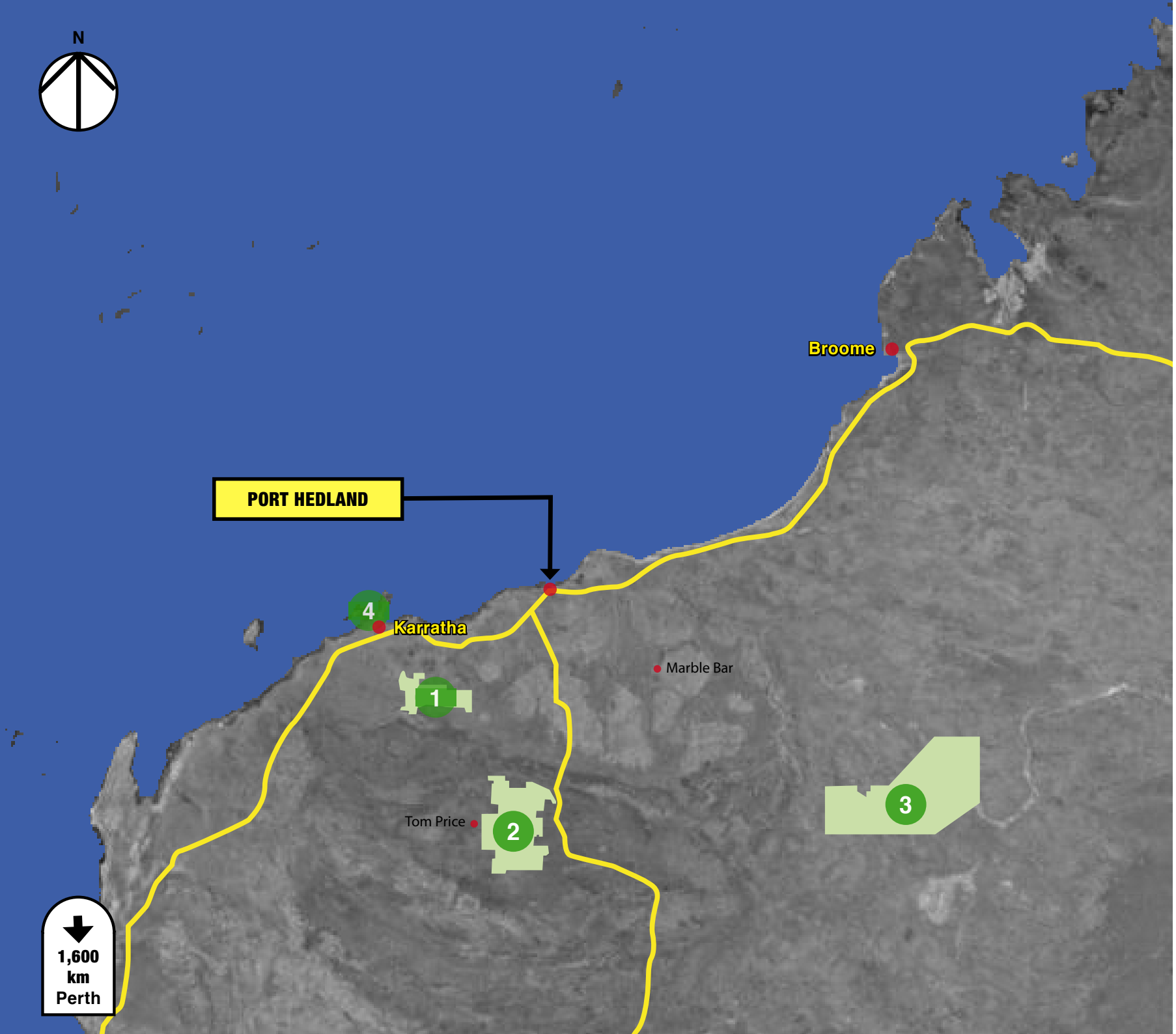
Situated in Western Australia, Port Hedland lies just over 1,600km to the north of Perth and is the gateway to the Pilbara region – a vast and arid zone, marked by the rugged beauty of an ancient landscape.

Dotted through this vast Pilbara setting are towns such as Karratha, Tom Price and Marble Bar, each with their own distinct heritage and identity. Outside of the Pilbara, 600km to the East of Port Hedland is Broome and just over 1,300km to the North West is Bali and Indonesia.

Millstream and Karijini National Parks are within easy driving distance of Port Hedland and Karlamilyi National Park lies further beyond. On the coast, off Karratha is the Dampier Archipelago, a leisure paradise offering exceptional boating, fishing and diving opportunities.

Port Hedland is known to its Indigenous Kariyarra and Nyamal people as Marapikurrinya, referring to the five finger formation of the tidal creeks feeding into the harbour. As an oasis drawing an abundance of animals, Marapikurrinya functioned as a meeting place for the Indigenous people for hundreds of years.

REGIONAL DESTINATIONS MAP



NATURE DESTINATIONS

1. Millstream-Chichester National Park
2. Karijini National Park
3. Rudall River National Park
4. Dampier Archipelago

Adelaide Steamship co postcard. Dalgety House Museum

2.2 STORY OF THE LAND

A NATURAL OASIS

Port Hedland is blessed with an abundant natural landscape. The land, sea and sky are vast in scale and vibrant in colour. It is a changing landscape, marked by a dry season which scorches its red earth and a wet season which rejuvenates the thirsty landscape, at times momentarily shutting down the township during cyclonic activity.

Water has played a key role in the settlement of the township and its identity today. Just as the Indigenous community named the area in reference to the formation of natural tidal creeks, the first European settlers to disembark were drawn in by what looked to be a calm inland lake surrounded by the green of mangrove trees.

The coastal environment of Port Hedland is a important asset for the community and a key attraction for tourists. The 7 kilometre long stretch of north-facing shore provides sweeping views of the ocean and spectacular sunrises and sunsets, typical of the Pilbara coast. The tidal movements have become an integral part of Hedlanders' rhythm of life in the town, determining daily outdoor rituals. The calm waters create a favourite spectacle – the 'staircase to the moon'.

An abundance of marine life are found in local waters. October to March is the most celebrated season when hundreds of Flatback Turtles make their way to the beach for nesting.

Looking inland, the vast landscapes show various faces of the ancient land, slowly shaped and marked over 2.5 billion years. The dominant red hue of the earth contrasts with the seemingly endless blue sky.

In such an environment, people's leisure time is enjoyed in nature. Camping and four-wheel drive adventures are popular ways to enjoy the rugged landscape, seasonal wild flowers and countless clear star-filled night sky.

Drawing on these stunning natural features and on the back of the growth of the mining industry, the Town of Port Hedland recognises the importance of developing their tourism industry[1]. This is due to its proximity to renowned national parks and a unique Indigenous cultural heritage.

THE FOUNDATIONS OF A TOWNSHIP

Port Hedland prides itself on a long and colourful history far beyond the beginning of the iron ore story.

4,000 years ago most areas of the Pilbara region were occupied or had been traversed by the Indigenous people and 28 languages would have been spoken prior to European settlement.

1. Town of Port Hedland (2012). Pilbara's Port City Growth Plan

Esplanade Hotel. Dalgety House Museum

Indigenous history and culture are strongly present in the region. Port Hedland has significant Indigenous cultural heritage sites such as Two Mile Ridge, Pretty Pool and Twelve Mile Camp. A range of engravings, Thalu, shell middens, artefact scatters, ceremonial, mythological and camp sites are found across the area. Further into the Pilbara, over 700 Indigenous archaeological sites and 10,000 spectacular rock engravings provide a glimpse into how Indigenous people lived and related to the land and the sea.

Europeans first settled in Port Hedland during the second half of the 1800's, and the town was named after Captain Peter Hedland, the first European to set anchor in 1863.

The region was particularly blessed with the ocean's offering – pearls. By the late 1860's the region was one of the richest pearl fields in the world, drawing pearlers from as far as Japan.

Transportation became key to creating a linkage between surrounding townships and the world beyond. The first Port Hedland jetty was constructed in 1896 to serve the pastoral industry. The completion of the jetty was integral to the influx of machinery, building materials and food that enabled construction and settlement of the town.

Passenger ships also frequented Port Hedland's growing port, since travel by land was almost impossible. The Adelaide Steamship Company provided luxury steamship travel for Port Hedland's residents, notably the SS Koombana, connecting the Township with the rest of Australia.

With the discovery of gold in the Marble Bar area, the first railway in the Pilbara was opened between Port Hedland and Marble Bar in 1911, connecting with the jetty. In addition to the sea and land transport, the first airfield was established in 1921 and provided essential services such as postal deliveries and later the Royal Flying Doctor Service.

The pastoral industry almost collapsed after a severe drought between the mid 1930s and early 1940s and the economic focus of the region shifted towards the mining of gold, tin and copper as well as the pearling industry. From here, Port Hedland's diverse and multicultural community grew from strength to strength, with migrants from China, Japan, Timor, Malaysia and the Torres Strait attracted to the wealth of its shores.

However, it was the discovery of vast deposits of iron ore that catalysed a new period of economic development, never before seen in Port Hedland. In 1965, a significant scaling of in mining activities saw this small town of 1,200 people grew exponentially, turning the area into a thriving centre of activity in Australia's north-west.


Photographer: Samantha Bell


Photo: Care for Hedland Environmental Association


Photographer: Samantha Bell

THE COMMUNITY

Today Port Hedland is home to a dynamic community of 20,000 people with a rapid growth rate of 5.5% (almost double the WA average of 2.8%)[2]. Consistent with other mining towns, it has a relatively young population, with an average age of 31.2 years and a high proportion of children. The demographic consists of approximately 2,200 Aboriginal and Torres Strait Islanders with the remaining residents having primarily British and European ancestries. Two or more languages are spoken in approximately 15% of the homes of Port Hedlanders, with the most widely spoken languages other than English being Malay, Afrikaans and Tagalog[3].

More than 3,000 temporary residents working in mining related businesses are in Port Hedland at any one time. That number is expected to grow significantly in the immediate future[4]. Port Hedland also attracts other seasonal workers, such as backpackers, due to high wages and the uniqueness of the region.

Beneath the scale of big industry is a town home to an eclectic community of people who share and celebrate their diverse values and traditions. Thriving cultural and community initiatives and small-scale businesses are testament to the community's strength.

The Courthouse Gallery is at the heart of the historical West End, and acts as a key cultural destination for the community and tourists. The gallery actively showcases local artists' artworks, organises public programmes and sells local arts and craft in its gallery shop. The West End Market, regularly held in the Courthouse Gallery Gardens, is also a place where local talent of all sorts are on show – from fine arts, crafts, culinary arts to music.

The Spinifex Hill Artists, an Indigenous art collective founded in 2008, has been very successful in promoting the Indigenous art of the region through exhibitions, winning awards and contributing to public art and design projects.

Established in 1994, HARTZ (Hedland Arts Council) is the longest running arts group in Port Hedland. It actively engages with the Port Hedland and the regional communities through various community art events and workshops.

Wangka Maya Pilbara Aboriginal Language Centre is an organisation dedicated to the preservation and promotion of Aboriginal languages and culture. It works closely with Aboriginal elders to record and foster Aboriginal languages, culture and history, ensuring that the knowledge and tradition is passed down to the next generations and shared with the broader community.

Various community groups cultivate the community spirit and care for the land and people of Port Hedland. Among them the Care for Hedland Environmental Association, an independent community

3. Australian Bureau of Statistics (2011) Census Data.
4. Town of Port Hedland Draft FIFO and TWA Strategy 2012.


Photo: Town of Port Hedland


Photo: Town of Port Hedland

group, provides a diverse range of conservation-based volunteer programs and activities for the Hedland community. Activities include turtle monitoring, a garden club, waste management and education.

The Hedland Well Women Centre, a government funded service operating for over 20 years, offers a variety of free services and programs to promote health and wellbeing of women. The service engages over 12,000 women, children and visitors each year. Programs such as Cooking Up A Storm and The Hedland Patchworkers and Quilters are invaluable social opportunities for women and a great platform for creative engagement.

Bloodwood Tree Association and Youth Involvement Council are organisations that provide vital support for those at risk. Bloodwood Tree Association, an incorporated Aboriginal organisation, supports those who are homeless or alcohol affected through accommodation and training, and a Youth Involvement Council which engages the youth through various after school programs and awareness campaigns.

In addition, various sporting groups, community events and cultural and recreational facilities support the active and healthy lifestyles of Port Hedlanders.

BOOM AND BEYOND: LOCAL AND GLOBAL INDUSTRIES

Port Hedland is primarily a port town, functioning as a crucial hub for the Pilbara – the 'engine room of the Australian economy'. 90% of the economy is attributed to mining and port related activities[5]. The port's significance continues to grow and it currently processes the highest tonnage of cargo in Australia and is one of the largest iron ore loading ports in the world[6]. In addition to iron ore, major resource activities in the area include natural gas, salt and manganese.

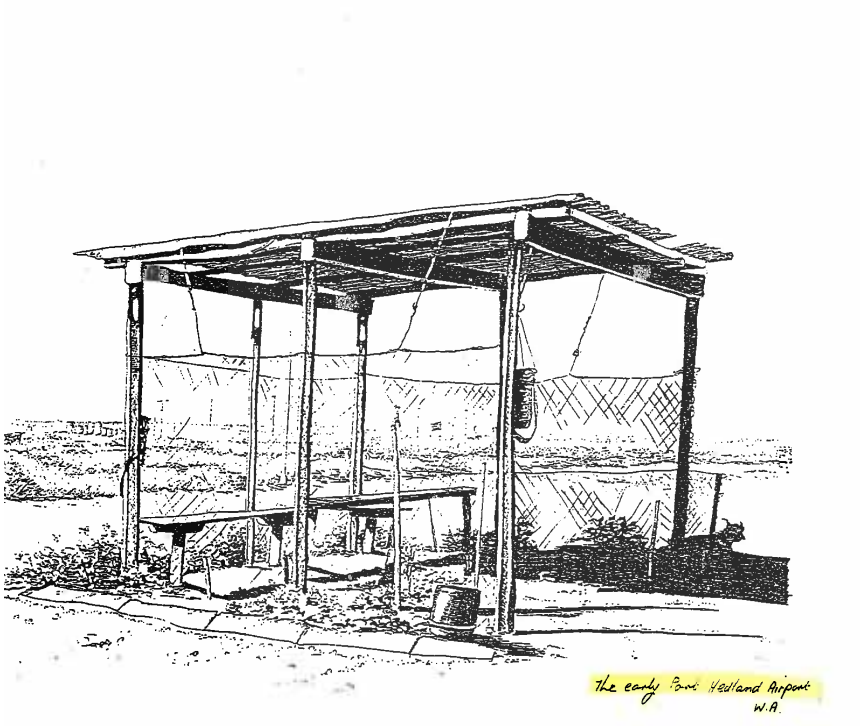
The larger-than-life scale of mining and port activities have a strong impact on the landscape around the town and the way of life of Port Hedlanders. Huge mining machinery, salt mounds and cargo trains are part of the constant scenery and 24 hour dynamic around the town.

The impact of these industries is also visible in the formation of the town. South Hedland, first developed in the 1970s in response to the mining boom, is separated from Port Hedland by a large expanse of port and mining areas in between.

5. Town of Port Hedland (2013) Port Hedland International Airport Redevelopment Strategy Overview
6. Port Hedland Port Authority

Jimmy Woods' car and biplanes at the airport hangar, 1929.

The Bomb Disposal Unit on the runway at Port Hedland in August 1942



Early Port Hedland Airport
Photo: Town of Port Hedland

2.4 PORT HEDLAND AIRPORT

In the remoteness and vastness of the north-western Australia, Port Hedland Airport has played a vital role in ensuring a connectedness to Perth and beyond.

In 1921 the first airfield was developed at the site of the racetrack with a spinifex hut constructed next to a runway. The first regular service linked Port Hedland to Perth through Western Australian Airlines – a two day trip at the time. These early flights also offered an airmail service, which connected remote Pilbara townships with the outside world.

Among the first pilots assigned to the new route between Port Hedland and Perth was a young Charles Kingsford Smith[7]. He would later become a renowned figure in Australia's aviation history and was the first pilot to complete the trans-Pacific crossing between Australia and the United States and the trans-Tasman crossing between Australia and New Zealand. Kingsford-Smith's famed Southern Cross aircraft often graced Port Hedland's runway and is remembered as an iconic symbol in Australia's aviation history.

The Royal Flying Doctor Services' first main base in Western Australia was founded in Port Hedland in October 1935, to provide emergency and primary health care services to remote Pilbara communities[8]. The Flying Doctor Service was a lifeline for the Port Hedland community, which now

7. Bloemen A., Parker T. (1997) Hedland Voices, Port Hedland Historical Society, B&S Printing Company.
8. Persson S. (2007) The Royal Flying Doctor Service of Australia, Wollombi NSW, Exisle Publishing.

RMA Swann at Port Hedland, 1959

Royal Flying Doctor operation, 1970

Port Hedland Airport, 1970

Port Hedland Airport terminal, 1971

has a hospital, and it remains a vital service for outlying communities today.

When Japanese air-bombers began their aerial assault of the northern Australian mainland during World War II, Port Hedland's strategic infrastructure was among its targets, together with targets at Broome and Darwin. On three separate occasions during 1942 and 1943, up to 70 bombs were dropped on the Port Hedland airfield. A young soldier, Private Adams who had been stationed at an Australian Army base at Port Hedland was killed. The raids severely damaged all runways and surrounding buildings and no doubt traumatised the Port Hedland community[9].

Since the growth of the mining industry in the 1960s, air passenger numbers have been on a steady increase with particularly sustained growth occurring since the 1970s. In 1956 a fibro-cement terminal building was built to replace the original hut. By 1971 the terminal building was again rebuilt to cope with renewed demands from the mining sector and is the same building which stands today[10].

In recent years, passenger growth has been particularly strong. This is attributed directly to the strong fly-in, fly-out nature of the mining industry. The airport is said to currently accommodate over 500,000 passengers across 70 weekly flights[11]. The majority of services operate to and from Perth with Qantas and Virgin airlines. International flights to Bali have been operating since 1982. The fly-in, fly-out schedule of the mining workers creates peaks on Tuesdays, Wednesdays and Thursdays, leaving other days relatively quiet. The significant growth in passenger numbers has lead to a new era of expansion and a revisioning for the airport.

9. Massey, A. (2012), When Hedland woke to Japanese bombs, The West Australian.
10. Matheson, J. (2011) History Since 1896, Port Hedland NOW!, www.porthedlandnow.com.au/history.
11. Town of Port Hedland (2013) Port Hedland International Airport Redevelopment Strategy Overview.

2.5 AIRPORT PLACEMAKING CASE STUDIES

Airports have traditionally been regarded as non-places[12], a typical place of transience that is ambivalent in nature without any attributes that render them 'places'.

However there are many airports that resist being 'non-place' through placemaking measures that provide distinctive and enjoyable experiences for passengers and for neighbouring communities.

The following case studies illustrate airports which have successfully improved passenger comfort and convenience and have created memorable airport experiences. Leading airports today are being transformed into third places[13] for social, informal and leisure activities.

KEY LEARNINGS FOR PORT HEDLAND AIRPORT

- A sense of place can be created through vernacular place names, local materials and vegetation.
- Artworks can create a strong place identity and tell stories of a place and people.
- Food is a powerful way of conveying regional character and culture, and therefore becomes a point of difference for airports.
- Playfulness, such as a musical instrument or toys and play furniture, facilitates an enjoyable wait.
- Initiatives that involve local manufacturers and community members can instill a strong sense of community.
- Placemaking measures do not have to be expensive – small installations can have a great impact on experience.
- 'Pop-up' retail can showcase local produce and products with low commercial risk.

12. Auge, M. (2009) Non-Places: An Introduction to Supermodernity.
13. Coined by sociologist Ray Oldenburg, a third place is one of the three social places necessary for people apart from home and work. A third space is a place where people can be interactive, creative, socialise, observe others or just relax and breathe.

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT
NORTH CAROLINA

North Carolina's Charlotte Douglas International Airport has successfully created a third place that celebrates its Southern identity. A 'front porch' experience, typical of the regional vernacular, was recreated through an internal arrangement of signature wooden rocking chairs and potted trees. These hand-crafted white wooden rockers are made by a local chair company operating since 1924, and were installed as part of a temporary exhibition in 1997. Due to their popularity they have since become a permanent feature.

A baby grand piano positioned in the same area as the rocking chairs is available for anyone to play. This spontaneous and entertaining activity creates a fun and sociable atmosphere.

In addition, the airport is committed to sustainability, and operates a worm farm that processes up to a tonne of travellers' food waste a day.

CHICAGO O'HARE INTERNATIONAL AIRPORT
ILLINOIS

Chicago's O'Hare Airport has a number of initiatives that make it unique.

A range of public art and exhibitions celebrate the history and culture of Chicago, including a mural that depicts the story of Jazz and a series of stained glass windows. The murals and several other works were created by local apprentice artists as part of a job training program for city youth. The artworks are not only strikingly beautiful but also capture the inclusive attitude of the city towards less advantaged parts of the community.

More recently an aquaponic urban garden was installed, featuring 26 aeroponic towers in a 928-square-foot garden. This reflects the more contemporary identity of Chicago as a leader in urban farming and its commitment to sustainability. The garden features various edible herbs and vegetables and provides vertical green gardens that calm travellers' tired eyes. The organic produce, as well as the honey collected from the airport beehives, is sold at a farmers market located in the airport and can also be tasted in the airport's restaurants.

CHANGI INTERNATIONAL AIRPORT
SINGAPORE

Singapore's Changi Airport was voted the World's Best Airport at the 2013 World Airport Awards.

Clean and well-serviced amenities and high quality resting lounges, complimented by free WiFi, are the foundation of a well-rounded customer experience.

In addition, Changi creates a point of difference with refreshing outdoor spaces. Six gardens representing different ecosystems provide opportunities for passengers to relax. Among them the orchid garden showcases Singapore's national flower.

Changi Airport surprises travellers with its substantial food offering, showcasing Singapore's cultural diversity through various traditional dishes at reasonable prices.

Combining the best of service, efficiency, amenities and entertainment, Changi Airport is a destination in itself and is a very popular destination for dining and shopping for Singaporeans.

ADELAIDE AIRPORT
SOUTH AUSTRALIA

Adelaide Airport is recognised particularly for its new plaza that connects the terminal and the multi-level car park.

The plaza not only provides enhanced pedestrian connectivity but also creates a memorable arrival experience and an open gathering area for general enjoyment. The design of the distinct pattern takes cues from South Australia's landscape.

The children's play area provides another memorable experience. This indoor play space is popular with young children and ensures a moment of relaxation for parents, complimented by coffee and comfortable nearby seating.

DARWIN INTERNATIONAL AIRPORT
NORTHERN TERRITORY


Photographer: Steve Passlow

Together with Alice Springs and Broome, Darwin Airport is as an airport that successfully captures a sense of place.

The airport's airy architecture with carpet artwork reminiscent of water, animals and birds of the territory, immediately immerses travellers in the tropics of Darwin.

Stepping outside, the extensive Indigenous artworks on corrugated iron canopies, public art and the native gardens showcase the natural and cultural icons of the Northern Territory.

In addition, the airport's F&B operator teamed up with local legendary restaurateur Jimmy Shu and opened a South East Asian restaurant offering a mix of made to order and takeaway. The restaurant is a celebration of local food culture, intermixed with South East Asian inspiration, and its contemporary Asian décor with natural timber supports convivial dining.

3.0
CONSULTATION FINDINGS

3.1 PURPOSE AND PROCESS

As part of the visioning process for the Place Plan, Village Well facilitated two workshops with stakeholders in Port Hedland in October 2013 and undertook similar consultation with the broader Port Hedland community via a survey.

The overall objective of this consultation process was to inform a vision and Place Plan for the airport to guide its design and development.

The consultation explored aspirations, challenges and opportunities for Port Hedland Airport including:

- What makes Port Hedland special
- Favourite airports and reasons why
- Liked and disliked airport experiences
- Ideas and challenges for the redevelopment.

3.2 PARTICIPATION

The first workshop was aimed at the broader Town community and was attended by residents and representatives of local businesses and community organisations. The second workshop was attended by specific airport stakeholders, including representatives of regional development and airport operations. Lastly, Council distributed surveys to the resident and non-resident community via its website and direct invitation.

Overall there were many similarities between the two workshops and survey responses. Workshop participants and survey respondents identified similar challenges regarding the current airport and all groups aspired to an airport that was comfortable, efficient and that reflected the essence of Port Hedland and the Pilbara.

However there were slight differences in the focus of discussion. The community workshop participants expressed a strong desire to showcase local history, culture and to build community, while the stakeholder group delved into more technical and practical matters such as operational efficiencies and the working environment for the airport staff. The survey results highlighted specific issues from perspectives of regular airport customers, in particular the negative impact of smoking and drinking in shared spaces at peak times.

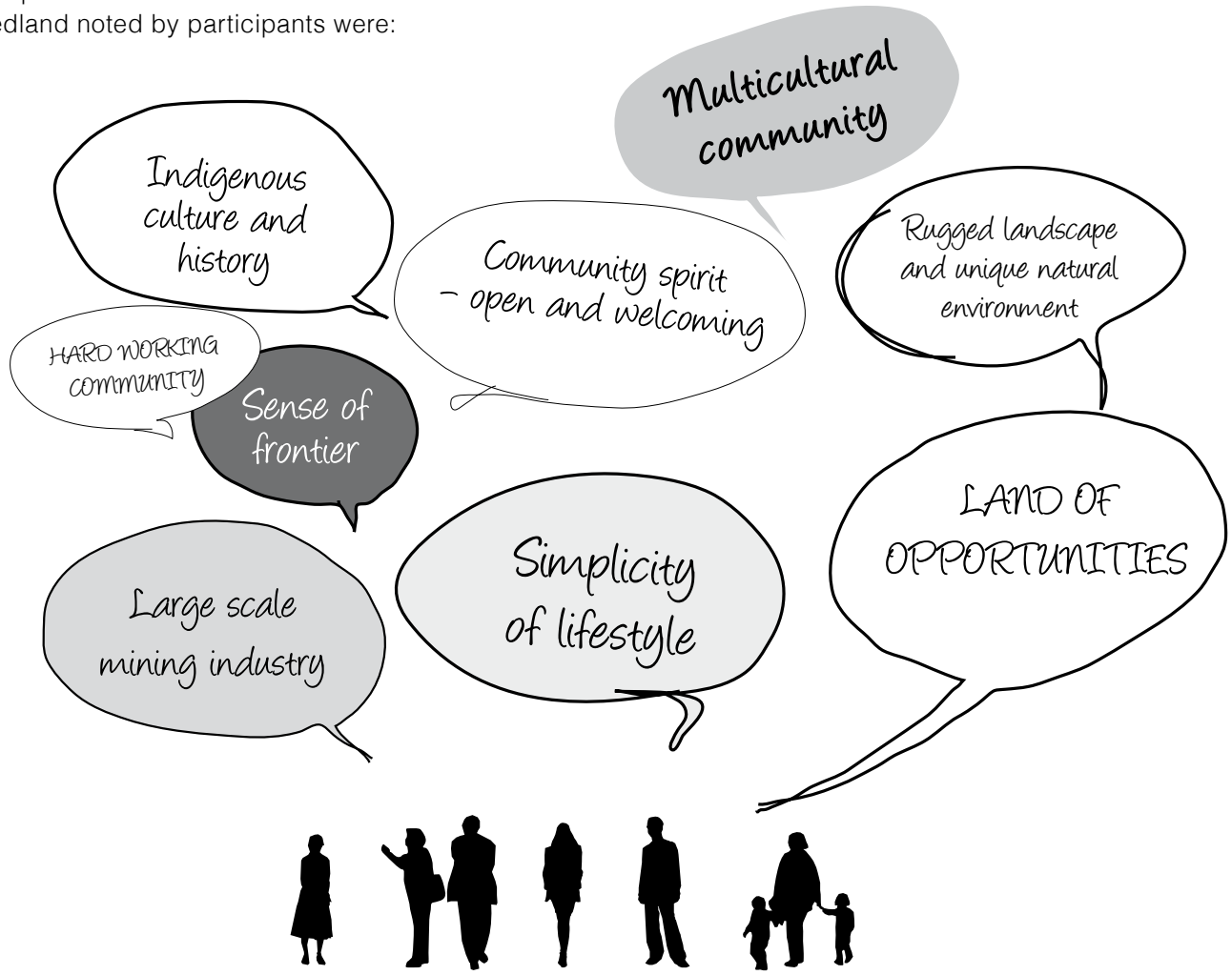
Key findings from the two workshops and the surveys have been summarised based on Village Well's qualitative analysis of the outcomes and results.

'THE COMMUNITY WORKSHOP PARTICIPANTS EXPRESSED A STRONG DESIRE TO SHOWCASE LOCAL HISTORY, CULTURE AND HIDDEN TALENT'

3.3 CONSULTATION FINDINGS

WHAT MAKES PORT HEDLAND SPECIAL?

The predominant attributes of Port Hedland noted by participants were:



THE AIRPORT EXPERIENCE: WHAT MAKES A GREAT AIRPORT?

Reflecting on their favourite airport experiences, participants favoured the following airports for the reasons noted, in order of priority.

Changi Airport, Singapore

Singapore's praised international hub was commended for:

- Attention to cleanliness
- Good design aesthetic
- Diversity of amenities and F&B operators
- Entertaining and interactive.

O'Hare International Airport, Illinois

Chicago's O'Hare International Airport was favoured by many for its celebration of the city's culture, for example:

- Stories of Jazz created by school children
- Large stained glass windows showcasing the city's heritage
- Community art program.

Melbourne and Sydney Airports

Melbourne and Sydney Airports were recognised for embracing activated shared spaces including:

- Variety of shops and food outlets
- Easy navigation
- Feeling of spaciousness with comfortable seating
- Large departure lounges with glass for viewing passing planes.

Adelaide Airport

Adelaide airport was mentioned by a number of people, particularly for the activated shared spaces. The key elements included:

- Roof top garden
- Child friendly play space
- Plaza.

Darwin and Alice Springs Airports

Passengers in Darwin are given a real sense of the tropics, while Alice Springs passengers are led to embrace the 'red centre' and celebrate this with Indigenous art. The main elements of both airports include:

- Sense of place expressed through colours and textures of the landscapes in the design
- Welcoming atmosphere
- Celebrating local art and culture.

WHAT DO YOU LIKE AND DISLIKE ABOUT AIRPORT?

Workshop participants reflected on what they liked and disliked in airports generally while survey respondents reflected on what they liked/disliked about Port Hedland airport specifically. Preferences in relation to Port Hedland Airport's current performance revealed significant points of difference between residents and non-resident workers, particularly with regards to their 'dislikes'.

Non-resident workers commented negatively about the capacity of the airport during peak times. This issue of capacity was attributed to queues at security and check in, limited space in the Qantas lounge and lack of seating and space in the departure area. Conversely, many residents were concerned about the negative impact of drinking and smoking passengers in the bar and outdoor areas. This was seen to be particularly problematic for respondents with children.

The following tables list participants' responses in order of priority.

LIKES (GENERAL)	LIKES (PORT HEDLAND AIRPORT)
• Friendly and helpful staff • Clean toilets and shower facilities • Local art and cultural experiences • Quality and variety of choice in F&B • Diverse retail offering with local goods • Open and bright atmosphere • Iconic architecture • Gardens and greenery • Comfortable spaces for relaxing • Access to fresh air	• Friendly and helpful staff • Adequate toilets facilities • Public art and pictures of the Pilbara • Good upgraded café • Access to bar • Outdoor courtyard area • Small and intimate scale

DISLIKES (GENERAL)	DISLIKES (PORT HEDLAND AIRPORT)
• Crowded spaces and endless queues • Inadequate toilet facilities • Limited seating • Poor quality and variety of F&B • Expensive F&B options • Limited retail offering • Inadequate wayfinding signage • Poor customer service	• Reduced capacity at peak times • Inadequate toilet facilities • Limited and uncomfortable seating • Bar not separate from food area • Smoking areas next to entrances • Bland and boring spaces • Not child friendly

KEEP, STOP, START

The stakeholder workshop participants and the survey respondents each discussed what they would like to see change in relation to Port Hedland Airport in the future, through a 'keep, stop, start' framework. It was revealed that people are predominantly seeking a place to unwind, rest or distract themselves while they wait for their plane to depart.

For example:

KEEP

- Automated kiosk
- Mural and local historical content
- Outdoor courtyard area

STOP

- Queues
- Low ceiling
- Smoking at entrances

START

- Variety of food and local produce
- Local essence/stories
- More seating
- Children's play area
- Outside shaded areas

IDEAS FOR THE FUTURE AIRPORT

Participants in both workshops were asked to share what they would like to see in the future Port Hedland Airport if 'anything was possible'. The following sum up the ideas shared in the workshops.

- Large veranda (NW style)
- Iconic, contemporary building
- Spectacular floor design representing nature
- Open lounge with lots of seating
- Conference and meeting areas
- Indoor/outdoor spaces
- Great food
- Childrens playground
- Aquarium
- Different experiences at different times
- Plane watching
- Showcase small businesses
- Market stalls with local offering
- Bringing in nature – sky & sunsets
- Beautiful art which tells a story
- Community billboard
- Visitor centre
- Change rooms
- Coolest toilet
- Next generation check-in
- Free WiFi
- Changing art installations
- Spectacular art by Indigenous artists

CHALLENGES

Stakeholder workshop participants were asked to articulate the main challenges that the project may face in being fully realised. Only stakeholder participants were engaged on this point, since they could draw on their expertise and technical knowledge.

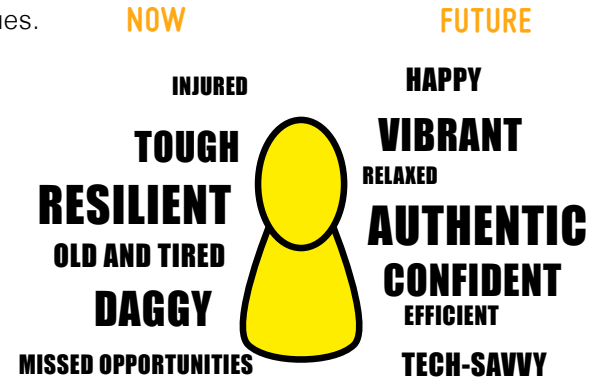
The following key items were identified:

- Cost
- Lack of space
- Lack of constant passenger numbers
- Not knowing what's possible
- Not having a shared vision
- Staging of redevelopment
- Staffing, labour and associated issues
- Lack of buy-in
- Balancing different priorities
- Not addressing operational issues.

PERSONALITY EXERCISE

Describing the current and future personality of a place is a way of exploring its intrinsic characteristics and future vision.

In both the workshops and surveys, participants envisaged Port Hedland Airport as moving from being tired and disinterested to a friendly, welcoming environment. The differences between the current and future airport is summarised as follows:



This airport has its own craft brewery, I will bring a six pack home!! hiccup!!

Village Well

A great way to wash away the dust.

To:

From:

Email address
(for future updates)

How many years h
lived in Port Hedla
0-5
5+
None – I'm a vi
None – I'm a F

4.0 ESSENCE OF PORT HEDLAND

The Town of Port Hedland has been planning for the future growth of the township and as part of this process has consulted extensively with the local community. The Strategic Community Plan 2012 – 2020 and Port Hedland: Shaping a Cosmopolitan Port City have both been informed by extensive community consultation exploring the community's vision of itself in the next decades.

These key strategic documents, together with the Pilbara's Port City Growth Plan and Village Well's research and consultation for the airport redevelopment have together informed 'the Essence of Port Hedland' – five themes that capture the most distinctive qualities of the place and its community's aspirations.

A coastal oasis of abundant sea life, red raw earth, and endless Pilbara sky

Many stories and proud traditions of Indigenous culture, pearling, shipping, aviation and mining

A welcoming, friendly and diverse community with active lifestyles

A hidden treasure trove of local enterprises, celebrating the convergence of different traditions and passions

Building new industries for the township as a lasting legacy of the mining boom


Photographer: Samantha Bell


Welcome to Port Hedland


ESPLANADE HOTEL


SILVER STAR


Photo: Town of Port Hedland


Opportunity Way


Watercolour artist Louise Joesbury (left) with Valda Secar (seated) and Winnie Sampi (photo by Karina Semmler)


Photographer: outbackjoe.com


Photo: Port Hedland

5.0 VISION FOR PORT HEDLAND AIRPORT

THE AIRPORT IS A VIBRANT MEETING PLACE IN THE CENTRE OF PORT HEDLAND THAT WELCOMES TRAVELLERS TO THE FRIENDLY PORT COMMUNITY AND THE TREASURES OF THE PILBARA.

BUILDING ON THE ENDEAVOURS OF PIONEERING GENERATIONS, THE AIRPORT PROVIDES EFFICIENT PASSENGER AND FREIGHT SERVICES TO WESTERN AUSTRALIA'S BOOMING NORTH WEST.

PLACE PRINCIPLES

PROUDLY SHARING THE STORIES AND TREASURES OF PORT HEDLAND AND THE PILBARA

Port Hedland Airport immerses visitors in the colours, shades and flavours of the frontier township, its ancient culture and stunning landscape. In the terminal, the architecture and art collection combine to capture the spirit and vision of the community. Locally produced food and gifts of exceptional quality are on offer at the airport lounge.

A VIBRANT MEETING PLACE

The airport is not just a gateway but a destination and meeting place for the local community, including non-resident workers and business people from the region. Conveniently located between the Port and South Hedland it is a place where people choose to gather for welcome parties and farewells or to meet for business.

The terminal is active day and night, and at low traffic times the carpark is a venue for community pop-up markets and events.

CONNECTING THE PORT HEDLAND COMMUNITY

The airport provides an immediate connection with the local community. Upon arrival visitors are met with friendly service and have instant access to community information about what's happening and what's worth a visit in town and beyond.

ENJOYING THE WAIT

At Port Hedland Airport waiting is a pleasurable experience thanks to comfortable indoor and outdoor lounge areas, convenient services and a choice of quality food and beverage. Children can play and watch planes while departing passengers can enjoy a quiet moment before the flight.

Airport operations are quiet and efficient – almost invisible. With smart technology and efficient design the airport services are hassle-free from check-in to boarding, leaving a plenty of time for relaxation. A long, uncomfortable wait is a thing of the past.

ULURU KATA-TJUTA CULTURAL CENTRE
Architect: Gregory Burgess Architects
Photographer: Craig Lamotte

Sonya Edney with her work in the 2013 Hedland Art Awards
Photographer: Samantha Bell

Photographer: Samantha Bell

Photographer: Steve Passlow

Photographer: Cheryl Smith

6.0
OPPORTUNITIES AND CHALLENGES

Village Well has identified a number of key placemaking opportunities and challenges for Port Hedland Airport, based on the analysis of the Lay of the Land, consultation findings and the airport's preliminary design. Opportunities are summarised in the following pages using the Village Well 5 P's of placemaking framework (people, physical environment, planet, product and program).

6.1 OPPORTUNITIES

People

• The rich and diverse history of Port Hedland and the Pilbara are unique stories that can be told through the airport experience.
• The Town's community and entrepreneurial spirit can be celebrated through the provision of products and services at the airport.
• The warm, welcoming attitude of Hedlanders can be expressed through the informal tone of interior architecture, furniture and fitout.
• The Town of Port Hedland's ownership of the airport can provide consistent leadership throughout the development process, enabling high quality design and aiport services.

Physical Environment

• The location, mid-way between Port and South Hedland and close to non-resident accommodation, provides an opportunity to connect a geographically divided community.
• The compactness of the airport facilitates enables the spatial concentration of social activities.
• The warm climate provides opportunities for outdoor experiences at the plaza and covered garden.

Planet

• The beautiful natural environment of the Pilbara is a powerful drawcard for tourists and visitors.
• There are organisations such as Care for Hedland Environmental Association actively looking after and managing the Town's environment, which may potentially contribute to the care of the airport environment.
• The climate is ideal for solar energy generation.
• The airport has the opportunity to show leadership in environmental sustainability.

Product

• Local creative groups could contribute to the look and feel of the airport by participating in the design and delivery of specific features including bespoke furniture, fittings and play objects.
• The Town is home to many enterprises which could trade at the airport.
• Pop-up and food trucks provide an opportunity for an affordable and flexible food offering with low commercial risk to the airport.

Program

• As a gateway to the Town, the airport provides an ideal site for the promotion of information about Port Hedland and nearby destinations.
• There are a number of activities and events occurring in Port Hedland, which could be promoted at the airport to visitors and non-resident workers.
• Located midway between the Port and South Hedland, the airport is ideally sited to accommodate community activities and events during non-peak times (i.e. evenings and weekends).
• The scale of the carpark provides an ideal platform for outdoor markets and entertainment.

6.2 CHALLENGES

People

• During some peak travel periods, the experience of resident passengers and visitors tends to be negatively impacted by large groups of people smoking and drinking.
• High accommodation and high living costs negatively impacts on the local hospitality and retail industry, which in turn impacts on quality services in the sector.

Physical Environment

• Overall the terminal floor area is limited and can accommodate only a limited number of functions.

Planet

• The Airport is only accessible via private cars, chartered buses and taxis.
• Port Hedland International Airport Master Plan March 2012 does not include any targets on environmental sustainability.

Product

• It is financially challenging for small local businesses to operate in conditions of fluctuating passenger numbers during the peak and nonpeak days.

Program

• The schedule of the mining industry creates traffic peaks mid week, leaving gaps with low levels of activity at the airport.

• The airport is in an isolated location, and therefore it would be a challenge to attract people for non-passenger activities.


3
3
-15 minutes
Arrivals Gate G7
Baggage storage
Rental Cars
Transport
Way out

7.0
PLACEMAKING DIRECTIONS AND RECOMMENDATIONS

The Port Hedland community's voice together with the Township's more recent strategic investigations and Village Well's place research have all informed the development of five key Placemaking Directions for the Port Hedland Airport.

These directions address both the hardware (infrastructure, architecture and fit-out) as well as the software (retail mix, programming and operations) of the new Port Hedland Airport.

Each direction is supported by specific placemaking recommendations to Council for adoption and implementation. These recommendations are also referenced in a layered plan of the terminal, indicating the intended experience of the place.

PLACEMAKING DIRECTIONS

1. **A QUINTESSENTIAL PORT HEDLAND EXPERIENCE**
2. **CREATE SPACIOUS, COMFORTABLE AND FLEXIBLE AREAS FOR MEETING AND RELAXING**
3. **QUALITY FOOD AND LOCAL PRODUCTS ARE CONSISTENTLY AVAILABLE**
4. **CONNECTING WITH PORT HEDLANDERS, WITH WHAT'S HERE AND WHAT'S HAPPENING**
5. **IMPROVED FACILITIES AND OPERATIONS**

PLACEMAKING DIRECTION 1.

A QUINTESSENTIAL PORT HEDLAND EXPERIENCE

The first impressions of Port Hedland and the broader region are made when visitors step off the plane and walk through the airport. Port Hedland has unique and diverse assets and the airport presents an ideal opportunity to showcase what Port Hedland has to offer.

For tourists the quintessential Port Hedland experience will heighten the excitement and expectation of the journey ahead. For non-residents and business visitors it will facilitate appreciation of the place and encourage them to further connect with Port Hedland. For residents, a recognisable, authentic experience will be a source of pride.

The nature, culture and stories of Port Hedland will be expressed through various means throughout the airport, so that the multifaceted essence of Port Hedland can be experienced as a whole, and new discoveries can be made at each visit.

RECOMMENDATIONS

ULURU KATA-TJUTA CULTURAL CENTRE
Architect: Gregory Burgess Architects
Photographer: Craig Lamotte

1.1 Engage an innovative architectural team to develop a design in response to the Place Plan and related functional design brief.

Photographer: Steve Passlow

1.2 Reference the Pilbara's magnificent landscapes through form, materials, texture and colours of architecture. For example:

- using rocks, soils and plants in landscape treatments;

- incorporating patterns and motifs into wall and pavement treatments;

- placing windows to capture the sky and sunsets;

- colour schemes that represent the distinctive colours of the landscape.

1.3 Provide a generous verandah on the landside of the terminal shielding the sun and expressing North West's building vernacular and appreciation of outdoor leisure.

1.4 Integrate heritage interpretation, storytelling and memorial into landscape and architecture of terminal, including:

- Interpretation of important chapters in local aviation history through large format photographs and potentially artefacts (see plan in Section 7.5);

- Curate and nurture Indigenous gardens with interpretation (see plan in Section 7.5);

- Partner with RSL to create an appropriate memorial to the bombing of the airport in World War II at an appropriate outdoor location;

- Commission local artisans to make children's toys for the play areas on the theme of turtles and mining (e.g. hand-carved wooden mining machines, turtle shaped soft furniture);

- Name the airport and tenancies with historical local references (e.g. Charlie's bar);

- Investigate opportunities to present stories from the Report of the South Hedland Kariyarra Cultural Interpretive Signage Project by Anthoropos Australis and Hedland Voice by the Port Hedland Historical Society and the Town of Hedland.

1.5 Commission Indigenous and non-Indigenous artists with links to the region to produce artworks for Airport arrival and lounge areas.

Artworks by Indigenous artists should be a prominent feature of the airport.

Recommended opportunities include:

- Suspended artworks in the domestic and international arrivals

- Artwork on the walls in the Arrival area

- The external garden in the plaza

- Decorative glass wall between the concourse and departure lounge

1.6 Retain the existing artwork (at the baggage collection area) and relocate to an appropriate site in the terminal, potentially behind the new baggage turnstiles.

1.7 Provide exhibition space for changing community exhibitions in an accessible location.

The exhibition space should be incorporated into wall space in the concourse area without any enclosure, so that it can be viewed easily.

Historical exhibitions should be managed by Council's local history librarian presenting images, artefacts and information related to the airport, Port Hedland and the Pilbara.

Artwork from Port Hednland Airport's *Airport Art and Story* Competition

1.8 Partner with local primary schools to involve school children in the development of an illustrated portrait of Port Hedland. The artwork could be exhibited in the exhibition space, and/or showcased in a unique and fun way such as on security check trays.

1.9 Provide indoor and outdoor native gardens to evoke a sense of the Pilbara landscape to create visual connections between inside and outside, and to soften the interior spaces.

1.10 Reintroduce the popular blue tongue lizard as a mascot of the airport, by incorporating a new enclosure and sponsoring airport staff or community volunteers to care for it.

1.11 Partner with mining companies to commission local artisans to produce playful objects and games. For example:
- A giant egg timer (referencing the salt mound) in the departure lounge that can be turned over to time a particular game or challenge.
- Placing a dummy iron ore pile on the baggage carousel (mimicking iron ore conveyers).

PLACEMAKING DIRECTION 2.

CREATE SPACIOUS, COMFORTABLE AND FLEXIBLE AREAS FOR MEETING AND RELAXING

As most time at the airport is spent waiting, sufficient and comfortable seating is of paramount importance.

A welcoming and generous space with distinctive offerings will invite not only travellers but also residents to make the airport their regular destination for meeting, socialising and even for education and entertainment.

RECOMMENDATIONS

2.1 Provide a generous common space in the pre-security area for families and friends to mingle with passengers before departure. The common area should be edged with F&B retail, exhibitions and community information and have toilets and amenities nearby.

2.2 Incorporate large windows and high ceilings to create a sense of space and light, and to create a visual connection with the outside landscape. A generous, welcoming space reflects the open attitude of Hedlanders.

Provide large windows in the south façade and centre of the airside wall to enable plane watching from the departure lounge, as well as glimpses from the concourse areas.

2.3 Provide clusters of comfortable seating in a variety of styles in the departure lounge to enable quiet reading as well as group gatherings.

2.4 Provide a semi-enclosed space, with bench, tables and chairs, for meetings of up to 8 people in the departure lounge / concourse area.

2.5 Provide a shaded outdoor verandah along the full extent of the north façade with plants and seating in three distinct areas: the central plaza (for dining and gathering), the eastern and western ends (for smokers).

The shaded outdoor space would be a place both passengers and non-passengers can enjoy, befitting the Hedlanders' outdoor-loving lifestyle.

2.6 Provide an indoor-outdoor garden in the departure lounge.

The garden should be lush with vegetation with heritage interpretation as well as have comfortable seating and potentially a water feature.

2.7 Provide areas for children's play in the central concourse area and the departure lounge.

Designate play spaces (preferably two, approximately 10m^2) and provide bespoke toys and furniture (see recommendation number 1.4 and plan in Section 7.5). These could potentially be combined with exhibition and pop-up space.

2.8 Provide an outdoor bus lounge in the carpark with covered pedestrian links to improve passenger comfort and soften the first impression of a hot landscape.

2.9 Provide a games corner by installing a jukebox, foosball and pinball machine, for low cost entertainment of travellers.

2.10 Establish a small book exchange of pre-loved books (second hand), in consultation with Port Hedland library, to compliment the adjacent retail.

2.11 Provide a discreet smoking area outside at the eastern and western ends of the plaza.

2.12 Provide two separate spaces for food and beverage consumption, to enable choice of social options.

PLACEMAKING DIRECTION 3.

QUALITY FOOD AND LOCAL PRODUCTS ARE CONSISTENTLY AVAILABLE

Distinctive quality food and retail experiences can make the airport and the whole trip memorable by showcasing what Port Hedland and the Pilbara have to offer.

RECOMMENDATIONS


Photographer: Samantha Bell

3.1 Ensure that retail operators in the terminal stock and promote quality, locally made gifts and produce.

3.2 Create affordable opportunities to showcase local products and produce by initiating and managing a revolving program of pop-up shops.

3.3 Ensure that at least one operator stocks convenience items for passengers.

3.4 License a mobile food truck to operate in the carpark during peak periods.

3.5 License a coffee cart to operate in the departure lounge during peak periods, preferably managed by a local operator who has a business or café in town.

PLACEMAKING DIRECTION 4.

CONNECTING WITH PORT HEDLANDERS, WITH WHAT'S HERE AND WHAT'S HAPPENING

As a gateway, the airport needs to provide basic information about Port Hedland that is both practical and inspirational.

RECOMMENDATIONS

4.1 Provide tourist information in a prominent location in the arrival area, including:

- A large scale map of Port Hedland and the surrounds with key destinations

- Tourist maps and takeaway tourist pamphlets, with information about local history and key destinations in and around Port Hedland.

4.2 Provide up-to-date information about the town including:

- A community billboard with information about what's happening in town. The billboard could be both physical and digital to cater for various audiences.

- An online bulletin or facebook page to promote various airport offerings as well as activities in the town and region.

- Regular briefings to airport customer service staff, car rental and taxi companies about what's on in town.

4.3 Initiate and manage a programme of pop-up shops and displays to bring in changing experiences and promote small businesses in Port Hedland and the region.

Make available a small space with services in the concourse or the departure lounge to host these pop-up shops. The space could be used not only for small retail but also for community events and promotions related to the Pilbara calendar of events.

4.4 Support a program of community events and activities in the carpark on weekends. For example events such as Suitcase rummage markets / car boot markets, pop-up drive-in cinema, produce markets, jazz under the stars and band rehearsals / concerts would be particularly suitable for this location and car park setting.

PLACEMAKING DIRECTION 5.

IMPROVED FACILITIES AND OPERATIONS

A clean, efficient and hussle-free experience is fundamental to passenger satisfaction. Investing in small improvements can have a significant effect on passenger experience.

RECOMMENDATIONS

5.1 Provide shower and change room facilities for non-resident workers.

5.2 Provide a baby change area in toilets.

5.3 Provide free WiFi and several power points for passengers use in departure lounges.

5.4 Provide next-generation check in systems and roaming customer service.

5.5 Provide baggage trolleys and racks in the carpark.

5.6 Operate a regular shuttle bus service into the Port and South Hedland.

5.7 Include solar power generation as a power source for the terminal.

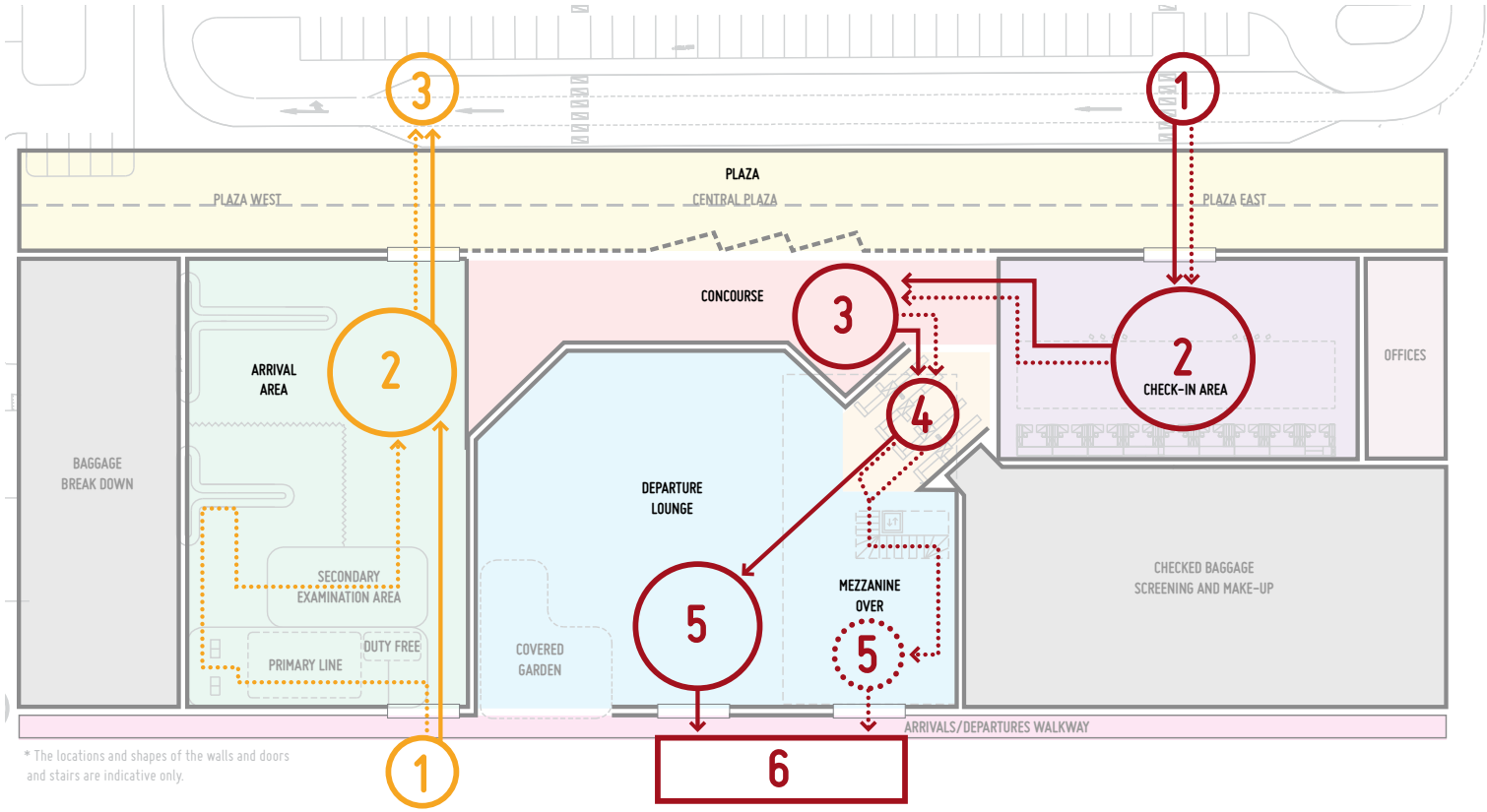
5.8 Collect rainwater from the terminal roof and store for use on gardens.

5.9 Collaborate with organisations such as The Care for Hedland Environmental Association to implement recycling programs.


Photographer: Kessner Photography

7.2 AIRPORT JOURNEY

The following plan illustrates three fictional journeys through the redeveloped Port Hedland Airport. The journeys are from the perspectives of a visitor to Port Hedland arriving at the airport, a Port Hedland resident departing from the airport, and a nonresident worker departing from the airport.



ARRIVAL

ARRIVAL INTERNATIONAL
ARRIVAL DOMESTIC

1. ARRIVE AT AIRPORT
2. COLLECT BAGGAGE
3. LEAVE TERMINAL

DEPARTURE

DEPARTURE INTERNATIONAL
DEPARTURE DOMESTIC

1. ARRIVE AT THE AIRPORT
2. CHECK-IN AND BAGGAGE DROP OFF
3. LOUNGE IN THE CONCOURSE
4. SECURITY SCREENING
5. RELAX IN THE DEPARTURE LOUNGE
6. DEPARTURE

AIRPORT JOURNEY

ARRIVAL

1. Arrival at the airport

Smooth landing and walk onto the tarmac. The Pilbara's sun is strong but the luckily the shade is not far away. Beautiful artworks along the corridor and arrival hall make me feel welcomed and excited about the trip ahead.

2. Collect baggage

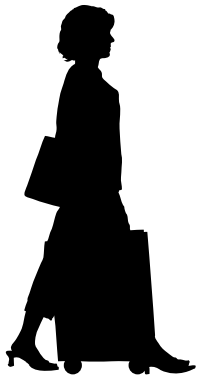
While waiting for the baggage I look at the map on the wall, pick up some tour brochures and check out the community billboard to find what's happening in town this week — the market is on tomorrow!

3. Leave terminal

I find my friends waiting with cool drinks at the plaza. We haven't seen each other for a long time!

The plaza is convivial with people enjoying their early evening drinks and children are happy playing nearby.

After an easy walk to the car, we drive off to see the turtles on the beach before dinner.



A traveller visiting a friend

AIRPORT JOURNEY

DEPARTURE 1

Port Hedland family

1. Arrival at the airport

I find a car parking spot under a tree canopy and enjoy a comfortable stroll to the departure hall. The iconic architecture welcomes us in.

2. Check-in and baggage drop

The flight information is visible as soon as I enter the door. Easy self check in and baggage drop-off. Friendly staff assists me with the oversize bag. Children are sitting on the nearby bench while they wait.

3. Lounge in the concourse

We enjoy coffee and snacks and conversation with family members who came to see us off. We sit outside to take in Port Hedland's warm air. Children are happy playing with diggers and lizards.

On the way to the security, I pick up some locally made jam as a souvenir and have a peek at this month's exhibition: amazing photography from the Pilbara's national parks.

4. Security

The security is smooth with no queue. Children's drawings on the security trays make me smile.

5. Relax in the departure lounge

The departure lounge is spacious and bright. We find comfortable seats and make it our base. Children enjoy exploring the garden space and I pick up some books for the flight in the book exchange library.

6. Departure

Boarding on time. As we line up for the queue we look back towards the concourse and wave to our family on the other side the glass wall. See you in two weeks!

AIRPORT JORNEY

DEPARTURE 2

Non-resident worker

1. Arrival at the airport

I get dropped off from the bus at the bus parking. The flight is an hour away, so I linger at the bus stop and enjoy a cigarette and chat. The landscape and seating make this place a great gathering spot.

2. Check-in and baggage drop

Check-in was done on mobile so I can drop off my baggage straight away.

3. Freshen up and shop

Quick shower to wash red dirt off and feel refreshed before the flight. I wind down from the day with a beer and a bite.

On the way to the security, I pick up locally made beef jerky for the kids at home.

4. Security

Smooth security even at the peak hour.

5. Relax in the departure lounge

The departure lounge is busy but there are still enough seats to choose from.

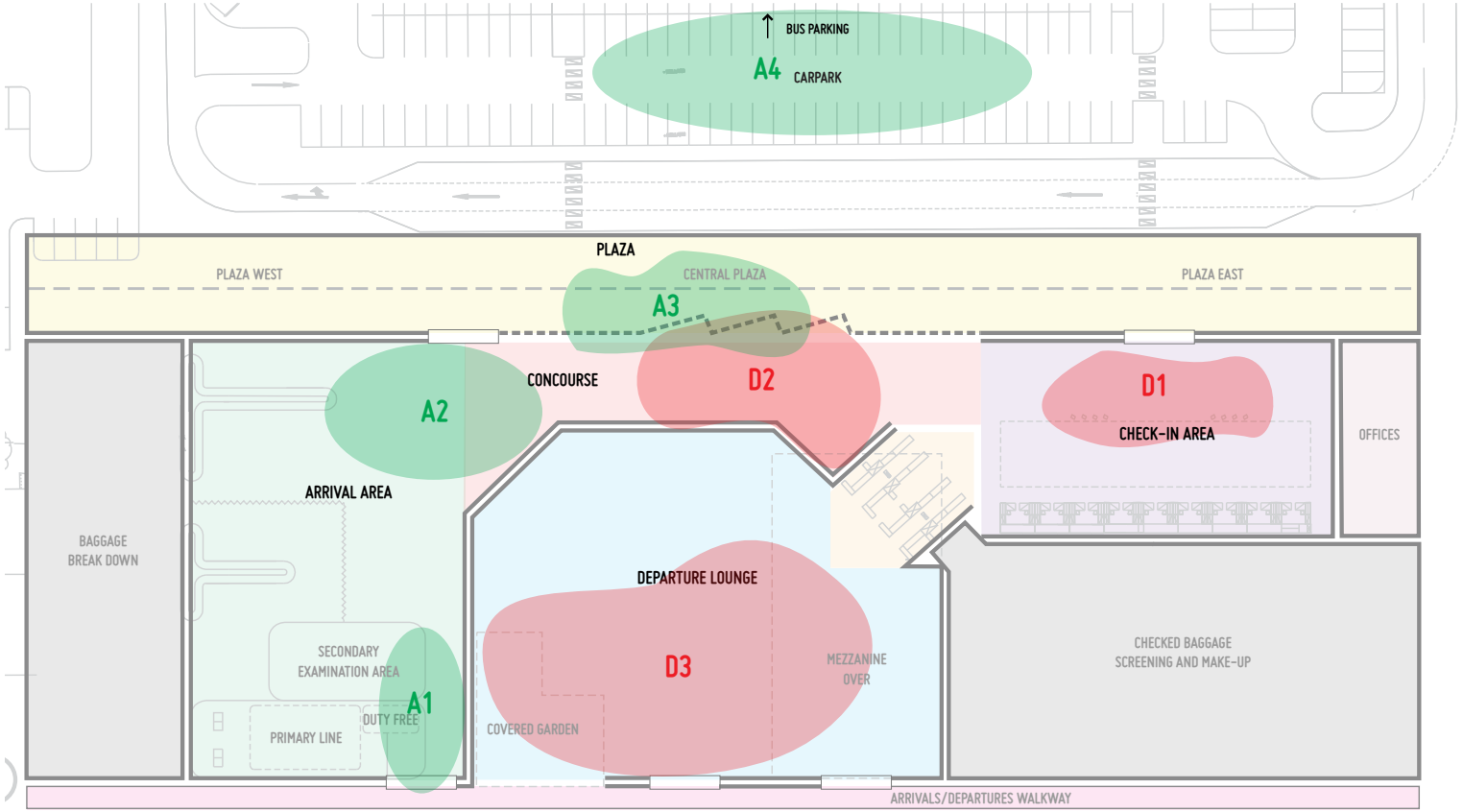
My colleagues are in the Qantas lounge but today I just sit in the departure lounge to spend some quiet time, reading and checking emails.

6. Departure

Boarding on time.
Sit back and relax.

7.3 AIRPORT EXPERIENCE

The following annotated plan describes the experience at different area within the terminal, including specific potential activities.



* The locations and shapes of the walls and doors are indicative only.

D1. CHECK-IN

The check-in area welcomes passengers with open and legible layout.

Check-in is effortless, assisted by well-located flight information, self check-in counters and friendly customer service staff. There are plenty of comfortable seats available for resting and last-minute reorganisation of baggage.

The toilets are placed in a discreet location away from the social activities, and are equipped with baby change rooms for travellers with children and showers for non-resident workers.

Toilets are also accessible from outside the building.

D2. CONCOURSE

This central communal area is spacious and light, and bleeds out to the outdoor plaza. It also enjoys views to through the departure lounge to the airside windows.

The space is packed with a variety of activities, including a café, shop and play space. Curated exhibitions and pop-up shops reflect the abundance of local talent, and add variety over the course of the year.

Sonya Edney with her work in the 2013 Hedland Art Awards. Photographer: Samantha Bell

1. A QUICK BITE

The airport cafe offers fresh food with a local favourites including the steak sandwich a la Esplanade.

The café opens out onto the landscaped plaza, enabling WA style outdoor dining experience.

2. PLAY

Located adjacent to the concourse café, the play area is a favourite place for families travelling with children as well as occasional mothers groups who use the airport as a meeting place.

There is no fencing necessary due to the visual proximity to the lounge area where parents relax in comfort.

Turtle themed soft furniture provides an opportunity for children to engage in imaginative play.

3. LIZARD LOUNGE

The lizard lounge is literally a lounge with a lizard. The old favourite resident of the Port Hedland airport is back and welcomes visitors to the airport.

4. CONVENIENCE AND SOUVENIR SHOPPING

The shop is conveniently located near the security for last minute convenience and souvenir shopping. In addition to magazines and travel products a selection of locally made products is on offer for unique gifts and souvenirs.

Photographer: Samantha Bell

5. SHOWCASE CORNER

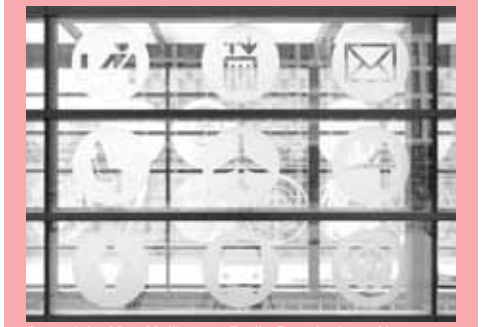
A small corner is dedicated to showcasing the history and creative talents of the Port Hedland and Pilbara communities.

The flexible space is also used to house exhibitions and pop-up shops.

6. VIEWING THROUGH THE GLASS WALL

The large glass wall between the concourse and departure lounge enables passengers and their friends and families to maintain visual contact through the final stages of departure.

The decorative glass wall is designed by artists from the region.



Artwork by Matt Mullican at Berlin Brandenburg Airport
Photographer: Alexander Obst/Marion Schmieding

D3. DEPARTURE

The departure lounge is spacious with high ceiling and large windows, and alive with colours of the Pilbara. Heritage interpretation integrated into the wall design provides further appreciation of Port Hedland.

The space feels more like a lounge than an 'airport lounge' with various comfortable seating options and a semi-outdoor space. Passengers spend their waiting time as they like – enjoying a drink and a chat, catching up on business on live, quietly reading or watching the planes take off.

1. AN OASIS OF BEAUTIFUL GARDENS

The cool green of the indoor / outdoor gardens have interpreted Indigenous plants and plenty of seating.

At the other corner, play opportunities such as foosball or jukebox allow passengers to make some noise and have fun.

2. PLAY AND READ

A small section of the lounge provides diversions to waiting passengers.

The play experience is uniquely Port Hedland style, with mini mining machinery handcrafted in timber and animal inspired soft furniture.

The small bookshelf houses pre-loved books of other travellers. Books can be taken away on the plane and returned or swapped.

A1. ARRIVAL

Arrival provides memorable first impressions of Port Hedland. Arriving passengers are welcomed with striking impressions of landscapes and images of Port Hedland.

Beyond the custom and baggage collection, the space opens up to create a sense of shared third space, owned by the community.

1. ENTRY

Walking through the arrival corridor passengers encounter magnificent artworks by Indigenous artists welcoming visitors to country.

International travellers can enjoy the duty free on the way out.

Artwork at Narita International Airport Arrival Concourse
Photographer: Forward Stroke

A2. FINDING INFORMATION

Near the baggage collection carousels, a wall presenting a large map of the township indicates key destinations and landmarks. Various maps and tourist information are available and a community billboard is packed with information on what's happening in town.

A3. PLAZA

The Plaza is a well-shaded outdoor space that accommodates various activities, including circulation, taxi pickup and drop-off, resting and dining.

Seated smoking areas at the end of the plaza east and west ensure separation of dining and smoking.

1. RELAX AT CENTRAL PLAZA

The central section of the plaza is an active gathering area, with service from the cafe and ample seating The shade, landscape and public art evoke the natural beauty of the area.

A4. CAR PARK

The car park is logically arranged, and the pedestrian paths well marked and shaded. Trees provide generous shade over parked cars.

1. BUS PARKING

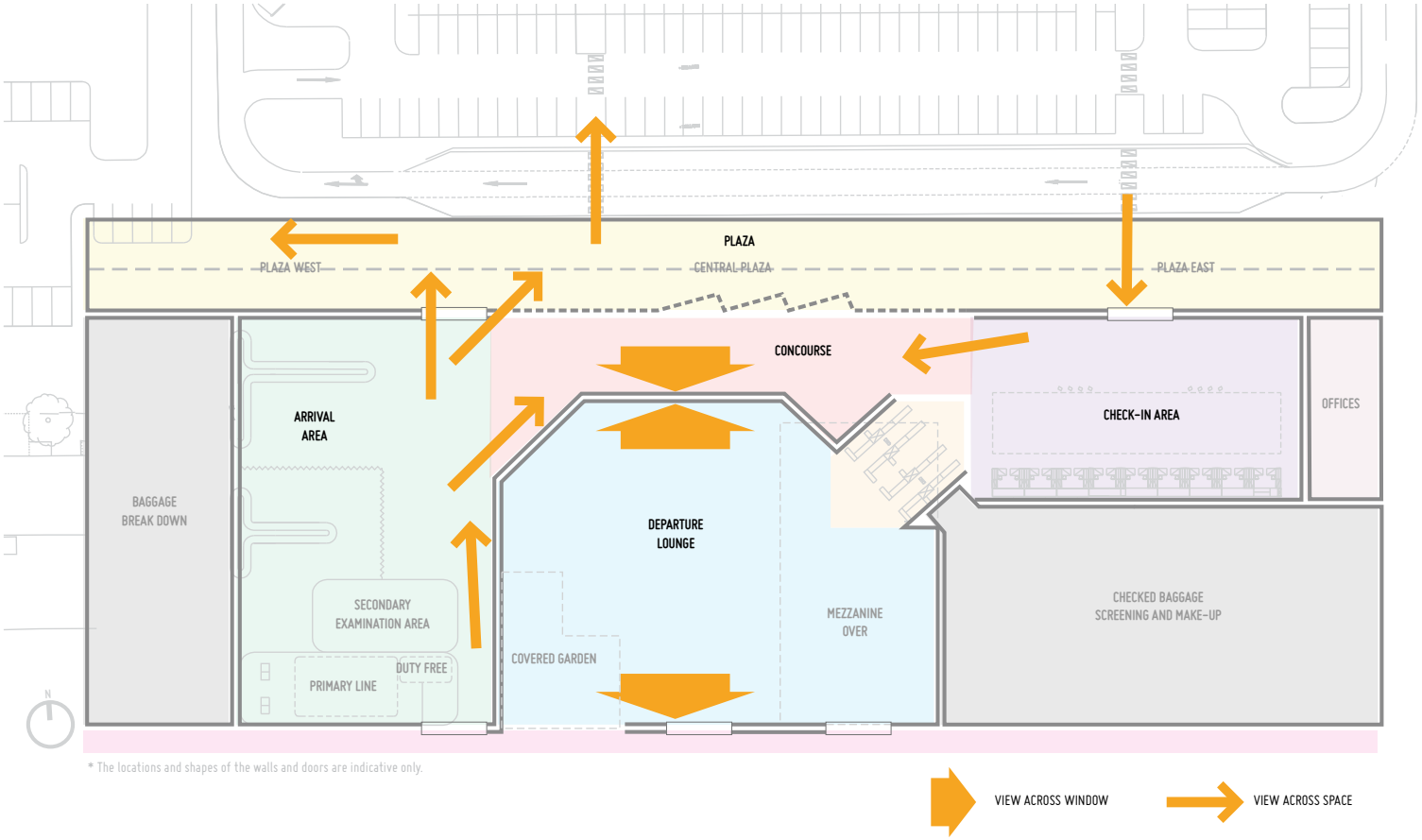
The bus parking zone in the middle of the carpark has comfortable seating, shading and landscaping. Green climbing vines soften the harshness of the car park.

2. ALTERNATIVE USES

In quiet, low traffic periods (weekends) the space regularly becomes a place of gathering with markets, pop-up drive-in cinema and live music events. People from town come not to fly out but to enjoy the open air and convenience of a central location midway between Port and South Hedland.

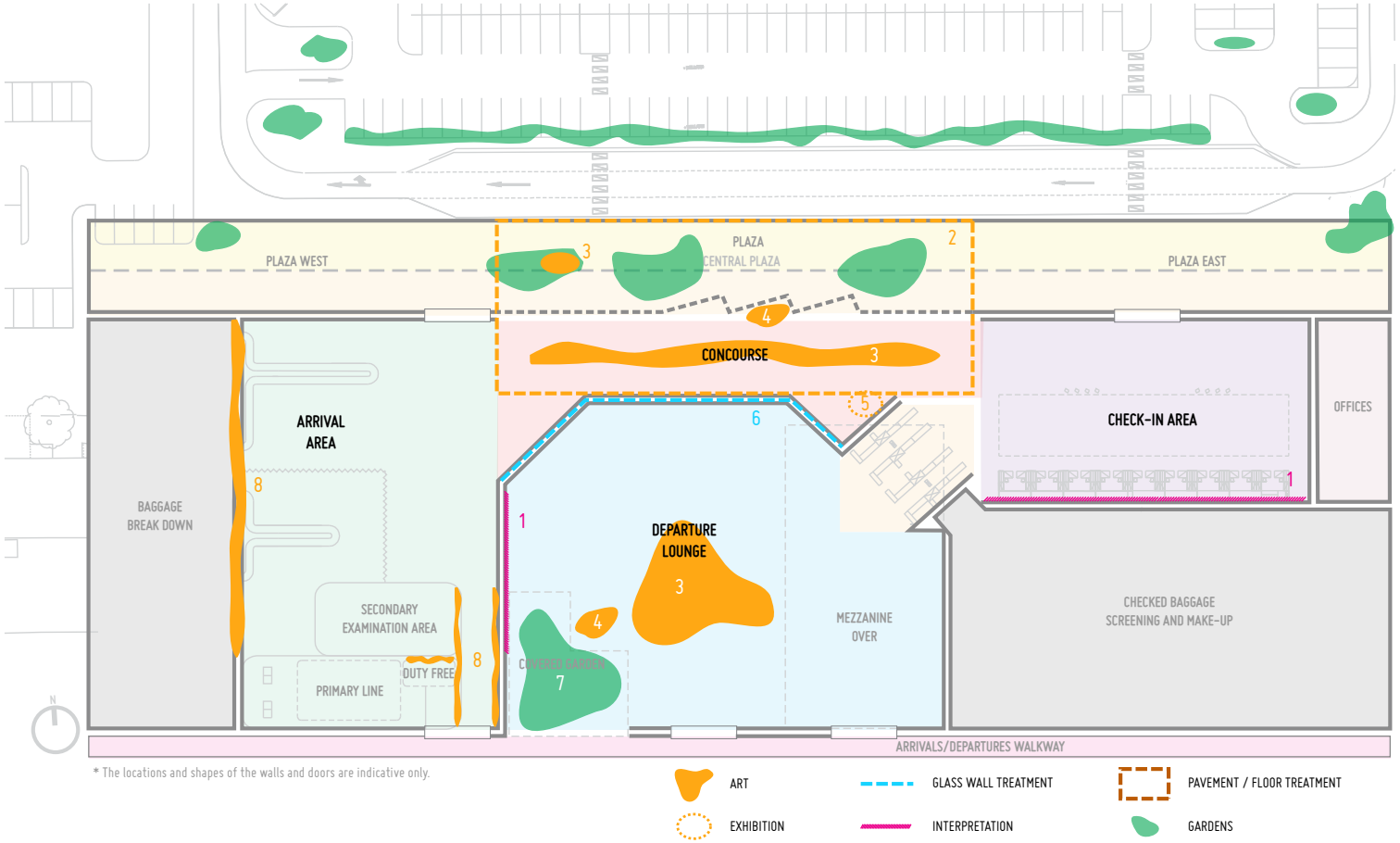
7.4 VIEW LINES

The following plan shows the important visual connections that need to be retained.



7.5 ART, GARDENS AND INTERPRETATION

The following plan indicates approximate location zones for art, gardens and interpretation.



Pearl Necklace artwork by Olaf Nicolai
Photographer: Alexander Obst/Marion / Schmieding Berlin
Brandenburg Airport

1. INTERPRETATION

The aviation history of Port Hedland is presented in large format photographs and text.

2. PAVEMENT / FLOOR TREATMENT

The central plaza and the concourse are connected through the same pavement / floor treatment, featuring the landscape and water of the Pilbara in subtle patterns and motifs.

3. ART

Commissioned artworks explores themes of oases, flight, energy and community, appearing within the gardens in the Plaza and suspended from the high ceilings of the concourse and departure areas.

4. PLAYFUL FURNITURE

The play area features turtle shaped soft furniture designed by an artist.

The handcrafted mining machinery is another popular play element for children.

6. EXHIBITION

A changing program of exhibitions are curated by the Town's library and captures the interest of travellers as well as residents.

6. GLASS WALL TREATMENT

The large expanse of glass wall between the concourse and the departure lounge is a carefully articulated structure with finely crafted detail by local artists

7. COVERED GARDEN

Indigenous plants in the covered garden introduce the culinary tradition of the Pilbara's Indigenous people.

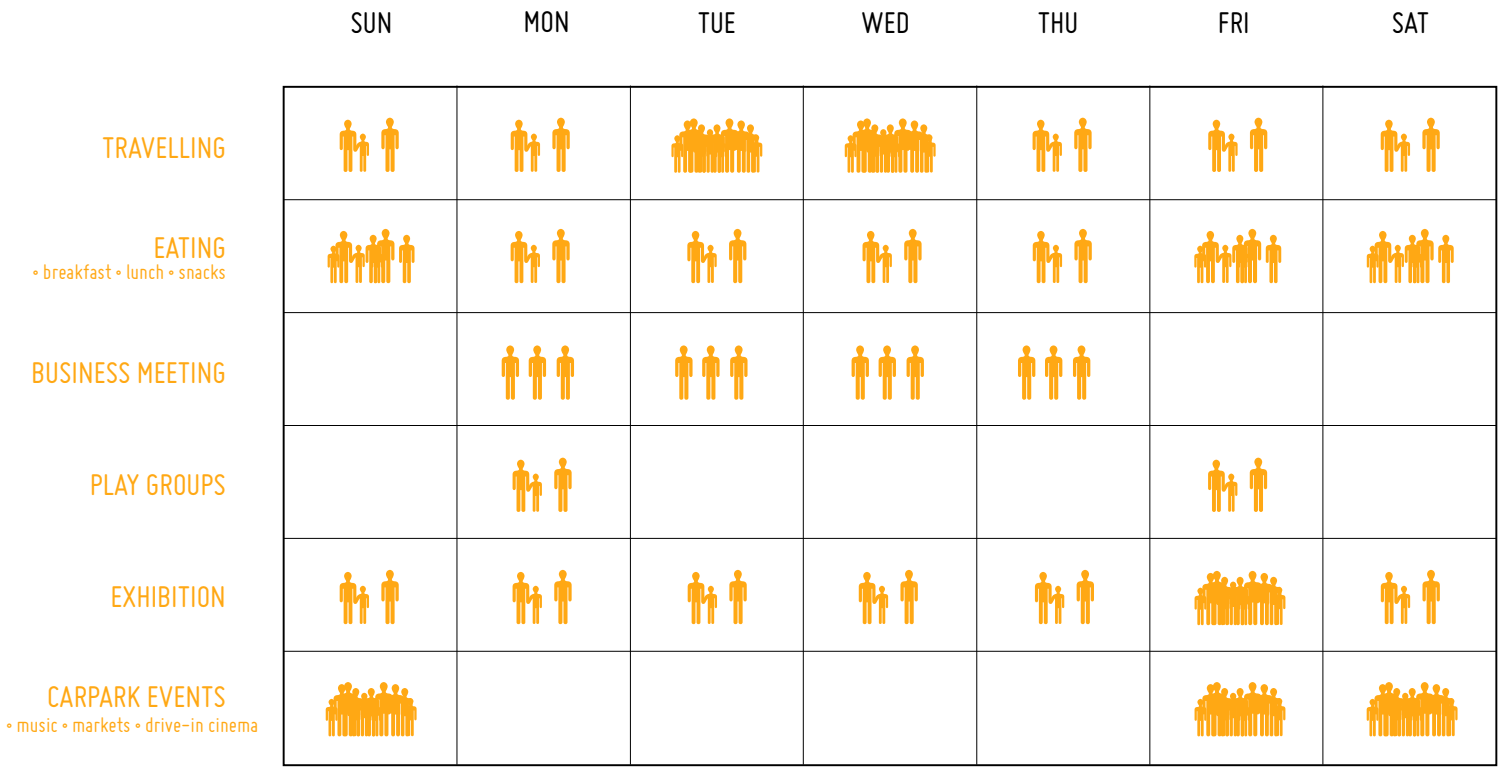
8. ART AT ARRIVAL

A stunning artworks by Indigenous artists welcome the visitors into the terminal.

7.6 WEEKLY CALENDAR

The indicative weekly calendar shows the daily rhythm of activity at the airport terminal - different activities on each day.

The icons indicate how busy the activity might be on a specific day.



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TOWN OF PORT HEDLAND AIRPORT REDEVELOPMENT PROGRAM & ASSOCIATED FUNDING

5 YEAR BUDGET FORECAST, FROM YEAR ENDED 30 JUNE 2013 TO YEAR END 30 JUNE 2018

(deferred capex and spoilbank transfer+KBP revenue)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
EXPENDITURE							
Infrastructure - apron extension	4,734,464	5,000,000					**9,734,464**
Infrastructure - Main Apron Strenghening		1,300,000					**1,300,000**
Infrastruture - Building upgrades	365,000						**365,000**
Infrastructure - runway 18/36 rebuild				1,500,000			**1,500,000**
infrastructure - pavement repairs		300,000					**300,000**
Infrastructure - runway resheet			4,000,000				**4,000,000**
Operations - CCTV network Airport	206,445	150,000					**356,445**
Operations - quarantine facility resite		600,000					**600,000**
Operations - screening authority transition		500,000					**500,000**
Operations - security fencing (Stage 2)	1,500,000						**1,500,000**
Operations - Plant & Equipment - power-in/pushback		765,000					**765,000**
Operations - security upgrades - CTO		500,000					**500,000**
Operations - Stormwater Drainage	350,000						**350,000**
Redevelopment - aircraft service hangar construction			2,500,000				**2,500,000**
Redevelopment - carpark/ground transport reconfiguration	160,000	1,000,000	1,000,000	2,000,000			**4,160,000**
Redevelopment - freight and logistics zone	150,000	8,360,000					**8,510,000**
Redevelopment - interim bus parking	300,000						**300,000**
Redevelopment - Interim freight hub/relocation existing freight ops			1,200,000	1,000,000			**2,200,000**
Redevelopment - interim Improvement program [security/amenity/landscaping]	600,000	1,000,000					**1,600,000**
Redevelopment - terminal	310,000			4,000,000	20,000,000	20,000,000	**44,310,000**
Relocation - airport operations building			500,000				**500,000**
Relocation - records shed			2,000,000				**2,000,000**
Services - electrical lighting upgrades		1,300,000	1,632,664				**2,932,664**
Services - electrical ringmain upgrade	2,461,211	2,538,789	3,000,000				**8,000,000**
Services - water/wastewater	500,000	4,900,000	8,900,000				**14,300,000**
TOTAL	**11,637,120**	**28,213,789**	**24,732,664**	**8,500,000**	**20,000,000**	**20,000,000**	**113,083,573**
SOURCES OF FUNDING							
Council Reserve Funding							**0**
Kingsford Precinct Lots 401 to 439							
Bunnings Land Sale Lot 412		2,695,000					**2,695,000**
Sales - Lots 401 to 409		3,922,500	1,500,000	750,000			**6,172,500**
Rented - Lots 410 & 411			112,500	115,875	119,351	122,932	**470,658**
Sales - Lots 413 to 417				1,400,000	1,400,000	1,400,000	**4,200,000**
Rented - Lots 421 to 424				526,726	542,528	558,804	**1,628,057**
Rented - Lots 425 to 428					838,360	863,511	**1,701,871**
Rented - Lots 429 to 431							**0**
Rented - Lots 432 to 433							**0**
Rented - Lot 436-439		2,628,500	2,707,355	2,788,576	2,872,233	2,958,400	**13,955,063**
Airport Operating Budget							
Revenue	17,389,413	18,258,884	19,171,828	20,130,420	21,136,940	22,193,788	**118,281,273**
Expenditure	-11,030,644	-11,416,717	-11,816,302	-12,229,872	-12,657,918	-13,100,945	**-72,252,397**
New - terminal retail/commercial revenues					358,313	376,228	**734,541**
New - air freight facilities				625,800	657,090	689,945	**1,972,835**
New - GA hangars		20,000	42,000	63,000	84,000	88,200	**297,200**
New - hire car revenue uplift		510,000	535,500	562,275	590,389	619,908	**2,818,072**
New - power in push back equipment revenue		160,000	168,000	176,400	185,220	194,481	**884,101**
Loan Funds			8,000,000		5,500,000		**13,500,000**
Costs Associated with Loan Funds							
Interest Repayments (& Guarantee Fee)		0	0	-560,000	-543,200	-911,904	**-2,015,104**
Principal Repayments		0	0	-800,000	-776,000	-1,302,720	**-2,878,720**
Airport Capital Reserve							
Transfer from Muni for Records Shed			2,000,000	0	0		**2,000,000**
Airport Reserve transfers/blances	19,060,000	13,781,649	2,346,027	34,245	5,083,444	5,390,750	**141,376**
TOTAL	**25,418,769**	**30,559,816**	**24,766,909**	**13,583,444**	**25,390,750**	**20,141,376**	**113,083,573**
Capex to Funding shortfall/surplus	13,781,649	2,346,027	34,245	5,083,444	5,390,750	141,376	