

# BANKSTOWN AIRPORT

## SOUTH WEST PRECINCT SITE WORKS AND WAREHOUSE MAJOR DEVELOPMENT PLAN

PRELIMINARY DRAFT - VOLUME 1



SEPTEMBER 2018

 SYDNEY **METRO** AIRPORTS

BANKSTOWN

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# GLOSSARY

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<b>AHIMS</b>	Aboriginal Heritage Information Management System	<b>ICNG</b>	Interim Construction Noise Guideline
<b>ASS</b>	Acid sulphate soils	<b>LALC</b>	Local Aboriginal Land Council
<b>AQMP</b>	Air Quality Management Plan	<b>LGA</b>	Local government area
<b>AEP</b>	Annual Exceedance Probability	<b>MDP</b>	Major Development Plan
<b>AHD</b>	Australian Height Datum	<b>NASAG</b>	National Airports Safeguarding Advisory Group
<b>ANEF</b>	Australian Noise Exposure Forecast	<b>NASF</b>	National Airports Safeguarding Framework
<b>ARI</b>	Average recurrence interval	<b>NPI</b>	National Pollutant Inventory
<b>BACACG</b>	Bankstown Airport Community Aviation Consultation Group	<b>NMP</b>	Noise Management Plan
<b>BaCH</b>	Bankstown, Camden, Hoxton Park Consortium	<b>NDB</b>	Non-Directional Beacon
<b>BAL</b>	Bankstown Airport Limited	<b>NOTAM</b>	Notice to Airmen
<b>BoM</b>	Bureau of Meteorology	<b>OAS</b>	Obstacle assessment surface
<b>CBD</b>	Central Business District	<b>OLS</b>	Obstacle Limitation Surfaces
<b>CASA</b>	Civil Aviation Safety Authority	<b>PC1</b>	Performance Class 1
<b>CNS</b>	Communication navigation and surveillance	<b>PC2</b>	Performance Class 2
<b>CEMP</b>	Construction Environmental Management Plan	<b>PFAS</b>	Poly-fluoroalkyl substances
<b>DCA</b>	Department of Civil Aviation	<b>PAPI</b>	Precision Approach Path Indicator
<b>DCP</b>	Development Control Plan	<b>PMF</b>	Probable Maximum Flood
<b>EMP</b>	Environmental Management Plan	<b>PANS-OPS</b>	Procedures for Air Navigation Services – Aircraft Operations
<b>EPA</b>	Environment Protection Authority	<b>PSAs</b>	Public Safety Areas (previously known as Public Safety Zones)
<b>FOD</b>	Foreign object debris	<b>RMS</b>	Roads and Maritime Services
<b>GA</b>	General Aviation	<b>RTCC</b>	Radar Terrain Clearance Chart
<b>GFA</b>	Gross Floor Area	<b>RAAF</b>	Royal Australian Airforce
<b>HLS</b>	Helicopter Landing Site	<b>SOPs</b>	Standard Operating Procedures
<b>HMP</b>	Heritage Management Plan	<b>SWP</b>	South West Precinct
<b>HMS</b>	Heritage Management Strategy	<b>TMP</b>	Traffic Management Plan
<b>INP</b>	Industrial Noise Policy	<b>WSROC</b>	West Sydney Regional Organisation of Councils
<b>IAQM</b>	Institute of Air Quality Management		
<b>ICT</b>	Information communication technology		



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# EXECUTIVE SUMMARY

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Bankstown Airport is the premier general aviation airport and a major commercial centre in Sydney.

Bankstown Airport is operated by Bankstown Airport Limited (BAL). BAL is the Airport Lessee Company under a Head Lease from the Commonwealth Government as the owner of the Airport. BAL also manages Camden Airport under a management agreement with Camden Airport Limited (CAL). CAL is the Airport Lessee Company under a Head Lease from the Commonwealth Government as the owner of Camden Airport. BAL and CAL have common ownership, and are trading as Sydney Metro Airports.

BAL's vision is to continue to operate and develop Bankstown Airport to be:

*".. a dynamic, integrated aviation and commercial centre for Sydney, including home for emergency services, general aviation, training, logistics and destination retail."*

Bankstown Airport is the third busiest airport in Australia and the second busiest general aviation airport. The Airport operates on a 24/7 basis and serves as a flying base for Emergency Services, major flying schools and small to medium-size air freight, aircraft maintenance, charter and private business flights.

Home to more than 160 businesses, Bankstown Airport plays an important role as a major commercial centre within the Canterbury-Bankstown region.



LEE DE WINTON  
BANKSTOWN AIRPORT CEO



The South West Precinct (SWP) of Bankstown Airport is a predominantly unused and undeveloped portion of the Airport, the majority of which is not required for aviation purposes.

BAL proposes to commence development of the SWP, through the undertaking of site works and the construction of a warehouse building. This proposed development (the Project) triggers a Major Development Plan (MDP) assessment pursuant to the *Airports Act 1996* (Airports Act), due to the expected construction cost exceeding \$20 million and the significant, positive impact the Project will have on the local and regional community.

Importantly, the Project will address historical issues associated with the SWP, including site-wide flooding and stormwater management, site contamination and resolving issues arising from previously issued work permits while also providing employment and creating productive land use.

## THE SITE

The proposed development site (Project Site) covers an area of approximately 46.1 hectares in the SWP. It is located adjacent to the existing road network of Henry Lawson Drive to the west via Tower Road and/or Starkie Drive, and Milperra Road to the south. These roads provide direct and easy access to the development site. The Bankstown Airport Aviation Zone is located immediately to the north and the Georges River Golf Course is located to the west.

Existing internal roads, services, light industrial and retail buildings are generally located outside the Project Site to the west, south-west and south-east, with an existing Non-Directional Beacon (NDB) located adjacent to the juncture of Murray Jones Drive and Milperra Road.

## THE PROJECT

The Project involves site works and the development of a warehouse within the SWP. The MDP will facilitate the first stage of a major industrial/logistic and innovation precinct for Bankstown Airport, which has the potential to support both aviation and non-aviation commercial activities. The specific elements of the project comprise:

- An overall layout concept, including earthworks and site works, site-wide stormwater and flood mitigation, and addressing historic site contamination issues
- A new internal road network, including connections to Murray Jones Drive and Tower Road
- Construction of a warehouse building of approximately 37,000 square metres in area, including ancillary office administration facilities, heavy vehicle loading dock and hardstand areas, at-grade employee and visitor car parking, and associated landscaping areas
- Demolition of existing buildings and structures.

## AIRPORT PLANNING

The Bankstown Airport Master Plan and Airport Environment Strategy 2014 (Master Plan 2014) identifies various planning areas ('Zones'). The Master Plan establishes key development objectives and principles for various land uses on Airport land, both generally and specific to each Zone. The Project Site is located within the Business Zone of Bankstown Airport. The proposed development is a complying activity in the Business Zone.

In accordance with the requirements of the Airports Act, BAL is in the process of reviewing and updating the current Master Plan. The Draft Bankstown Airport Master Plan 2019 (Master Plan 2019) proposes to review and update the development objectives and principles of development control relevant to the Project Site. The Master Plan 2019 will be subject to a concurrent consultation process with this MDP.

Much of the Airport-wide investigations used in the preparation of Master Plan 2019 have been used in the preparation of this MDP. For context and clarity, the project has also been assessed against the draft development objectives and principles of development control being developed for Master Plan 2019.

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## NEED AND JUSTIFICATION

The Project will activate an area of Bankstown Airport which is predominantly unused and undeveloped, providing employment generating commercial/ industrial opportunities in a strategically important location.

There is currently an insufficient supply of industrial land in Greater Sydney (relative to a growing demand). It is estimated that there is only enough industrial land to last until 2023 (JLL, 2018). The Project Site is well suited to provide for such use, particularly in terms of its strategic location when considering the following:

- The Project Site is part of Bankstown Airport, the State's premier general aviation airport
- The Project Site is easily accessed by several major arterial roads, providing convenient access to major motorways servicing Greater Sydney
- The area has been identified as one of Greater Sydney's four key Trade Gateways (GSC, 2018)
- The proximity of the Project Site to some of Sydney's current and developing key freight and intermodal facilities (i.e. Villawood, Chullora and Moorebank)
- The proximity of the site to a growing local population / workforce.

The Project Site will also facilitate growth in both investment and employment within Bankstown.

## AVIATION CONSIDERATIONS

With the exception of the retention of the Non-Directional Beacon (NDB) and protection of clearance zones around this important facility, the Project Site is not required for aviation purposes.

Notwithstanding this, the overall layout concept and allotment pattern allows for possible future aviation uses.

Detailed Aviation, Wind Shear and Turbulence Impact assessments have been undertaken for the proposed development and a detailed assessment provided against the National Airport Safeguarding Framework (NASF).

The location, height and design of the proposed development has been designed with regard to:

- The proposed warehouse does not result in any penetration to the existing or future Bankstown Airport Obstacle Limitation Surface (OLS) or PANS-OPS surfaces
- Impact of the proposed development on wind shear and turbulence is anticipated to be within operational guidelines of BAL
- The Line of Sight (LoS) from the Control Tower to the aviation pavement (i.e. aprons, taxiways and runways) is unimpeded.

The development is not within the Bankstown Airport Public Safety Areas.

Further, the proposed development will not impact on existing Communication, Navigation and Surveillance facilities at Bankstown Airport and the selection of construction materials and lighting design will ensure compliance with *MOS139 Section 9.21: Lighting in the Vicinity of Aerodromes*.



## CONSTRUCTION

The construction program is estimated to take place over approximately 15 months following receipt of all relevant approvals. The Project Site will be securely fenced and the Construction Environmental Management Plan (CEMP) will take into consideration all airport-specific risks such as aviation security, height of construction equipment (incl. NOTAM), communication and navigation surveillance and foreign object debris.

## PREVIOUS WORKS

The South West Precinct was earmarked for commercial development as part of the Airport Management Agreement to BAC Devco and some site preparatory works for a freight facility development (that did not proceed) were carried out. Any previous works that were carried out that are to be retained and re-used by the Project will undergo validation prior to their adoption into the project. Old work permits associated with these previous works will be closed out/managed through this process.

## GROUND TRANSPORT PLAN

The Project will not result in any major impacts to the surrounding transport network. Construction traffic is expected to have a minimal impact to the surrounding road network and temporary traffic management measures during the construction phase will be designed to minimise any disruptions to existing developments that utilise Tower Road, Starkie Drive and Murray Jones Drive.

As the proposed works include upgrades to Tower Road and the provision of a new road link between Tower Road and Murray Jones Drive, the surrounding network is expected to satisfactorily accommodate the additional traffic that would result from the Project once operational.

## ENVIRONMENT MANAGEMENT

The Project Site has a number of known environmental constraints, including:

- Flooding and stormwater management (flooding and stormwater are broader than the Project Site and the design has considered the wider Airport and Milperra Catchment)
- Contamination associated with factors that include a fill platform, stockpiles, and suspected locations of PFAS.

Consideration has been given to construction and operational environmental factors. Importantly, the management / implementation of both the CEMP and the Operational Environmental Management Plan (OEMP) will be in accordance with BAL's environmental policies and procedures and involve, where relevant, the Airport Environmental Manager (AEM). For each environmental issue, consideration has been given to the existing situation, impact assessment, mitigation and management measures.

A Project-specific CEMP will be prepared and include airport-specific considerations. The CEMP will form the basis for the environmental management of the development of the Project. The CEMP will document the environmental controls to be required of all contractors operating on the construction of this Project.

## STORMWATER AND HYDROLOGY

The Project will implement relevant aspects of the Site-wide Bankstown Airport Stormwater and Flood Management Strategy, to ensure that there are no adverse off-site impacts from development. This will include provision of approximately 50,000 square metres of dedicated on-site stormwater detention basins which provide both Georges River flood storage and on-site detention for the local catchments to the north and east. Bio-retention will be incorporated into the design of the basins to ensure that the development achieves the targets nominated in the Botany Bay Water Quality Improvement Program.



## GEOLOGY, HYDROGEOLOGY AND SOIL CONTAMINATION

Numerous and detailed contamination investigations have been undertaken across the Project Site, including over 300 boreholes and test pits and over 400 laboratory samples subjected to independent NATA accredited lab analysis.

Based on the results of the investigations undertaken to date (and subject to the results of proposed additional investigations / appropriate environmental management plans being implemented) the Project Site in its current condition is suitable for commercial/industrial land uses.

The Project Site will be closely managed during construction and operation to ensure that any potential exposure to site occupants and adjacent land is properly monitored, mitigated and managed. Some limited areas (where testing has not been previously carried out) will be the subject of further testing. In the event that any additional testing is required as the works progress and sub-soils are exposed, such testing will be carried out in accordance with appropriate codes and standards.

## FLORA AND FAUNA

There are no significant flora or fauna species on the Project Site. Mitigation and management measures to minimise the impacts during construction of the works detailed in this MDP will be outlined in the CEMP and include vegetation protection, erosion, sediment and pollution control, dam dewatering supervision, weed control measures and fauna management.

## HERITAGE AND ARCHAEOLOGY

There is no known archaeological or heritage potential within the Project Site. An unexpected finds protocol will be included in the CEMP.

The Bankstown Airport Heritage Management Strategy (2005) provides the basis for decision-making in relation to heritage conservation and ongoing management of the Bankstown Airport site. Policies for appropriate development of the Airport site are outlined, as well as conservation of individual items.

BAL is currently preparing an updated Airport-wide Heritage Management Plan. The draft Heritage Management Plan does not identify any heritage management issues within the Project Site.

## AIR QUALITY

There are no significant air quality risks anticipated as a result of the Project. To minimise the risk of air quality impacts during demolition, earthworks and construction, precautionary management and mitigation measures would be included in the CEMP. Careful design and appropriate management of the potential sources of air emissions will meet the regulatory requirements of Australian Design Codes and Building Control Regulations and requirements under the Airports Act.

## NOISE MANAGEMENT

The construction and operation of the Project will comply with all relevant noise criteria. Prior to construction of the warehouse building, aircraft noise levels across the site will be predicted or measured using a methodology provided in the AS 2021 and internal sound design levels would be developed accordingly.

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## WASTE MANAGEMENT

Construction waste will be managed through approval conditions for the Project and construction activities and will be disposed of appropriately in accordance with NSW EPA requirements.

The management of any contamination found during development activities is detailed in the CEMP.

If any asbestos is detected during, the CEMP will reference the Airport's procedures for asbestos handling and removal, as detailed in the Bankstown Airport Asbestos Management Plan.

## VISUAL IMPACT

An assessment of the visual impact of the Project has been undertaken to consider relevant mitigation measures for any identified adverse impacts. The height of the warehouse is 13.7 metres above the established finished floor level. Although the warehouse will be larger in scale than the existing buildings in the immediate vicinity, it is appropriate in the context of surrounding development and is considered to have a substantial level of visual congruency with the built form of Bankstown Airport and the industrial precinct along Milperra Road that neighbours the Project.

## CONSISTENCY WITH BANKSTOWN AIRPORT MASTER PLAN

The Project is consistent with the planning objectives and principles outlined in both the Bankstown Airport Master Plan and Airport Environment Strategy 2014 (Master Plan 2014) and the Draft Bankstown Airport Master Plan 2019 (Master Plan 2019).

## CONSISTENCY WITH THE STATE AND LOCAL PLANNING INSTRUMENTS

The Project is consistent with the role and function of the Airport as described in State Government Planning Strategies including the Greater Sydney Region Plan (2018) and the South District Plan (2018).



# 1.0 INTRODUCTION





BANKSTOWN AIRPORT IS SYDNEY'S MAJOR GENERAL AVIATION (GA) AIRPORT. IN THE 2017 CALENDAR YEAR IT WAS THE SECOND MOST ACTIVE GA FACILITY IN AUSTRALIA AND THE THIRD MOST ACTIVE AUSTRALIAN AIRPORT, WHEN CONSIDERING TOTAL AIRCRAFT MOVEMENTS.

THE AIRPORT CATERS FOR CHARTER AND PRIVATE BUSINESS FLIGHTS, FLIGHT TRAINING, FREIGHT, AEROMEDICAL SERVICES, RECREATIONAL FLIGHTS AND EMERGENCY SERVICES.

Bankstown Airport is located approximately 26 kilometres south-west of the Sydney Central Business District (CBD) and 17 kilometres west of Sydney Airport.

Bankstown Airport is operated by Bankstown Airport Limited (BAL). BAL is the Airport Lessee Company under a Head Lease from the Commonwealth Government as the owner of the Airport. BAL also manages Camden Airport under a management agreement with Camden Airport Limited (CAL). CAL is the Airport Lessee Company under a Head Lease from the Commonwealth Government as the owner of Camden Airport. BAL and CAL have common ownership, and are trading as Sydney Metro Airports.

The Commonwealth of Australia is the owner of the land on which the Airport operates. Bankstown Airport Limited (BAL) holds a long-term registered lease from the Commonwealth over all of the land comprising the Airport.

The current Master Plan for the Airport – Bankstown Airport Master Plan and Airport Environment Strategy 2014 (Master Plan 2014) – was approved on 19 December 2014.

The South West Precinct (SWP) of Bankstown Airport is a relatively vacant and under-utilised part of the Airport, the majority of which is not required aviation purposes.

The SWP has been the subject of development activity in recent years, the most notable being a Major Development Plan (LEDA, 2015) for the development of a 'Business Zone' comprising retail, bulky goods, commercial and industrial-related uses. This MDP was subsequently withdrawn.

This previous project raised a number of site-specific and Airport-wide issues, including:

- The appropriateness of land uses proposed
- Flood and stormwater management
- Traffic generation
- The historic work that has been carried out at the Project Site
- Contamination and remediation issues.

The current proposal addresses these historic issues and proposes:

- An overall layout concept, including earthworks and site works, benching levelling and preparing the site
- Management of site-wide stormwater and flooding issues from a whole of Airport perspective
- Management of historic site contamination issues in accordance with best practice and national codes and standards
- A new internal road network connecting to Murray Jones Drive and Tower Road
- Works to Starkie Drive and Tower Road
- Construction of a warehouse building of approximately 37,000 square metres in area, including ancillary office administration facilities, heavy vehicle loading dock and hardstand areas, at-grade employee and visitor car parking areas, and associated landscaping areas.

The proposed development triggers a Major Development Plan (MDP) assessment pursuant to the *Airports Act 1996* (Airports Act), due to the expected construction cost exceeding \$20 million and the positive significant impact the project will have on the local and regional community.



Figure 1.1: South-West Precinct Site Works and Warehouse MDP General Arrangement Plan

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## 2.0 BACKGROUND



## 2.1 BANKSTOWN AIRPORT TODAY

DATING BACK TO THE LATE 1930'S, BANKSTOWN AIRPORT PLAYS A CRITICAL ROLE FOR THE GENERAL AVIATION INDUSTRY IN NSW, AND IS A MAJOR EMPLOYER AND COMMERCIAL CENTRE IN SYDNEY.

THE AIRPORT ENABLES MOVEMENTS OF FIXED WING AIRCRAFT, HELICOPTERS AND RELATED AIRCRAFT MAINTENANCE ACTIVITIES THROUGH ITS THREE-RUNWAY COMPLEX. AVIATION ACTIVITIES INCLUDE EMERGENCY SERVICES, AIR FREIGHT, FLIGHT TRAINING, CHARTER FLIGHTS AND AIRCRAFT SALES AND MAINTENANCE.

BAL is the Airport Lessee Company for the Airport and, over the past decade, property management and development have become increasingly important to BAL's business. Growth in operational revenue has assisted BAL to turn the Airport into a profitable business which has contributed to BAL's capacity to invest in and maintain infrastructure and services for all users. This includes improvements to flooding and stormwater management, as proposed in this MDP.

The Airport accommodates an average of 600 aircraft movements a day. It operates on a 24/7 basis and currently averages 248,000 movements a year, with capacity for up to 450,000 movements. The Airport is currently the third most active airport in Australia in terms of air movements.





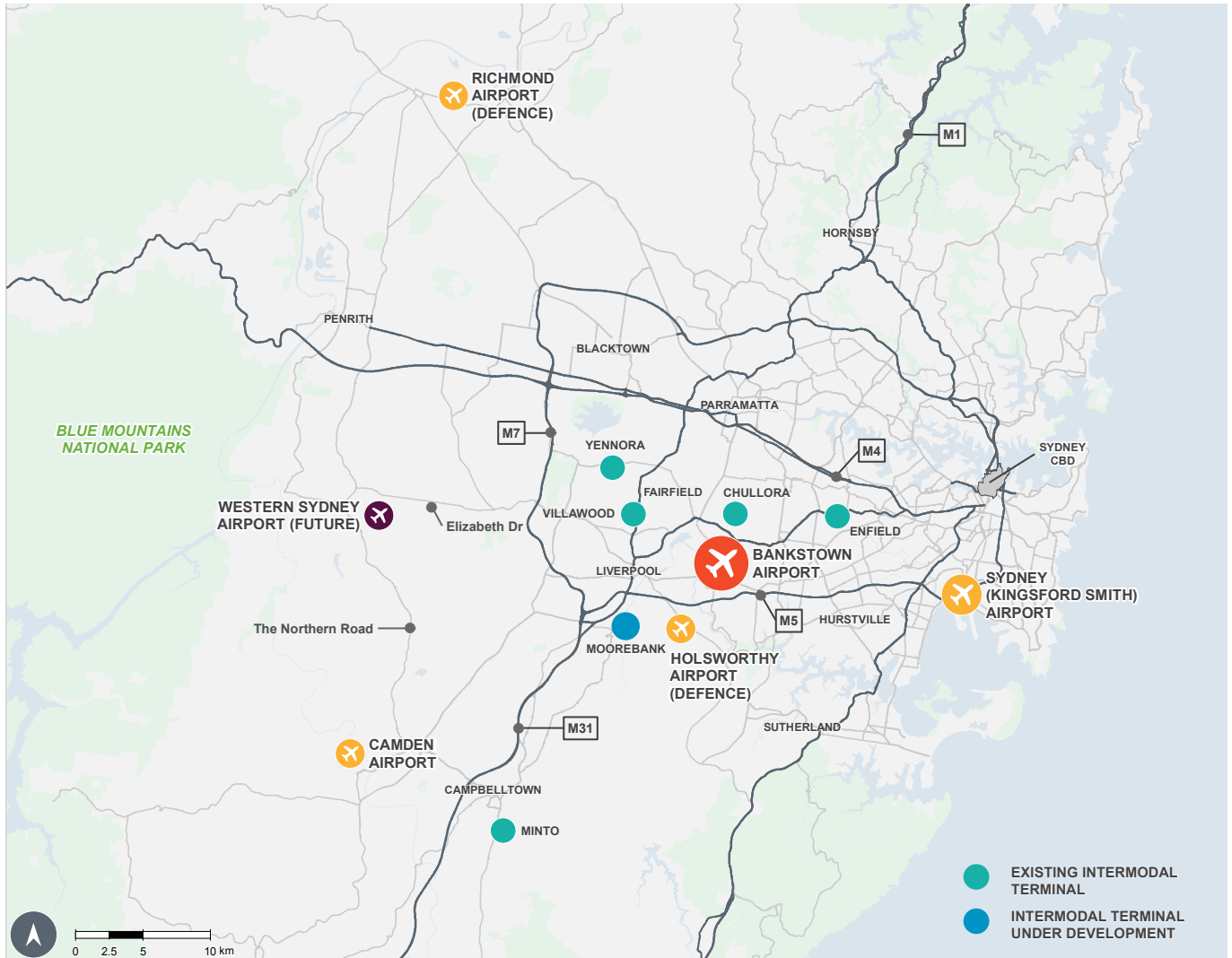


Figure 2.1: Regional Context for Bankstown Airport

## 2.2 AIRPORT HISTORY

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The Airport was established as Sydney's second aerodrome in 1939 with the commencement of World War II. The Royal Australian Air Force (RAAF) and the Women's Australian Auxiliary Air Force (WAAAF) were based at the Airport before the arrival of the US military. The Bankstown area was commonly known as 'Yankstown', with several squadrons belonging to the United States Army Air Force located on the site during World War II.

Following the war, the Airport was used by the Department of Immigration to accommodate European migrants until mid-1950. By 1970 the Airport emerged as the largest general aviation airport in the southern hemisphere with more than 250,000 aircraft movements annually.

The Commonwealth Department of Civil Aviation expanded airport operations in 1980. Eight years later the Airport was operated and controlled by the Federal Airports Corporation (FAC), and the Airport was privatised and transferred to BAL in 1998.

In 2003, the BaCH Consortium purchased the long-term lease over the Bankstown Airport, together with the Camden Airport long-term lease, from the Commonwealth Government. As part of the sale process, the Consortium also acquired the airport management company, Bankstown Airport Limited, which continues to manage and operate the Airport.

First State Super acquired the holding company for the interests in Bankstown Airport in 2015. The Airport continues to be held under leasehold from the Commonwealth Government, with 36 years remaining (plus a further 49 year option).

### 2.2.1 PROJECT SITE HISTORY

The Project Site (refer Figure 2.2) comprises:

- Undeveloped open space
- A fill platform, borrow pits, drainage works and stockpiled material (works that have been historically carried out on the site)
- Vacant / semi-derelict buildings and a services building (located in the south western areas)
- Two hangars and an office building on the southern end of Tower Road
- A Non-Directional Beacon at the intersection of Murray Jones Drive and Milperra Road.

The Australian Aviation Museum from a Bellman hangar was previously operating within the Project Site. With the Museum's recent closure, the hangar will be demolished and the site remediated.

The following development is located in the areas adjacent to the Project Site:

- The operating airfield and runways, located to the north and east of the Project Site
- The Air Traffic Control Tower, located to the north-west of the Project Site
- A mix of commercial properties (BP, KFC, ALDI), located on a small area of land near the intersection of Henry Lawson drive and Milperra Road
- The "Boeing Buildings", located south and east of the Project Site.





Figure 2.2: Existing improvements at the SWP



The Project Site is located within what is known as the South West Precinct (SWP), as described in Master Plan 2014 and shown in Figure 2-3. Development plans for the SWP date back to 2003 when the establishment of a 'Business Estate' in this part of the Airport was initially proposed.

A chronology of development concepts and projects within the SWP since 2003 is provided in Figure 2.4.

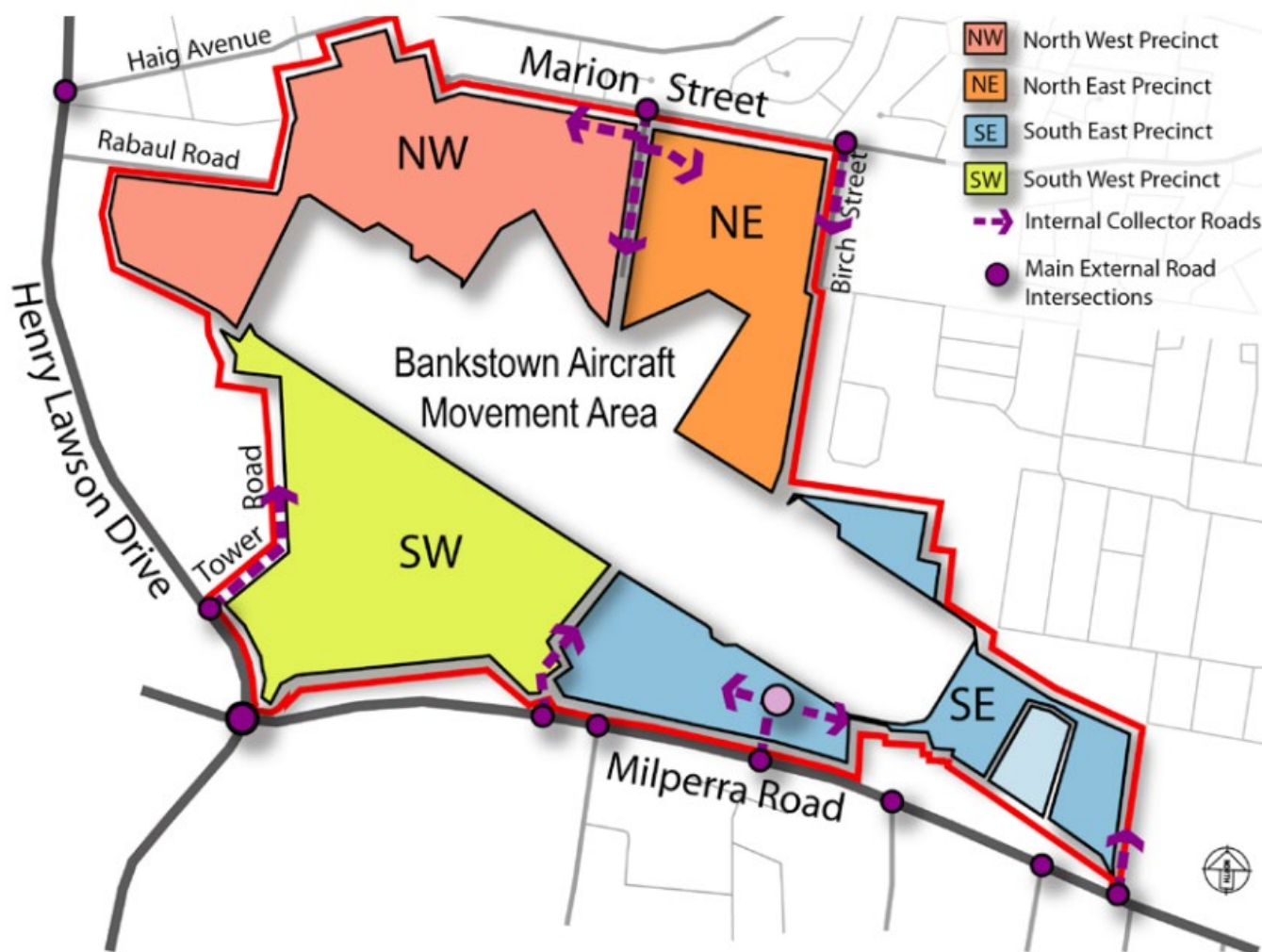


Figure 2.3: South West Precinct location (Source: BAL, 2014)

YEAR	DEVELOPMENT CONCEPTS & PROJECTS WITHIN THE SOUTH WEST PRECINCT SINCE 2003
2003	Sale of BAL to the BaCH Consortium on 15 December, establishment of a business estate within SWP proposed
2006	Closure of Runway 18/36 (north /south runway which ran through part of the Project Site) and associated infrastructure removed.
2009	<p>BAC Devco (developer) prepared and received approval for Stage 1 (the north- eastern half of the site closest to the airfield) for development of a Business Estate within the SWP.</p> <p>Stage 1 included a conceptual design and flood mitigation measures to offset the flood impacts. Stage 2 (the south-west half closest to Milperra Road was proposed be undertaken at a later date.</p> <p>Construction of Stage 1 began.</p>
2010	<p>Much of the Stage 1 site filling had been completed and all of the planned Stage 1 flood mitigation measures had been constructed. The initial completed earthworks consisted of the building up of a platform of soil on the northern section of the site, in part using soil from adjacent 'borrow pits' within the SWP.</p> <p>BAC Devco went into receivership and development of Stage 1 ceased.</p>
2011	<p>Soil was transferred to the site from sites on Steel Street (in the South East Precinct) in preparation for eventual development.</p> <p>This soil was transferred from Lots 801 and 803 (previously Lot 301) in Steel Street (in the South East Precinct).</p> <p>KordaMentha managed both areas.</p>
2015	<p>A Preliminary Draft Major Development Plan (pdMDP) – the 'Bankstown Business Estate Preliminary Draft MDP' – was prepared by LEDA Holdings.</p> <p>The pdMDP sought approval for the development of 41 hectares of land to commercial, warehouse, bulky goods retail, entertainment and discount factory outlets.</p>
2015	First State Super acquired the holding company for the interests in Bankstown Airport.
2017	Following concerns raised through the assessment process and as a result of the change in Airport leasehold arrangements, the pdMDP was withdrawn.

**Figure 2.4:** Development History within the South West Precinct since 2003



## 2.2.2 BANKSTOWN BUSINESS ESTATE – LEDA MDP

In July 2015, the SWP was the subject of a Preliminary Draft Major Development Plan (pdMDP) under the Airports Act, known as the Bankstown Business Estate. The pdMDP was facilitated by LEDA Holdings and sought approval for the development of approximately 41 hectares of land to commercial, warehouse, bulky goods retail, entertainment and discount factory outlets, as shown in Figure 2.5.

During the processing of the pdMDP, the following key issues were raised in relation to the Bankstown Business Estate:

- The appropriateness of the land uses proposed
- Flood and stormwater management
- Traffic generation
- The historic work that has been carried out at the Project Site
- Contamination and remediation issues.

With the consolidation of ownership of airport sites and the opportunity to address airport-wide issues (such as stormwater and flooding), the project was reconsidered and the Bankstown Business Estate pdMDP was withdrawn.

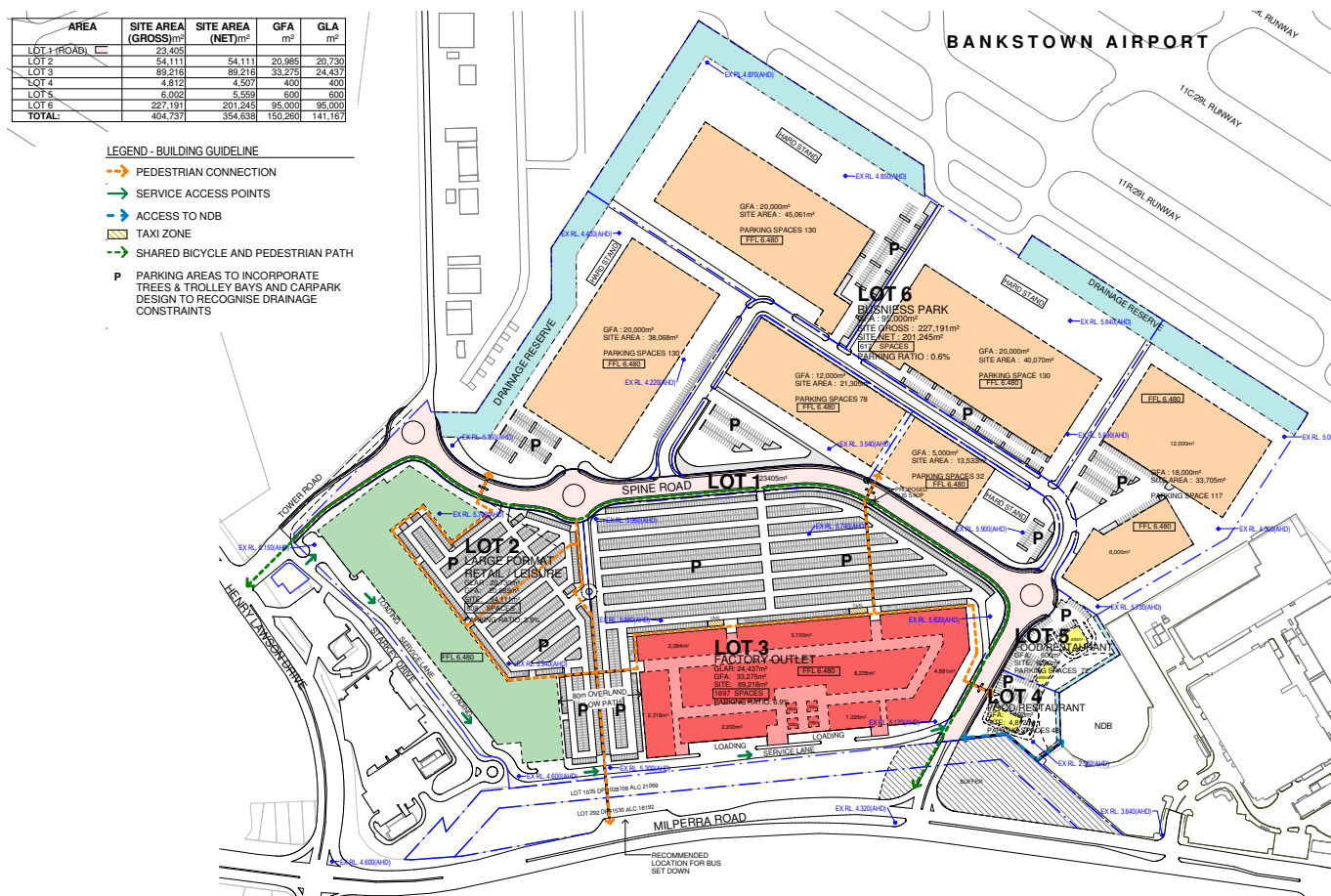


Figure 2.5: Bankstown Business Estate – LEDA MDP Concept Plan [Source: LEDA, 2015]

## 2.3 MASTER PLAN 2014

Since the privatisation of the Airport in 2003, two Master Plans have been prepared. The 2004/05 Bankstown Airport Master Plan was approved on 7 March 2005. The current Master Plan, Bankstown Airport Master Plan and Airport Environment Strategy 2014 (Master Plan 2014), was approved on 19 December 2014. This Master Plan will remain in force for a period of five years from the date of approval, or until it is replaced by the Bankstown Airport Master Plan 2019 (Master Plan 2019) which is currently being prepared – see Section 2.4.

Master Plan 2014 outlines the strategic direction for the Airport's development over a 20 year period and details BAL's aviation and non-aviation development concept.

- Master Plan 2014 also incorporated the following:
- A five year Ground Transport Plan for the Airport
- A socio-economic impact assessment of the Master Plan
- An Airport Environment Strategy which presented BAL's objectives for and approach to management of the environment of the Airport
- An implementation plan for the first five years of the Master Plan.

Section 10.2 provides an assessment of the consistency of the MDP with the objectives and principles of Master Plan 2014.

## 2.4 DRAFT MASTER PLAN 2019

The draft Master Plan 2019 is being prepared in parallel to, and in alignment with this MDP.

The draft Master Plan 2019 will set out future directions for the Airport and describes future aviation operations, use of land, traffic management, investment in facilities, flooding and infrastructure, and management of environmental and noise impacts. It will also:

- Provide stakeholders with a clear statement of BAL's vision and objectives for the Airport
- Present a land use plan which balances and supports long term aviation requirements with new non-aviation developments
- Provide sufficient flexibility for BAL to adjust its plans to accommodate a changing commercial and operating environment.
- Provide better alignment with the local Canterbury-Bankstown Council and NSW planning frameworks
- Allow BAL to pursue employment generating activities and other developments which also benefit the local community.

Section 10.3 provides an assessment of the consistency of the MDP with the draft objectives and principles of the draft Master Plan 2019.

## 2.5 MAJOR DEVELOPMENT PLAN APPROVALS PROCESS

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The Airports Act requires BAL to prepare a Major Development Plan (MDP) for the Minister of Infrastructure, Regional Development and Cities to approve (or refuse to approve) certain works as prescribed in the Act, prior to commencing work.

Under section 89 of the Act, the Project triggers a Major Airport Development because it involves the construction of a building where the cost of the building exceed \$20 million and the significant, positive impact the Project will have on the local and regional community.

The requirements of an MDP and the public consultation process are described in Part 5, Division 4 of the Act. Once a draft MDP has been prepared, it must be published and generally made available for public comment for a period of 60 business days.

Section 91(1) of the Act specifies the contents of an MDP. The contents must cover the following items:

- Objectives for the development
- The extent to which the project meets the projected growth and needs of airport users
- A detailed outline of the development
- Consistency with the Airport Master Plan
- Consistency with the airport lease
- The effect the development will likely have on flight paths
- Impact on noise levels and the Australian Noise Exposure Forecast (ANEF)
- An outline of approvals sought in respect to Division 5 (Building Control) or Part 12 (Protection of Airspace) of the Act
- An environmental impact assessment
- Plans to deal with any environmental impact
- Likely impacts associated with traffic flows, employment levels, local and regional economic and local communities and how the plans fit within local and State planning schemes for commercial and retail development in the adjacent area
- Consistency with local planning schemes
- Evidence of having given due regard to the responses and comments following the invitation to comment by public consultation; and
- Any other matters specified in the regulations, including compliance with AS2021-2000: Acoustics-Aircraft Noise Intrusion-Building Siting and Construction.

A table demonstrating the consistency with Section 91(1) of the Act is provided in Appendix A.

# 3.0 DEVELOPMENT CONTEXT





THE OVERARCHING APPROACH TO THE SWP IS CENTRED ON ITS DEVELOPMENT AS A WELL-CONSIDERED AND COHESIVELY PLANNED MAJOR INDUSTRIAL/LOGISTIC AND INNOVATION PRECINCT WHILE ADDRESSING HISTORICAL ISSUES SUCH AS FLOODING, STORMWATER, CONTAMINATION AND TRAFFIC GENERATION.



The first stage of development of the SWP (this MDP) establishes the overall layout and form of the site including the provision of approximately 5 hectares of On-site Detention Basins (OSD), creation of an internal road layout and allotment pattern, along with a single warehouse building.

There are numerous concept options that BAL has considered for subsequent stages of development for the remainder of the SWP (these concept options are not the subject of this MDP). Options which have been considered include, but are not limited to, additional warehouse facilities, hard stand areas and aviation-related operations.

Such concept options allow for approximately 150,000 square metres of warehouse/industrial use or hard stand areas. Concept options also include the potential for a small area of land (approximately 10,000 square metres in area) suitable for development for mixed use, including retail activity.

Future stages of development of the SWP (outside of the scope of this MDP) will be the subject of separate approval processes, detailed market assessment, consideration of aviation safety operations, traffic impacts, etc. However, all uses proposed are considered to be consistent with the overall intent of development for the SWP, and will demonstrate that the intended uses will not generate significant external traffic impacts.



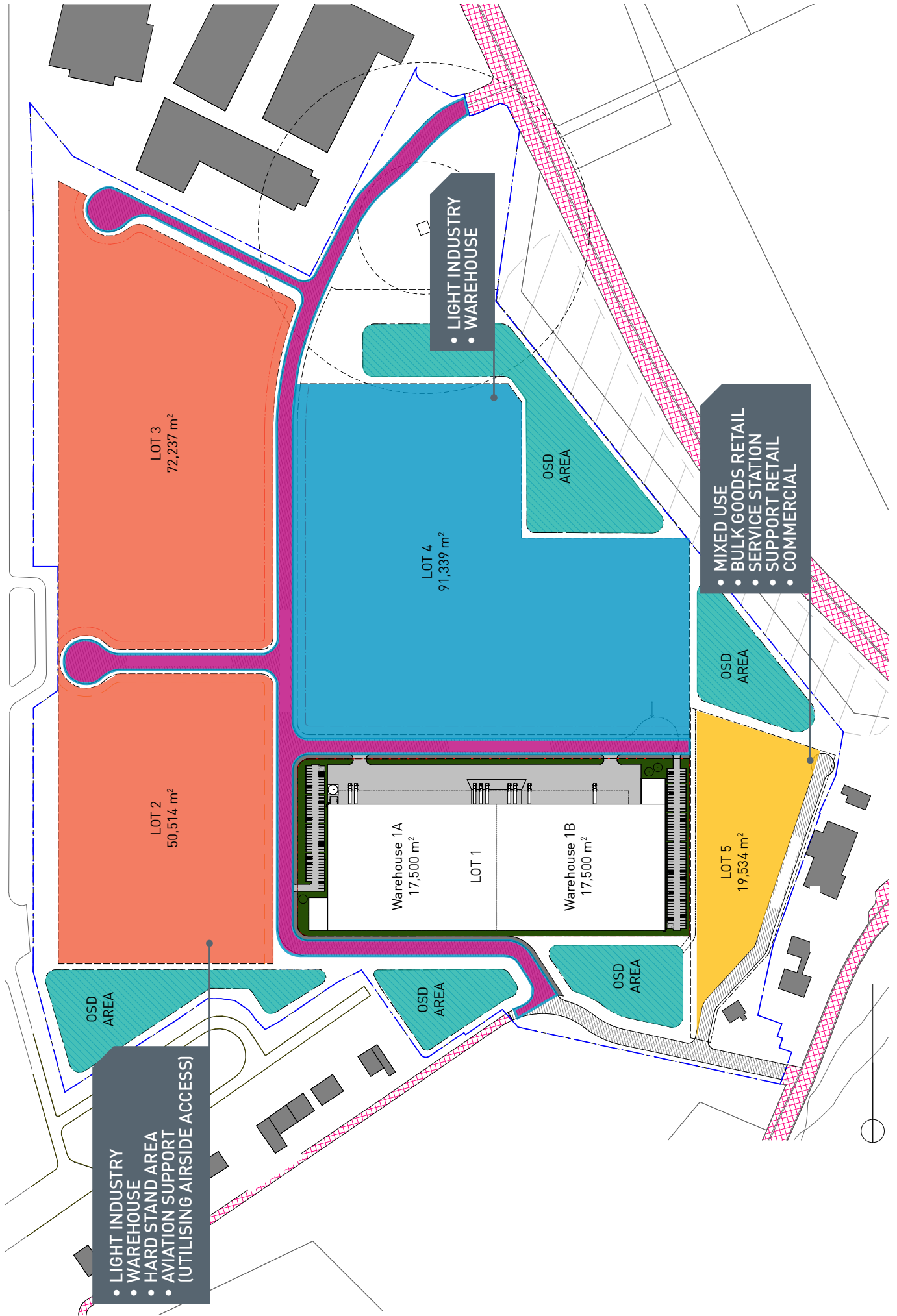


Figure 3.1: Concept options for fully developed SWP

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# 4.0 NEED AND JUSTIFICATION



## 4.1 NEED

THIS PROJECT WILL ACTIVATE AN AREA OF BANKSTOWN AIRPORT WHICH IS PREDOMINANTLY UNUSED AND UNDEVELOPED, PROVIDING EMPLOYMENT GENERATING COMMERCIAL/INDUSTRIAL DEVELOPMENT OPPORTUNITIES IN A STRATEGICALLY IMPORTANT LOCATION.



There is currently a lack of sufficient available industrial land in Greater Sydney (relative to a growing demand).

It is estimated that there is only enough industrial land to match demand for the next four years in the Greater Sydney area (JLL, 2018).

The Project Site is well suited to provide for such use, particularly with regard to the following:

- The site is part of Bankstown Airport, the State's premier general aviation airport
- The site is accessible from several major arterial roads, providing convenient access to major motorways servicing Greater Sydney
- The area being identified as one of Greater Sydney's four key Trade Gateways (GSC, 2018)
- The proximity of the site to three of Sydney's key existing and developing freight and intermodal facilities (Chullora, Villawood and Moorebank)
- The proximity of the site to a growing local population / workforce.

The Project will also facilitate growth in both investment and employment within the Bankstown region, and has the potential to support both aviation and commercial activities.



## INDUSTRIAL LAND DEMAND

Industrial land is important to Sydney's economy. The industrial sector is growing at a rate well above historical benchmarks<sup>1</sup>. This growth trend, influenced by factors such as increases in e-commerce, is expected to continue<sup>2</sup>. There is limited undeveloped industrial land in the South District of Sydney (within which the Project is located) and anticipated future growth will require additional floor space, additional land or both<sup>3</sup>. It is estimated that there is only four years of serviced and zoned industrial land remaining in Greater Sydney<sup>4</sup>. The primary use provided for by the MDP is industrial land, making the Project Site's use consistent with economic and community needs.

## STRATEGICALLY LOCATED AND APPROPRIATELY SIZED INDUSTRIAL LAND

There is an increasing demand for well-located logistics and warehouse facilities (i.e. in proximity to major road networks and transport hubs) which is being driven by factors such as shorter delivery time requirements (proximity to population centres).

The provision of industrial use sites in Greater Sydney large enough to meet the needs of intermodal facilities is generally two hectares or more. This has also been identified as critical by the Greater Sydney Commission<sup>5</sup>.

The Project Site is located in close proximity to a number of major roads (M5, M7, Hume Highway), three existing and developing intermodal facilities (refer to Figure 4.1).

Further, development areas are well in excess of the two hectare "desirable" area identified by the GSC.

## PROVIDING FOR NEW TYPES OF INDUSTRIAL BUSINESSES:

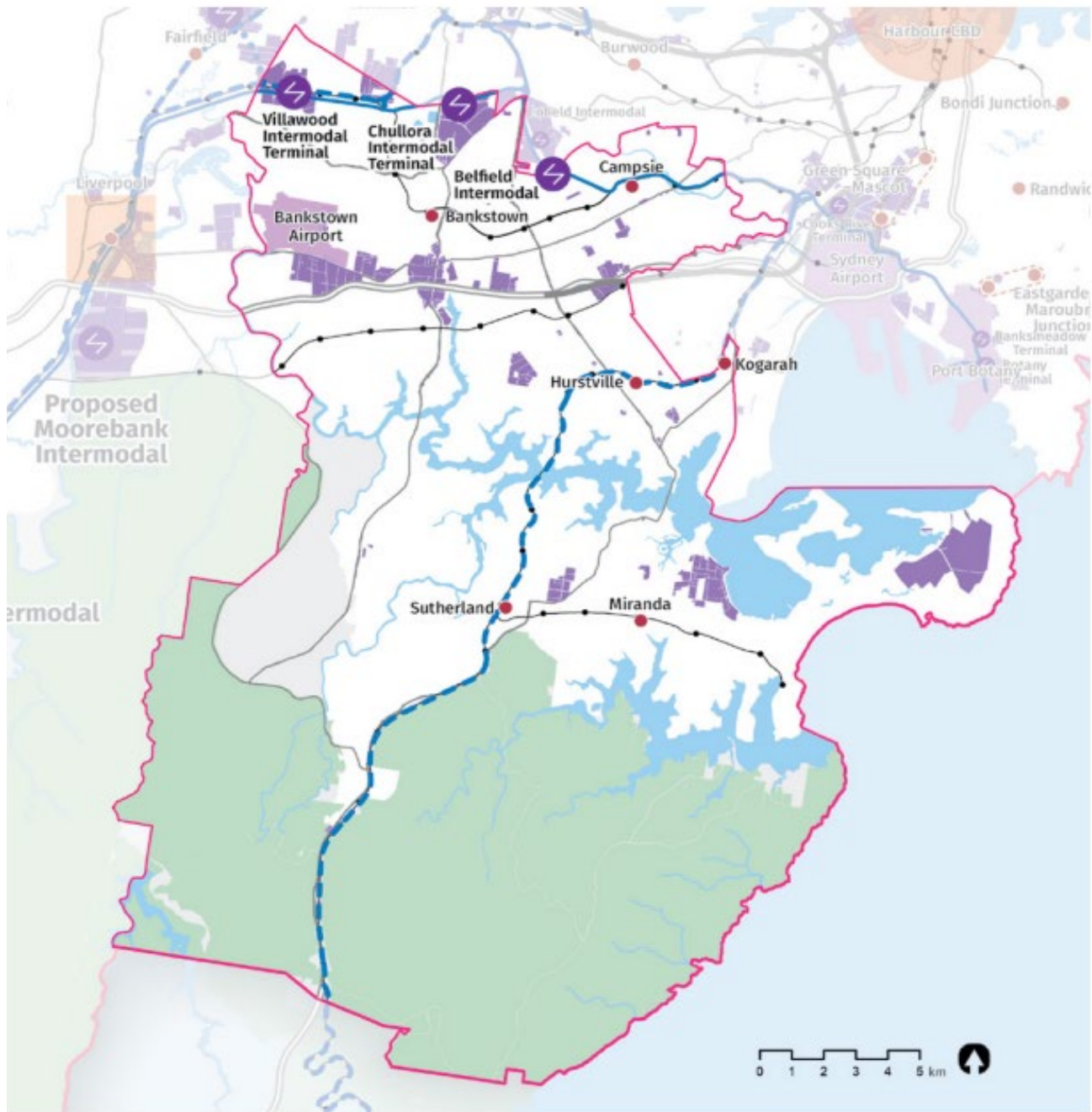
The Greater Sydney Commission has identified that industrial land needs to be developed to provide for a wide range of businesses that support Sydney's productivity and integrated economy<sup>6</sup>. The industrial sector is experiencing structural change as a result of changing business models.

The concept plan for the SWP responds to this need by providing flexibility for different types of industrial businesses.

## POPULATION GROWTH AND EMPLOYMENT

Sydney has experienced significant population growth over recent years and this is forecast to continue. The population of the Canterbury-Bankstown Local Government Area is forecast to grow from 374,246 in 2018 to 463,311 in 2036, an increase of 23.8% (id, 2017). The broader South District is expected to increase from 741,250 in 2016 to 945,350 in 2036, an increase of 27.5% (ABS, 2018). As the population in proximity to the SWP grows, so too will the demand for access to employment.

1 JLL (2018) An Assessment of Sydney's Industrial Land Supply - A shortage of developable land has the potential to impact occupier location strategies, p. 2  
 2 JLL (2018) An Assessment of Sydney's Industrial Land Supply - A shortage of developable land has the potential to impact occupier location strategies, p. 2  
 3 Greater Sydney Commission (2018) South District Plan, p. 75  
 4 JLL (2018) An Assessment of Sydney's Industrial Land Supply - A shortage of developable land has the potential to impact occupier location strategies, p. 2  
 5 Greater Sydney Commission (2018) South District Plan, p. 75  
 6 Greater Sydney Commission (2018) South District Plan, p. 75



District Boundary	Industrial and Urban Services Land	Road
Waterways	Trade Gateway	Freight Rail
Protected Natural Area	Intermodal Terminal	Shared Rail
Metropolitan Rural Area	Motorway	Train Station
Strategic Centre	Committed Motorway	

Figure 4.1: South District industrial and urban services land and freight access (Source: Greater Sydney Commission 2018)

## 4.2 JUSTIFICATION

### STRATEGICALLY LOCATED INDUSTRIAL LAND

Bankstown Airport is identified as one of Greater Sydney's four key Trade Gateways<sup>7</sup>. Trade Gateways are defined by the Greater Sydney Commission as major airports (and ports) of national or State significance that are supported by industrial land on-site and in their surrounding environs, connecting Greater Sydney's economy to the world.

There are also three of Sydney's key existing and developing freight and intermodal facilities in close proximity to Bankstown Airport and the SWP – Villawood, Chullora (existing) and Moorebank (under construction) as shown in Figure 4.1.

This MDP will support the functions of both the Airport in its role as a Trade Gateway, as well as support the operations of the surrounding intermodal facilities.

### EMPLOYMENT GENERATION

The implementation of this MDP will facilitate growth in both investment and employment within Bankstown. Future development of the Project Site has the potential to support both aviation and commercial activities at the Airport.

Growth in investment and employment at the Airport is demonstrated by the economic analysis that was undertaken by Hudson Howells (2018) to inform the preparation of the draft Master Plan 2019. Growth forecasts for each of the four Zones identified in the draft Master Plan 2019 has been prepared (refer to Section 10.3 for more information on these Zones).

The SWP is proposed to be located within a 'Commercial Zone' in the draft Master Plan 2019 (of which the MDP comprises approximately 46.1 hectares of the total 78 hectares). Forecasts have been developed with consideration of the fully developed Commercial Zone, indicating increases in both direct and indirect employment by 190% and 196%, respectively (refer Table 4.1).

The Project will also provide employment opportunities in a location that is in close proximity to where people live. This has the potential to provide benefits such as improved quality of life and reduced travelling times for workers.

**Table 4.1:** Bankstown Airport Commercial Zone employment forecasts (source: Hudson Howells, 2018)

Direct Employment	Current (2018)	2025	% Increase
Air transport activities	86	89	3%
Other activities	299	1029	244%
<b>Direct Total</b>	<b>385</b>	<b>1118</b>	<b>190%</b>

Indirect Employment	Current (2018)	2025	% Increase
Air transport activities	204	232	14%
Other activities	555	1745	214%
<b>Indirect Total</b>	<b>759</b>	<b>1977</b>	<b>161%</b>

Total Employment	Current (2018)	2025	% Increase
Direct employment in air transport activities	290	321	11%
Direct employment in other activities	754	2,774	268%
<b>Total</b>	<b>1044</b>	<b>3095</b>	<b>196%</b>

<sup>7</sup> Greater Sydney Commission (2018) Greater Sydney Region Plan, p. 123

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## UNDERUTILISED LAND ACTIVATION AND ENVIRONMENTAL IMPROVEMENTS

The Project Site is currently underutilised, with the vast majority serving no productive function. A majority of the land within the Project Site has also been identified in Master Plan 2014 as not required for aviation purposes and the entire site has been determined to have no inherent environmental value (refer Section 9.0).

The Project will transform the underutilised site into land that supports the local and regional economy, and provide better road connectivity through the Airport.

In addition, the Project provides for improved environmental outcomes such as site-wide flood mitigation, addressing Airport-wide and broader catchment-wide flooding issues, providing a wider community benefit.

The Project works will also enable effective and robust management of existing site contamination in accordance with recognised national standards.



# 5.0 DESCRIPTION OF THE DEVELOPMENT

THIS CHAPTER PROVIDES A DESCRIPTION OF THE DEVELOPMENT PROPOSED AS PART OF THIS MDP. ANY FURTHER DEVELOPMENT OF THE SWP THAT IS NOT DETAILED IN THIS MDP WILL BE SUBJECT TO SEPARATE DEVELOPMENT APPLICATIONS AND APPROVAL PROCESSES.



## 5.1 PROJECT DESCRIPTION

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The Project involves the undertaking of site works and the development of a warehouse within the SWP. The MDP will facilitate the first stage of a major industrial/logistic and innovation precinct for Bankstown Airport, with the specific elements of the Project being:

- An overall layout concept, including earthworks and site works, site-wide stormwater and flood mitigation, and addressing historic site contamination issues
- A new internal road network connecting to Murray Jones Drive and Tower Road.
- Construction of a light industrial warehouse and distribution building of approximately 37,000 square metres in area on proposed Lot 1, including ancillary office administration facilities, heavy vehicle loading dock and hardstand areas, at-grade employee and visitor car parking, and associated landscaping areas
- Demolition of existing buildings and structures on the subject land (a demolition plan is provided at Appendix C).

This MDP also seeks to resolve issues arising from previously issued work permits associated with the SWP.

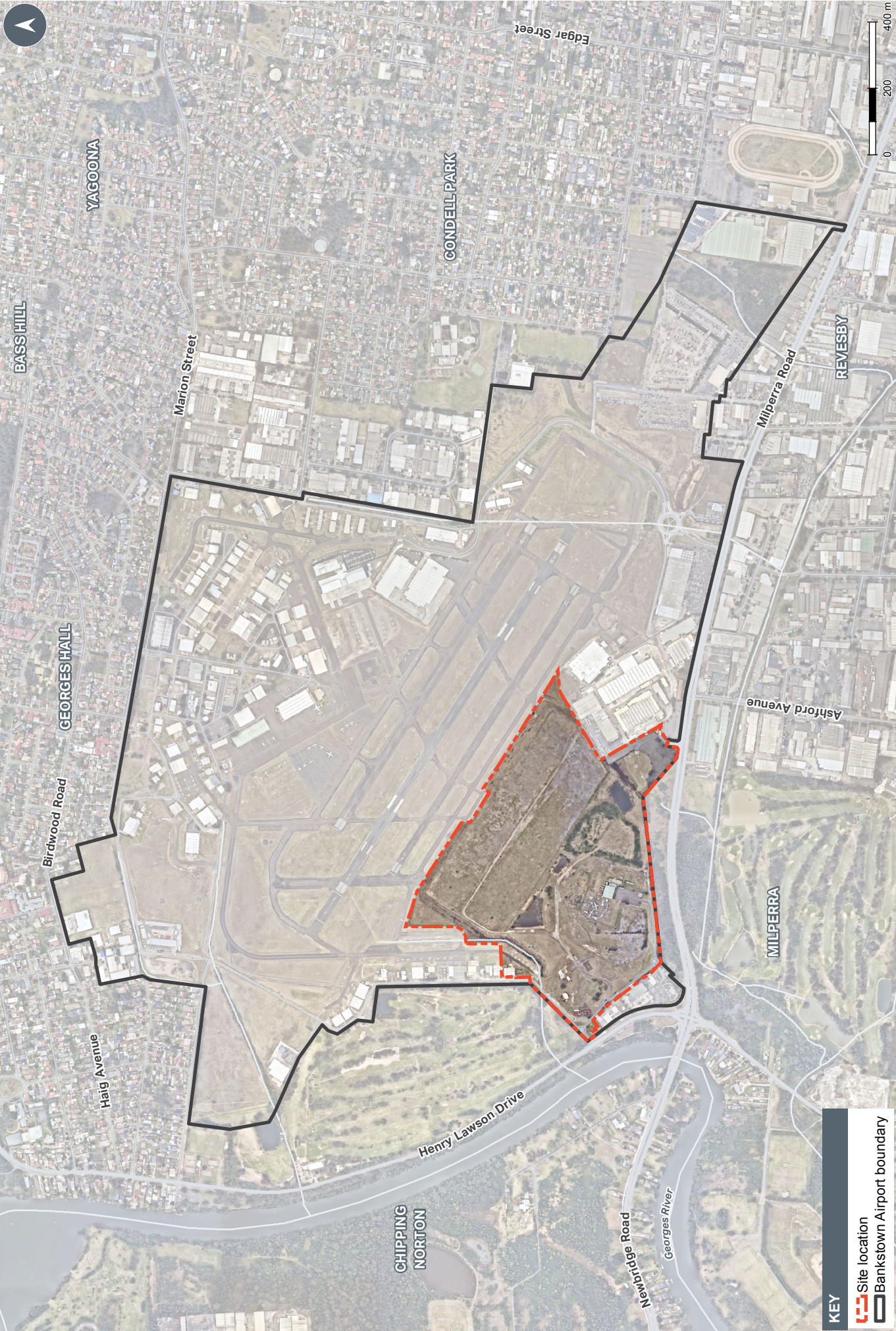
Concept plans for the Project are provided in Appendix B.

## 5.2 LOCATION

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The Project Site (shown in Figure 5.1) is situated within an area identified in Master Plan 2014 as the South West Precinct (SWP) at Bankstown Airport.





**KEY**

- Site location
- Bankstown Airport boundary

Figure 5.1: Project Site – Site Works and Warehouse MDP



## 5.3 SITE DESCRIPTION

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The Project Site is 46.1 hectares in area. It is irregular in shape and bounded by the following:

- South-west – Starkie Drive, a Crown reserve conservation area (adjacent Milperra Road)
- South – The junction of Milperra Road and Murray Jones Drive
- South-east – Adjacent the de Havilland site and associated administration and hangar buildings
- North-east – Adjacent to the airport airside boundary (Taxiway B and run-up bay)
- North-west – Adjacent to the airport airside boundary (Taxiway G).

The majority of the Project Site is vacant and undeveloped with the exception of the existing Non-Directional Beacon (located in the southern portion of the site), the site of the former aviation museum and three buildings along Tower Road.

The Project Site is relatively flat (draining to the south-west), excepting for a raised plateau area in the north-eastern portion of the site (former fill platform). Existing stormwater detention basins, sediment controls and grassed-swales are also located within the Project Site. Much of the site is clear of vegetation.

Access to the Project Site is via the extension of Murray Jones Drive to the south-east and Tower Road to the north-west.

Development surrounding the Project Site includes:

- Bankstown Airport Aviation Zone to the north-east
- Tower Road aviation premises to the west (and the adjacent Georges River Golf Course on the western side of Tower Road)
- Bankstown Golf Course and adjacent Milperra industrial precinct to the south
- The de Havilland site aviation site to the south-east.

The existing Air Traffic Control Tower, located to the west of the Project Site, is listed on the Commonwealth Heritage List (Place ID 106118).

## 5.4 DEVELOPMENT CONCEPT

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This MDP will facilitate the first stage of a major industrial/logistic and innovation precinct in the SWP of Bankstown Airport. As detailed in Section 5.1, the Project involves the undertaking of three main elements. These elements are detailed in this section and are shown on Figure 5.2.



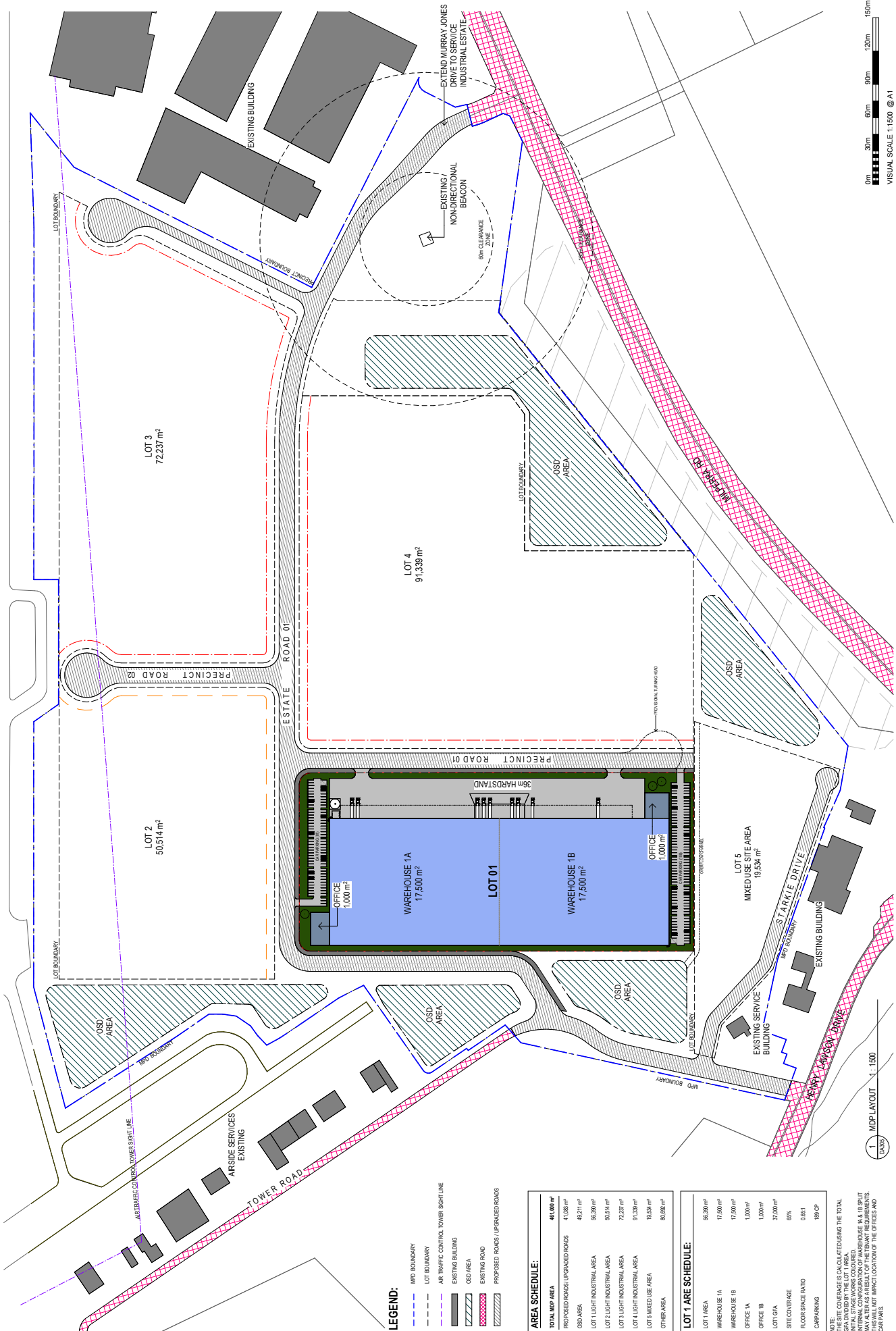


Figure 5.2: Project layout

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## 5.4.1 OVERALL LAYOUT CONCEPT

The overall layout concept includes earthworks and site works, site-wide stormwater and flood mitigation, and addressing historic site contamination issues.

On-site stormwater detention systems are proposed as an integral part of the site development. The Project will include the development of 50,000 square metres of OSD's in order to manage and control stormwater and flooding flows throughout the site. The works tie in with an Airport-wide flood mitigation and stormwater management strategy that is being developed by BAL in collaboration with the Canterbury-Bankstown Council (included in Appendix G).

The site is proposed to be divided into five allotments for future development, four of which are intended for light industry/warehouse/hardstand use, with proposed Lot 5 adjacent Starkie Drive intended to be utilised as a mixed use development site.

A detailed landscaping plan will be developed for the overall SWP. The overarching intent is to have a consistent theme for the Precinct, and landscaping elements that would not attract birdlife that will impact aviation operations.

## 5.4.2 NEW INTERNAL ROAD NETWORK

The main entrance to the SWP is proposed to be located at the existing intersection of Milperra Road and Murray Jones Drive to the south-east of the site. Additional access is proposed via Tower road off Henry Lawson Drive. These access points are proposed to be connected by a new internal road, Estate Road 01. Additional internal service access roads are also proposed.

The internal road network will be designed to accommodate heavy vehicles up to and including B-doubles. Both Milperra Road and Henry Lawson Drive are gazetted routes for 26 metre Higher Mass Limit (HML) B-doubles.

Specific details of the proposed internal road network are provided below:

- A main spine road 'Estate Rd 01' – which links Milperra Road (at its intersection with Murray Jones Drive) with Tower Road to the north of the existing roundabout at Starkie Drive
- 'Precinct Rd 01' and 'Precinct Rd 02' – which will provide convenient access to the warehouse proposed as part of this MDP (Lot 1), as well as other future developments within the Precinct
- An optional road to the east of the site – providing additional access to the SWP as well as the existing development to the east.

The internal road network has been designed to accommodate a fully developed precinct within the Project Site, providing the base arrangements for access to each allotment.

To provide access for the warehouse building which is the subject of this MDP (Lot 1 development), Estate Road 01 is to be constructed in full between Tower Road and Murray Jones Drive. Precinct Road 01 will also be constructed along its full length. This will require the provision of a new intersection with Tower Road, to the north of Starkie Drive and realignment of Murray Jones Drive to link with Precinct Road 01.

For the development proposed as part of this MDP (including site works), traffic modelling has confirmed there is a requirement to:

- Remove the existing Tower Road / Starkie Drive roundabout
- Provide an all movement priority intersection on Tower Road north of the existing roundabout
- Upgrade the existing two lane (one each way) section of Tower Road between Henry Lawson Drive and the new Estate Road 01
- Connect to the existing signalised intersection of Milperra Road and Murray Jones Drive

There is no requirement for any external upgrades to existing roads as a result of traffic generation from the development proposed in this MDP.

### 5.4.3 WAREHOUSE BUILDING

The proposed warehouse building and ancillary offices of approximately 37,000 square metres in area is proposed to be developed on Lot 1.

The development includes ancillary office administration facilities, heavy vehicle loading dock and hardstand areas, at-grade employee and visitor car parking areas, and associated landscaping areas.

The proposed single level warehouse building of approximately 35,000 square metres in area, measures approximately 114.4 metres in width by 305.8 metres in length. The warehouse is oriented in a north-east to south-west direction.

The building is notionally proposed to be divided into two warehouse tenancies of equal size. However, the tenancies may differ in size depending upon specific tenancy requirements (which are unknown at this stage) through the relocation of the internal division wall.

Each warehouse component is proposed to include an office component of approximately 1,000 square metres in area. The office components are positioned towards the street frontages to enhance the visual presentation and aesthetic appearance, and to provide clear building identification and entry statements. The office structures are a maximum of two stories in height, with nominal standard 3.6 metre floor to floor heights, with single pitched roofs of nominally between two and three degree angles.

The maximum roof ridge height of the warehouse is 20.44 metres AHD above the established finished floor level, with a relatively flat roof (two degree pitch). The roof edge eave height at the external walls is approximately 18.44 metres AHD.

The warehouse includes a loading dock awning structure along the south-eastern elevation, extending approximately 12 metres from the main roof edge.

The warehouse building structure will be primarily constructed of reinforced concrete foundations and floor slabs, steel portal roof frames, concrete precast panels and steel wall framing systems.

Natural and mechanical ventilation systems are proposed for the warehouse with external wall louvres and roof vents to be used.

The proposed office building structures will be constructed of similar materials used for the warehouse component and with commercial type aluminium window and door framing systems. Glazing and panel cladding requirements will be determined by the relevant environmental codes and considerations and by possible end user desired specifications. Wall and roof insulation materials are to be used where all mechanical air conditioned spaces are located.

The building will be designed in accordance with the mandatory performance requirements of the 'deemed to satisfy' provisions of the National Construction Code of Australia (NCC), the relevant applicable Australian Standards and BAL regulatory requirements.

Sustainable environmental design and energy efficiency initiatives are to be incorporated into the design where practical. Options being considered include utilisation of the expansive warehouse roof area for solar panel installation, rainwater collection for storage and recycling, and areas for the installation of solar hot water roof systems.

A total of 193 on-site at-grade car parking spaces are proposed for use by employees and visitors. Such car parking areas are divided evenly between the two warehouse tenancies and located in close proximity to the relevant office components. Such car parking has been designed to the relevant Australian Standards and includes the provision of parking spaces designed and designated for use by mobility impaired people. Bicycle racks are also proposed.

Suitable external lighting to hardstand, pedestrian areas, landscaping and entry approaches will be provided to address security and safety considerations and be designed and coordinated with the relevant Civil Aviation Authority regulations and design standards.

Landscaping is proposed around the periphery of the Lot 1 development. Such landscaping areas vary in width from 3.0 metres to 7.5 metres.

## 5.5 SITE SERVICES

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Existing services across the site will be diverted where existing connections are required to be maintained or will be removed / capped where connections are redundant.

### 5.5.1 PROPOSED SERVICES

Electrical services will include:

- A substation
- Main switchboard (with 25% spare capacity)
- Mechanical services switchboard
- Distribution boards (separate light and power chassis with 20% spare capacity)
- General power within office buildings and warehouse
- Emergency exit lights
- General interior and exterior lighting, and exit and emergency lighting
- Information communication technology (ICT) services.

A variable refrigerant flow air conditioning system will be installed in the office buildings. The warehouse buildings will be naturally ventilated with some spot heating and evaporative cooling units. Areas within the warehouse buildings that require exhaust, if applicable, will be fitted with a dedicated exhaust/filtration system. Throughout the proposed facility, a smoke hazard management system will be installed, which will consist of a system shutdown strategy in the event of a fire.

Potable, non-potable and waste water services for the proposed facility will include:

- Sanitary drainage to provide direct discharge to the sewer system
- Trade waste drainage to areas, to be defined in consultation with Sydney Water, to allow treatment prior to discharge to the sewer system
- Domestic cold water service throughout the proposed facility from the existing water mains
- A non-potable water service will be reticulated throughout the proposed facility and testing areas via a zoned backflow prevention device
- A domestic hot water service throughout the proposed facility.

Fire services will be fitted throughout the proposed facility and will include fire prevention, safety and firefighting systems. All fire services will be in accordance with the National Construction Code 2016, applicable Australian Standards and State legislation, and NSW Fire Authority requirements. Fire services for the Project will include:

- Fire water infrastructure, including a fire hydrant system, fire hose reel system and fire sprinkler system
- Portable fire extinguishers and blankets
- Fire detection system (smoke and thermal detection) and occupant warning system.

Telecommunication connection will be provided to the offices in accordance with relevant standards including AS/NZS 3084 – Telecommunications Installations – Telecommunications Pathways and Spaces for Commercial Buildings.



# 6.0 CONSTRUCTION WORKS AND SCHEDULING

THIS SECTION PROVIDES AN OUTLINE OF THE WORKS AND SCHEDULING PROPOSED FOR THE CONSTRUCTION OF THE PROJECT. MEASURES RELATED TO CONSTRUCTION WILL BE INCORPORATED IN A PROJECT-SPECIFIC CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).



## 6.1 TEMPORARY WORKS

Temporary construction works are likely to include:

- Site access for trucks, plant & equipment (including traffic authority requirements such as Traffic Management Plan, Vehicle Movement Plan etc.)
- Parking areas for site staff
- Erosion and sediment control (in accordance with Landcom's 'Blue Book' (2004))
- Foreign Object Debris (FOD) barrier.

## 6.2 EARTHWORKS

The preliminary earthworks design has been undertaken using 12d modelling software to estimate the volume of material to be managed on site and to assist in the stormwater & flood management assessment. The earthworks plan is shown on Figure 6.1. Further detail of the material management is provided in Section 9.2.

### SITE GRADING

The building Finished Floor Level (FFL) for the subject building has been set at between 6.74 metres AHD, the FFL varies to facilitate surface grading to shed local overland stormwater flows away from the building.

The minimum FFL of any future building on the Project Site will be 6.30 AHD which provides 300mm freeboard to the 100 year ARI flood event (6.0m AHD) to comply with flood mitigation requirements of the 2014 Master Plan.

Hardstand and car parking areas surrounding the building is between 5.5 metres and 6.0 metres AHD to manage overland stormwater flow paths towards the on-site detention basins and to provide some flood storage in events greater than the 20 year ARI flood event (maximum attenuation storage depth on hardstand and car park areas is limited to 0.5m in the 100 year ARI flood event, which is categorised as low hazard).

The roads will be designed in a 'saw tooth' configuration to create high and low points to propagate stormwater run-off to the drainage connections, preliminary design levels are 5.85 metres AHD which will confirmed during detailed design.

On-Site Detention basins (OSD) have been designed to comply with the stormwater and flood management strategy for the wider Airport which incorporates the SWP. The OSDs include a meter depth of bio-filtration for water quality purposes. For the purpose of earthworks modelling, the bases of the OSDs have been set at the top of the bio-filtration system and vary between 2.6 metres and 4.2 metres AHD.

This conservative approach allows for additional storage in the OSDs that is not accounted for in the TUFLOW model. The sides are battered using a typical gradient of 1:4 to allow for maintenance requirements. Further detail of the OSDs and bio-filtration systems is provided in Section 9.2.

### PRELIMINARY CUT/FILL VOLUMES

An existing ground surface model was developed using LIDAR information sourced from NSW Department of Finance Services & Innovation which was validated through discrete on site topographical survey. This was used as the base model of the earthworks cut and fill volumes.

A formation surface model was also developed. The formation surface is where a road build-up, a building floor slab, a foundation and a footpath build-up are constructed upon. This was developed using assumed construction build-ups for the key elements of the site including road, building pad, footpaths, hard stand, car parks, landscaping and the on-site detention basins. The formation surface model has assumed indicative development geometrical shaped areas above the 100 year ARI flood level for lots 2, 3 & 4 to get a better understanding of the extent and volume of earthworks preparation necessary for the precinct.

The two surface models were then compared to calculate the cut and fill volumes.

Table 6.1 provides the preliminary cut and fill calculation of existing surface to formation level surface, which assumes cut material can only be used as fill below the formation depth. This is a conservative assumption as it is possible to sort and classify the material on site and use in the construction build-ups noted above. Further geotechnical investigation will be carried out to confirm the final cut and fill required. The excess cut is expected to be significantly lower than that shown in Table 6.1, as the intent is to work towards a balanced cut & fill to minimise the volume of material removed from the MDP site.

Any asbestos contamination in the existing fill will be left in-situ and a Construction Environmental Management Plan (CEMP) prepared to control the risks associated with asbestos and potentially other contamination (if present). The CEMP will include management of risks during both construction and ongoing management of the development.

As outlined in NEPM (2013), remediation options which minimise soil disturbance and therefore public risks are preferred. Management of asbestos in situ is encouraged, which may include uncontaminated fill or other protective or warning layers. Further detail on the approach to contamination management is provided in Section 9.2.

The excess cut will be utilised on-site in landscaping or capped below the buildings, subject to the requirements of the management of contamination. Excess cut material that cannot be placed on the Project Site is proposed to be managed on the Airport in locations that will not have detrimental impacts to the site-wide flood management strategy.

**Table 6.1:** Existing surface to Formation conservative surface cut and fill volumes

Totals	Volumes (m3)
Cut	242,493
Fill	127,647
Balance	-114,846 (excess cut conservative estimate)

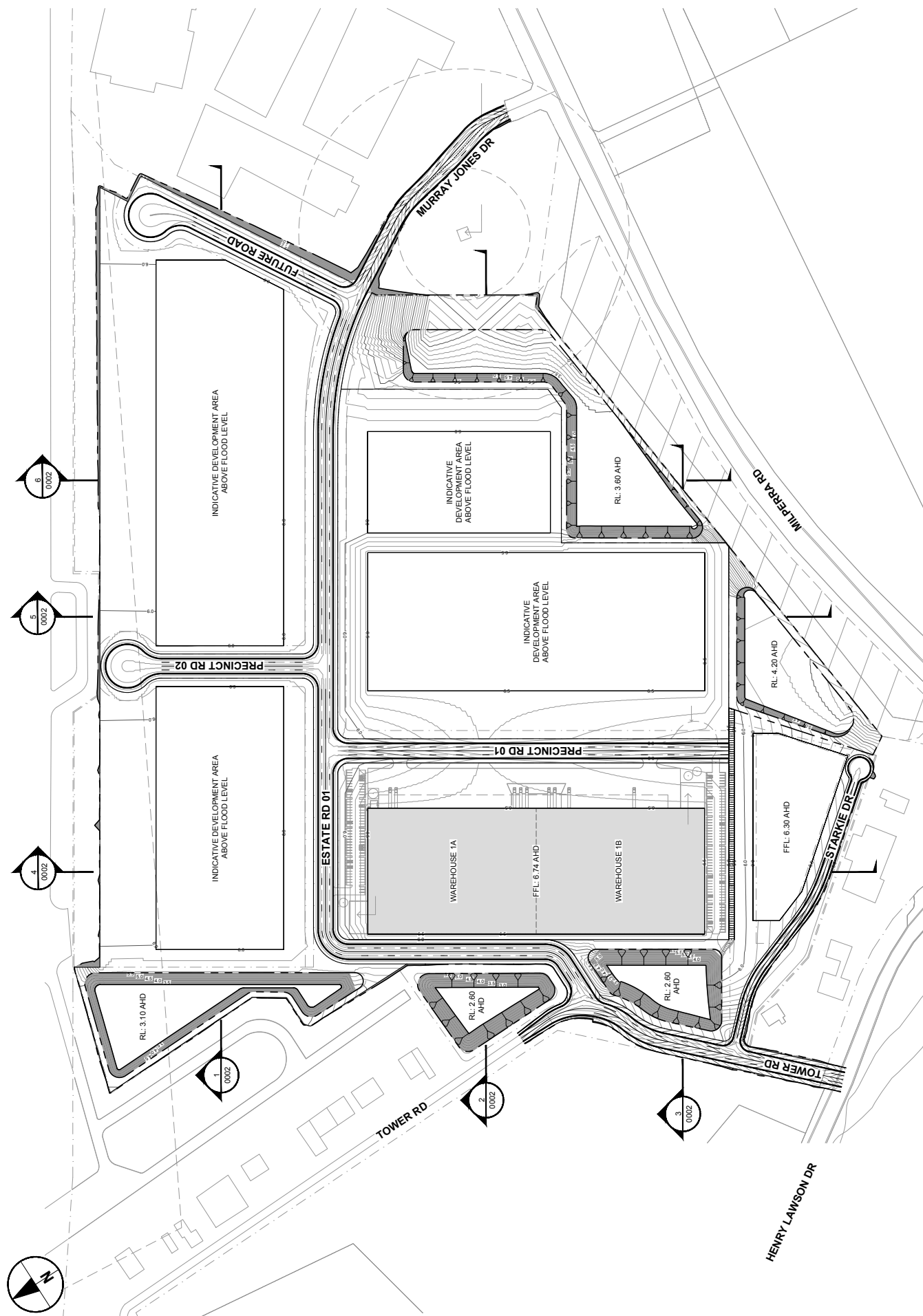


Figure 6.1: Earthworks plan [Source: AECOM, 2018]



## 6.3 CONSTRUCTION PLANT & EQUIPMENT

Typical plant and equipment that can be expected on-site during the construction phase of the project include:

### Civil Works

- Wheel tractor scrapers
- Articulated dump trucks
- Dump trucks
- Excavators
- Backhoes
- Compactors
- Rollers
- Graders
- Truck and dog combinations (approx. 30t)
- Water carts (tanker trucks)
- Pavers (i.e. road paving machines)
- Mobile cranes
- Concrete mixers.

### Building Works

- Concrete boom pumps
- Concrete mixers
- Mobile cranes
- Excavators
- Telehandlers
- Scissor lifts
- Boom lifts.

### CONSTRUCTION PLANT AND AVIATION IMPACTS

Due to the proximity of the works to an operating airport the intrusion of equipment, in particular cranes, through Obstacle Limitation Surfaces (OLS) for the airport will be considered through appropriate approvals processes to ensure safety during construction. The risk is likely greatest during construction of buildings with cranes. However, given the closest point of the proposed warehouse building on Lot 1 to the Southern Runway (Runway 11R/29L), the impact of construction equipment is expected to be minimal and manageable.

### CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

An outline Construction Environmental Management Plan (CEMP) is provided in Appendix C. the CEMP will be amended as required to address different work packages (i.e. earthworks, site works, contamination remediation, road construction, building construction, etc) depending on how the works are undertaken and the relevant Airport Works and Building Permits.

Items to be addressed in the CEMPs (as relevant) include the following:

- Air quality
- Ecological requirements
- Unexpected Finds Protocol including aboriginal heritage
- Management of Contamination, including PFAS
- Management of existing bulk fill including disturbance of soils
- Use of Workcover licenced contractors
- Demolition of existing structures and utilities
- Sediment control
- Construction fencing and security
- Water diversions and dewatering
- Washing areas
- OLS penetration and cranes
- Emergency procedures
- Traffic control
- Interaction with the AEO, ABC and AEM.

## 6.4 CONSTRUCTION TRAFFIC

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During any typical day the civil workforce is estimated to contribute approximately 40 light vehicles, with the building construction workforce contributing another 50 light vehicles. This indicates that the construction at the site will generate a maximum of 90 light vehicles attending the site per day.

It is also estimated that 33 percent of the total light vehicles will arrive to the site during the commuter AM peak (30 vehicles per hour) and the same number departing the site during the commuter PM peak (30 vehicles per hour).

The peak construction traffic periods are expected during the import of fill to the site via trucks. Depending on the start time for the project, these trucks could come from a number of sites around Sydney. The majority of fill to be imported to the site is likely to be engineered fill for building pads, and road base for roads. As such, these phases of material import will be driven by the concrete pad and road construction programs.

Truck movements (likely 30 tonne truck-and-dog combinations) during fill import periods for concrete pads will be 150 to 250 movements per day. Depending on the size of the pad, the fill import period will run for around two days, through to a full week. These periods may run sequentially or be offset by low period breaks and are expected to have a total duration of between two and four weeks depending on import volume requirements. Assuming a 12-hour construction day, this indicates a maximum of 21 trucks per hour arriving on-site and the same number departing the site.

In the development of a Traffic Management Plan, i temporary routes into the site will be investigated that would facilitate, if possible, a left turn in and left turn out for trucks to minimise impacts on the surrounding arterial road network.

During construction of the Project it is expected that 40 to 50 concrete mixer trucks could come into site per day for approximately three weeks.

Section 8.0 provides additional commentary on the impacts of construction traffic to the surrounding traffic network, indicating negligible impacts based on the number of expected vehicle movements outlined above.

## 6.5 DEMOLITION

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A demolition plan for existing structures and utilities at the Project Site has been prepared and is provided at Appendix C.

## 6.6 PROGRAM

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The indicative construction program is based on the premise that airport building works permitting for the warehouse will be achievable prior to the completion of site-wide earthworks and flood mitigation measures.

Services relocations/demolitions are yet to be fully validated and programmed. Hence, conservative timing has been allocated to these tasks.

The Project will not require any off-airport road works. It is expected that early internal road works will take place to establish access to the site, including the area of building works. Final internal road construction would progress toward the end of the construction period, as detailed in the outline program shown in Table 6.2.

## 6.7 PREVIOUS WORKS CARRIED OUT

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This precinct was earmarked for commercial development as part of the Airport Management Agreement to BAC Devco, and was identified for commercial development in both the 2005 and 2014 Bankstown Airport Master Plans.

The Airport Management Agreement, established in 2003 as part of a lease process, gave BAC Devco development rights over land on Bankstown Airport the majority of which was not required for aviation purposes.

### FILL PLATFORM

In 2008, the Airport Building Controller (ABC) issued a works permit to Craig & Rhodes Pty Ltd, on behalf of BAC Devco, for earthworks on the site as preparatory works for a freight facility development that did not proceed. The Initial earthworks were completed and consisted of building up a platform of fill on the northern section of the Project Site, in part using spoil from adjacent 'borrow pits' within the south-west precinct and the installation of a retaining wall and various drainage works. In 2010 BAC Devco went into receivership and works on the site were suspended. KordaMentha was appointed as receivers for BAC Devco in 2010.

The new design for the Project Site (the subject of this MDP) requires that the existing fill platform is substantially retained but modified as required for example to suit the new road layout and grading of hardstand areas. Existing drainage works will be substantially retained and supplemented where necessary for example by the addition of On-site Detention Basins.

During the detailed design phase a plan will be provided showing which elements of the existing works are to be retained and validated and which elements are to be demolished / removed.

Any works that were carried out by BAC Devco to be retained and re-used by the Project will require validation prior to their adoption into the project. This validation work may include for example geotechnical testing such as compaction testing, works-as-executed inspections, contamination sampling and management, visual inspections, reverse calculations, survey and measurement and CCTV inspections of drainage to confirm no blockage and structural soundness. The validity testing and inspections will supplement any "as built" and construction information that is available to BAL for the BAC Devco works from the time that the works were carried out.

### STOCKPILE

Between 2010 and 2014 soil with lesser quantities of building material was transferred from the south eastern part of the Airport (Steel Street Lots 801 and 803 – previously Lot 301) and stockpiled onto the SWP in preparation for the development of the Precinct. The stockpile is located at the centre of the Project Site. KordaMentha controlled both the SWP and Lots 801 and 803 at the time that the stockpile was transferred and have carried out extensive testing of the stockpile.

BAL has undertaken an independent review of the testing carried out to the stockpile (refer to Section 9.2). This has determined that the site in its current condition, including the stockpile, is considered suitable for commercial/industrial land use subject to appropriate environmental management plans being implemented at the site during both construction and occupation to manage potential exposure to site occupants, adjacent land users and environmental receptors.

Old work permits associated with the previous works will be resolved through the processes outlined in this section.



**Table 6.2:** Construction program

Activities	Duration	Program (by month)														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Major Civil and Infrastructure																
Site Strip and Establishment	1 month															
Establish Access from Tower / Milperra Road	1 month															
Services Relocations and Demolitions	3 months															
Bulk Cut / Fill and Import	3 months															
Detailed Earthworks / Trim	4 months															
Drainage Works	3 months															
Roads	4 months															
Services	3 months															
Buildings (35,000m2 Warehouses)																
Site Access and Prep	1 month															
Detailed Earthworks / Footings	1 month															
Offsite Fabrication	2 months															
Structure	3 months															
Slabs	1 month															
Services	3 months															
Services Connections to Mains	1 months															
Fit Out	4 months															
Commissioning	1 month															

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# 7.0 IMPACT ON AIRPORT OPERATIONS

DETAILED AVIATION, WIND SHEAR AND TURBULENCE IMPACT ASSESSMENTS HAVE BEEN UNDERTAKEN FOR THE PROPOSED DEVELOPMENT AND A DETAILED ASSESSMENT PROVIDED AGAINST THE NATIONAL AIRPORT SAFEGUARDING FRAMEWORK (NASF).



BAL HAS PREPARED AN AVIATION ASSESSMENT REPORT AND A WIND SHEAR AND TURBULENCE IMPACT ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT. THESE REPORTS ARE INCLUDED IN APPENDICES C AND D RESPECTIVELY.

The following chapter summarises the key aspects of these reports under the headings of the National Airports Safeguarding Framework.

With the exception of the retention of the Non-Directional Beacon (NDB) and protection of clearance zones around this important facility, the Project Site and the wider South West Precinct is not required for aviation purposes.

Notwithstanding this, the overall layout concept and allotment pattern allows for possible future aviation uses north of the Estate Road 01. The overall layout concept and allotment pattern allows for the possibility of the northern allotments (Lots 2 and 3) to gain airside access (should sufficient demand exist for uses that require airside access).





## 7.1 THE NATIONAL AIRPORTS SAFEGUARDING FRAMEWORK

The National Airports Safeguarding Advisory Group (NASAG) has developed the National Airports Safeguarding Framework (NASF), a land use planning framework that aims to:

- Improve community amenity by minimising aircraft noise-sensitive developments near airports including through the use of additional noise metrics and improved noise-disclosure mechanisms
- Improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

The NASF Guidelines are aimed at safeguarding airports and surrounding communities through implementing appropriate planning schemes around airports by providing guidance to decision-makers in all levels of Government.

The Guidelines are referenced in the 2014 Master Plan. Since this time, the NASF Guidelines have been reviewed, updated, and expanded.

This section provides a high-level assessment of the Project against the eight current NASF Guidelines and the recently released Public Safety Area Guideline (currently on consultation).

### GUIDELINE A: MEASURES FOR MANAGING IMPACTS OF AIRCRAFT NOISE

The Australian Noise Exposure Forecast (ANEF) is a tool for forecasting noise in Australian Airport Master Plans. This Australian Standard is a “one size fits all” approach to planning and places restrictions on the type of new development which can be built in the ANEF contours to provide surrounding land uses protection from noise generated by airport operations. Bankstown Airport ANEF contours are shown in Figure 7.1. The proposed warehouse development falls within the 20 to 30 ANEF range, light industrial development is suitable in this contour. The northern area of the project where the site works would take place is within the 30 to 35 ANEF. This area would be conditionally acceptable for ‘commercial’ and ‘light industrial’ buildings and acceptable for ‘other industrial’ buildings.

While the ANEF system is recognised by a number of jurisdictions in land use planning decisions, the ANEF contours do not capture all high noise affected areas around an airport. Australian Standard (AS) 2021-2015 recognises this and therefore Guideline A provides a complementary suite of noise measures in conjunction with the ANEF system to better inform strategic planning.

AS2021-2015 provides work site acceptability based on ANEF zones. Industrial buildings, such as warehouses, can be conditionally accepted within the 25 to 35 ANEF. For ‘conditionally acceptable’ land uses, consideration of aircraft noise attenuation is required in accordance with AS2021-2015.

The office component of the warehouse facility would be the only element of this MDP which would potentially require acoustic treatment. During detailed design, the acoustic treatment of the proposed office component will be considered to ensure it is fit for the use of the intended occupants.

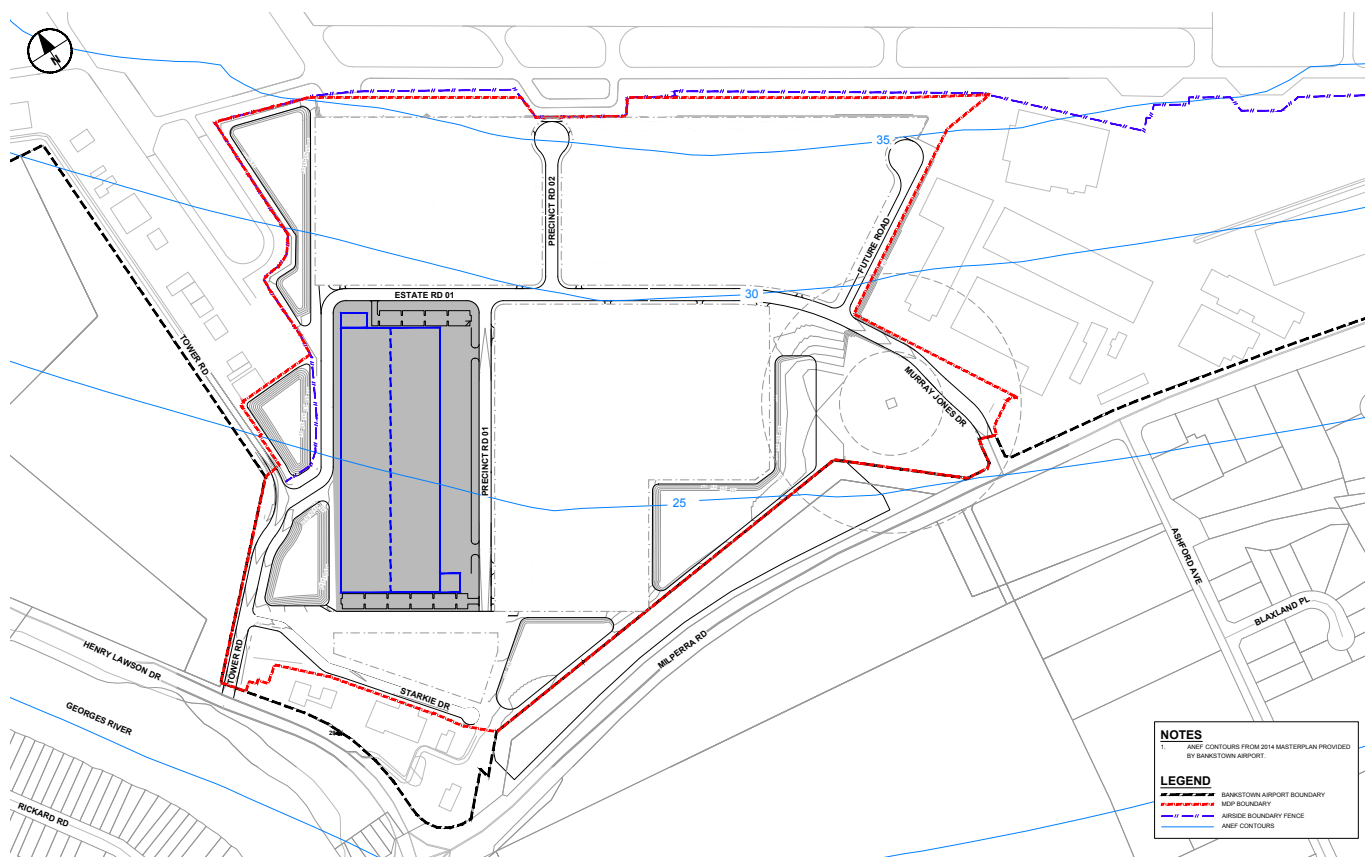
### GUIDELINE B: MANAGING THE RISK OF BUILDING GENERATED WINDSHEAR AND TURBULENCE AT AIRPORTS

The warehouse building has been designed with consideration of potential impacts on wind shear and turbulence. The impact of the proposed development on wind shear and turbulence is anticipated to be negligible and within BAL’s operational guidelines. This is further discussed in Section 7.5.

### GUIDELINE C: MANAGING THE RISK OF WILDLIFE STRIKES IN THE VICINITY OF AIRPORTS

The design of the Project will avoid landscaping features that may attract wildlife. The position of the On-Site Detention (OSD) basins, and ongoing management of the OSD, will include measures to deter wildlife.

The detailed roof design for the proposed warehouse building will consider bird mitigation opportunities.



**Figure 7.1:** ANEF Contours (based on Bankstown Airport Master Plan 2014 ANEF) [Source: AECOM, 2018]

#### GUIDELINE D: MANAGING THE RISK OF WIND TURBINE FARMS AS PHYSICAL OBSTACLES TO AIR NAVIGATION

The Project does not involve the construction of wind turbines. Therefore, this guideline does not apply.

#### GUIDELINE E: MANAGING THE RISK OF DISTRACTIONS TO PILOTS FROM LIGHTING IN THE VICINITY

Bankstown Airport is divided into four light control zones: A, B, C and D. These zones reflect the degree of interference ground lights can cause pilots as they approach. The proposed warehouse facility is located within Zones B, C and D and therefore the maximum lighting intensity varies from 50cd to 450cd. The northern car parking area is in Zone B (maximum 50cd) and the southern car parking area is in Zone D (maximum 450cd). Lighting associated with the development should therefore meet the restrictions associated with each of these Zones.

During detailed design consideration will be given to the lighting design so as to ensure there is no conflict from light fittings, coloured lights or glare caused by reflective surfaces and/or suitable mitigation measures are to be put in place. Lighting will be designed to ensure that the lights meet the requirements prescribed in the CASA Manual of Standards Part 139 Aerodromes.

#### GUIDELINE F: MANAGING THE RISK OF INTRUSIONS INTO THE PROTECTED AIRSPACE OF AIRPORTS

The design of the Project has ensured that the structures do not impact upon the OLS and PANS-OPS height complies with Regulation 6 of the Airports (Protection of Airspace) Regulations 1996 which limits any building impinging into prescribed airspace.

Detailed design of the proposed warehouse facility will consider activities that have the potential to impact the OLS and PANS-OPS (such as roof-mounted antennae, light poles, emissions of dust or other particulate matter).

#### GUIDELINE G: PROTECTION AVIATION FACILITIES – COMMUNICATION, NAVIGATION AND SURVEILLANCE

The Communication, Navigation and Surveillance facilities (CNS) identified for assessment for the Project are the Non-Directional Beacon, Secondary Wind Indicator and Air Traffic Control Tower. A detailed assessment of the proposed development, and any impacts on such CNS facilities, is provided in Section 7.4.

These CNS facilities are not impacted by the proposed development.

#### GUIDELINE H: PROTECTING STRATEGICALLY IMPORTANT HELICOPTER LANDING SITES

Guideline H relates to the protection of strategically important helicopter landing sites off-airport and is not relevant for this MDP.

#### DRAFT GUIDELINE I: MANAGING THE RISK IN PUBLIC SAFETY ZONES PUBLIC SAFETY AREAS (PSA) AT THE ENDS OF RUNWAYS

Draft NASF Guideline I, Managing the Risk in Public Safety Areas at the Ends of Runways, has recently been released for public comment.

The Airport has identified Public Safety Areas at the end of each runway in the 2014 Master Plan. The Airport's Public Safety Areas are based on a similar approach to that used by the Queensland Government, being isosceles trapezoid at the end of each runway, one of the options identified in NASF Draft Guideline I.

The proposed development is located outside of the Public Safety Area for Bankstown Airport – more detail is provided in Section 7.3.

## 7.2 OPERATIONAL AIRSPACE

### 7.2.1 OBSTACLE LIMITATION SURFACE

The Obstacle Limitation Surface (OLS) is a conceptual envelope associated with a runway, which defines the lower limits at which objects become obstacles to aircraft operations in aerodrome airspace.

The existing OLS envelope in relation to the proposed warehouse location on Lot 1 is presented in Appendix D on drawing 0001.

Bankstown Airport has also developed a future OLS to safeguard for any potential upgrades to the current runway classifications. The future OLS is based on a higher runway classification and therefore has a reduced development height allowance. The future OLS is also presented in Appendix D on drawing 0002. The proposed warehouse development does not result in any penetration of the existing or future OLS.

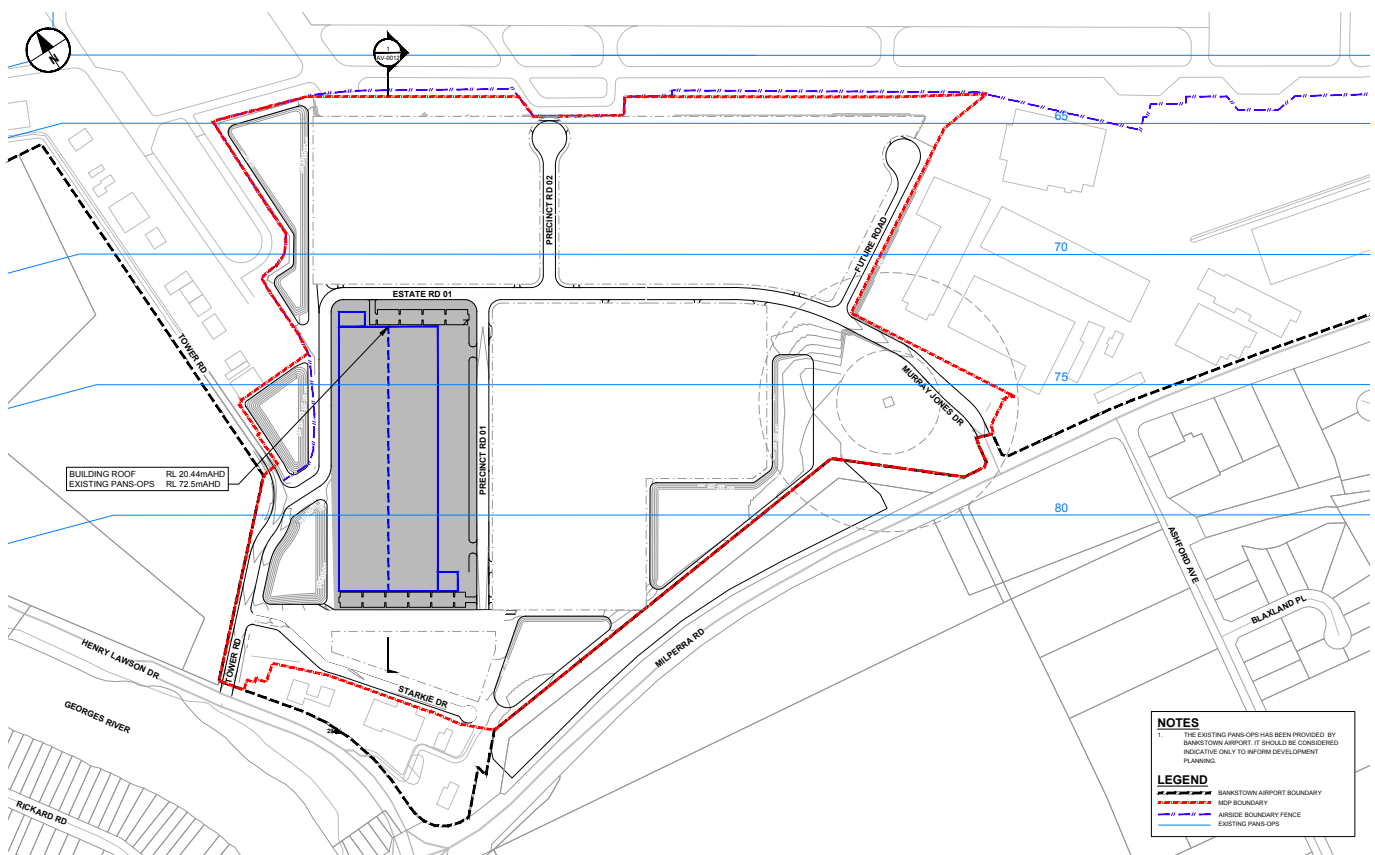


Figure 7.2: Existing PANS-OPS surfaces (Source: AECOM, 2018)



## 7.2.2 PANS-OPS

The PANS-OPS (Procedures for Air Navigation Services – Aircraft Operations) defines the rules for designing instrument approach and departure procedures. The PANS-OPS surfaces are defined in accordance with the International Civil Aviation Organisation Procedures for Air Navigation Services – Aircraft Operations (Doc 8168).

BAL has provided existing and future PANS-OPS surfaces which are shown with the proposed warehouse in Figure 7.2 and Figure 7.1. The existing and future PANS-OPS surfaces are not impacted by the proposed warehouse development.

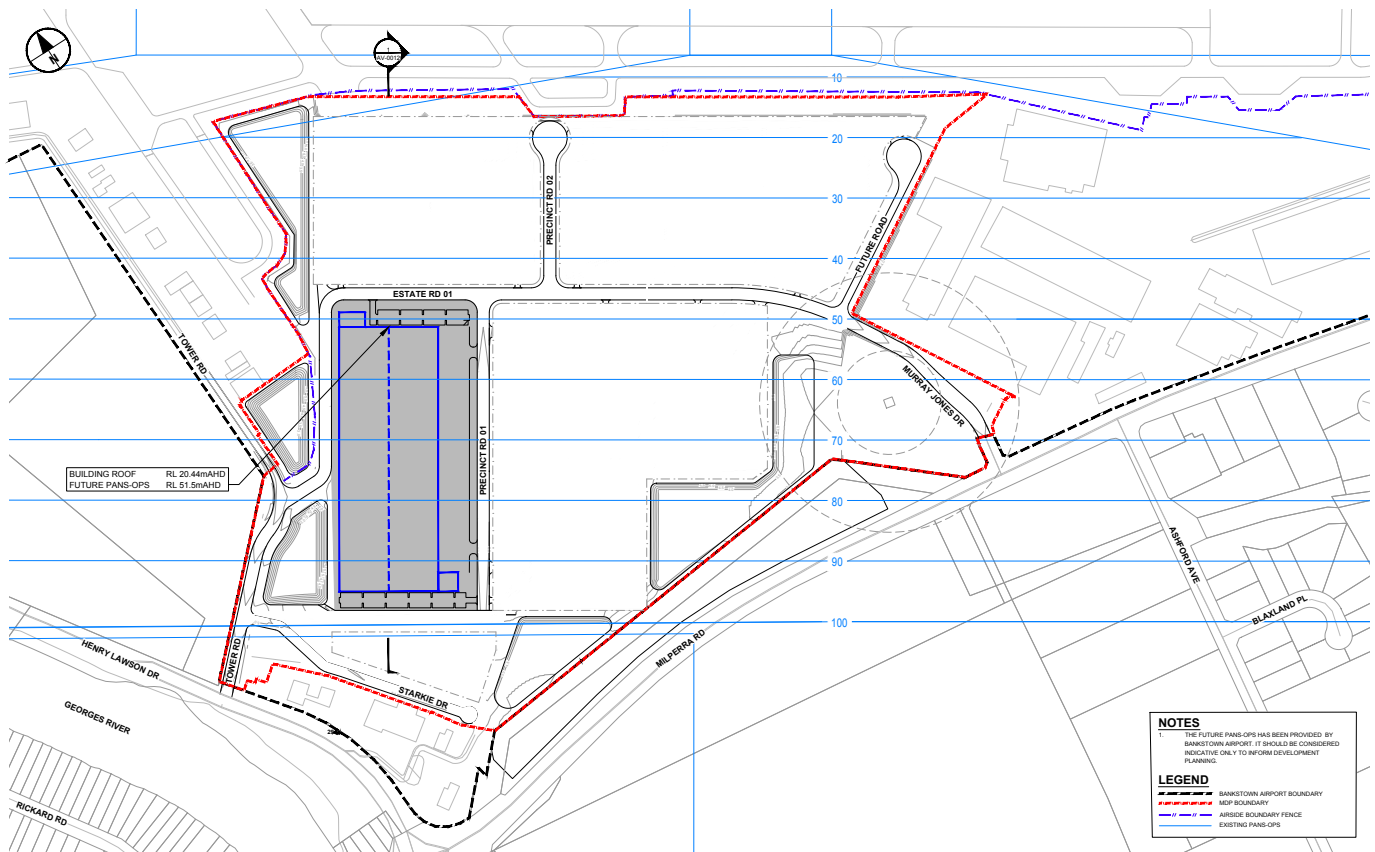


Figure 7.3: Future PANS-OPS surfaces [Source: AECOM, 2018]

## 7.3 PUBLIC SAFETY AREAS

Public Safety Areas (PSA) (previously known as Public Safety Zones) are implemented at airports to protect the safety of the public from aviation activities and accidents. The International Civil Aviation Organization (ICAO) data indicates that if an accident occurs, it will likely occur within 1,000 metres before the runway on approach or within 500 metres beyond the runway end on departure. The PSA is placed within this zone to protect public safety.

Currently in Australia, there are no finalised national aviation regulations/guidelines governing the specification or implementation of PSA.

Draft NASF Guideline I, Managing the Risk in Public Safety Areas at the Ends of Runways, has recently been released for public comment. The Draft Guideline suggests two methods suitable for a planning-led approach to the assessment of the PSA:

- UK NATS Methodology
- Queensland State Planning Policy.

Bankstown Airport incorporated the Queensland State Planning Policy approach to PSA in Master Plan 2014.

The current Bankstown Airport PSA's are shown on Figure 7.4. The northern corner of the SWP encroaches on the PSA for the Southern Runway (Runway 11R/29L). However, the proposed warehouse development on Lot 1 is completely outside of the PSA.

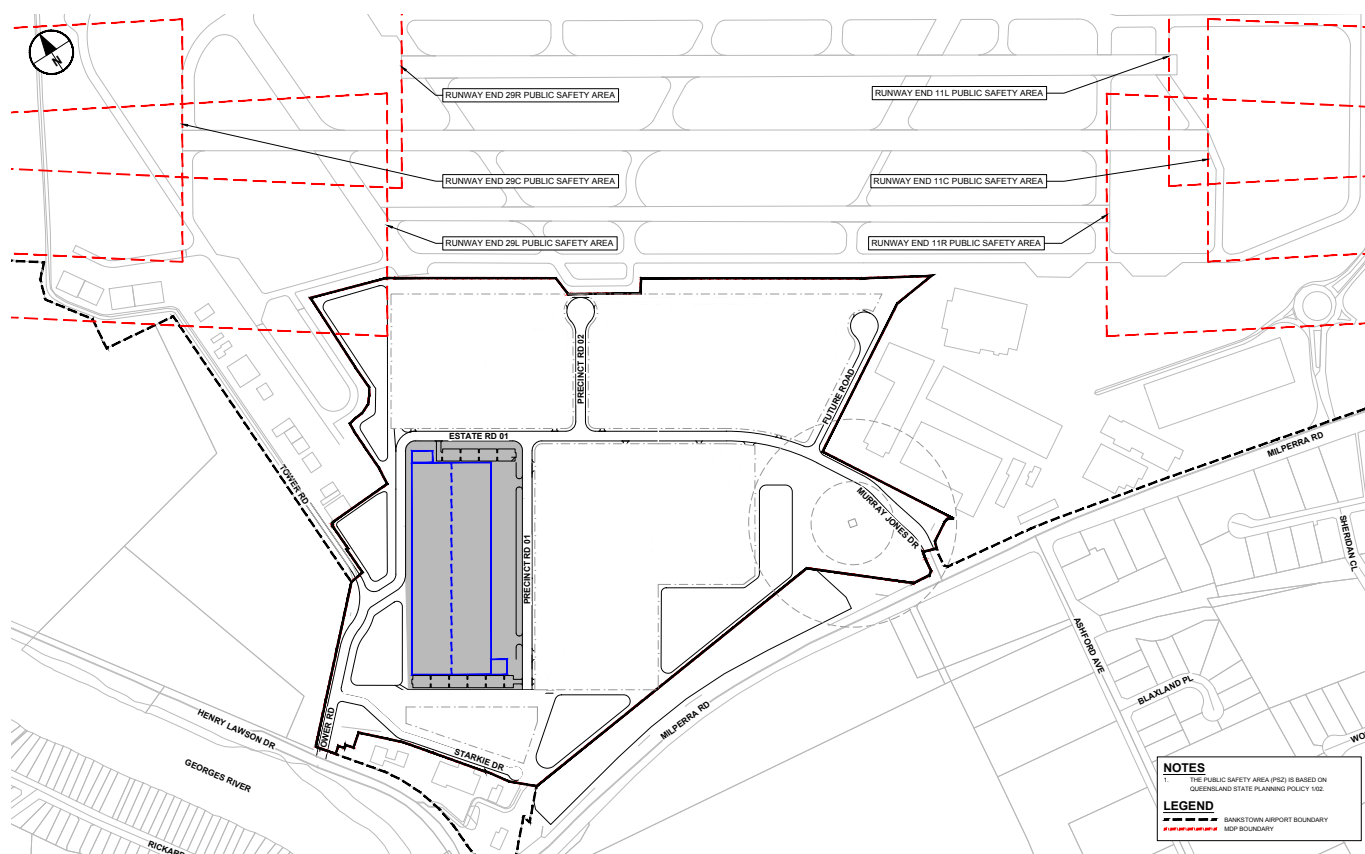


Figure 7.4: Public Safety Areas (Source: AECOM, 2018)

## 7.4 COMMUNICATION NAVIGATION AND SURVEILLANCE

### 7.4.1 PRECISION APPROACH PATH INDICATOR

A Precision Approach Path Indicator (PAPI) is a visual aid that provides guidance information to help a pilot correctly approach an airport.

The Centre Runway (Runway 11C/29C) is equipped with a PAPI at each end of the runway. There is an obstacle assessment surface associated with the PAPI to ensure that its operation is not impacted by obstacles. The protection surface is defined in MOS Part 139 and

consists of a rising plane that starts at the surface elevation at the end of the runway and rises at a rate of 1.9 degrees. This surface is shown on Figure 7.5 and shows that the proposed development has no impact on the operation of the PAPI.

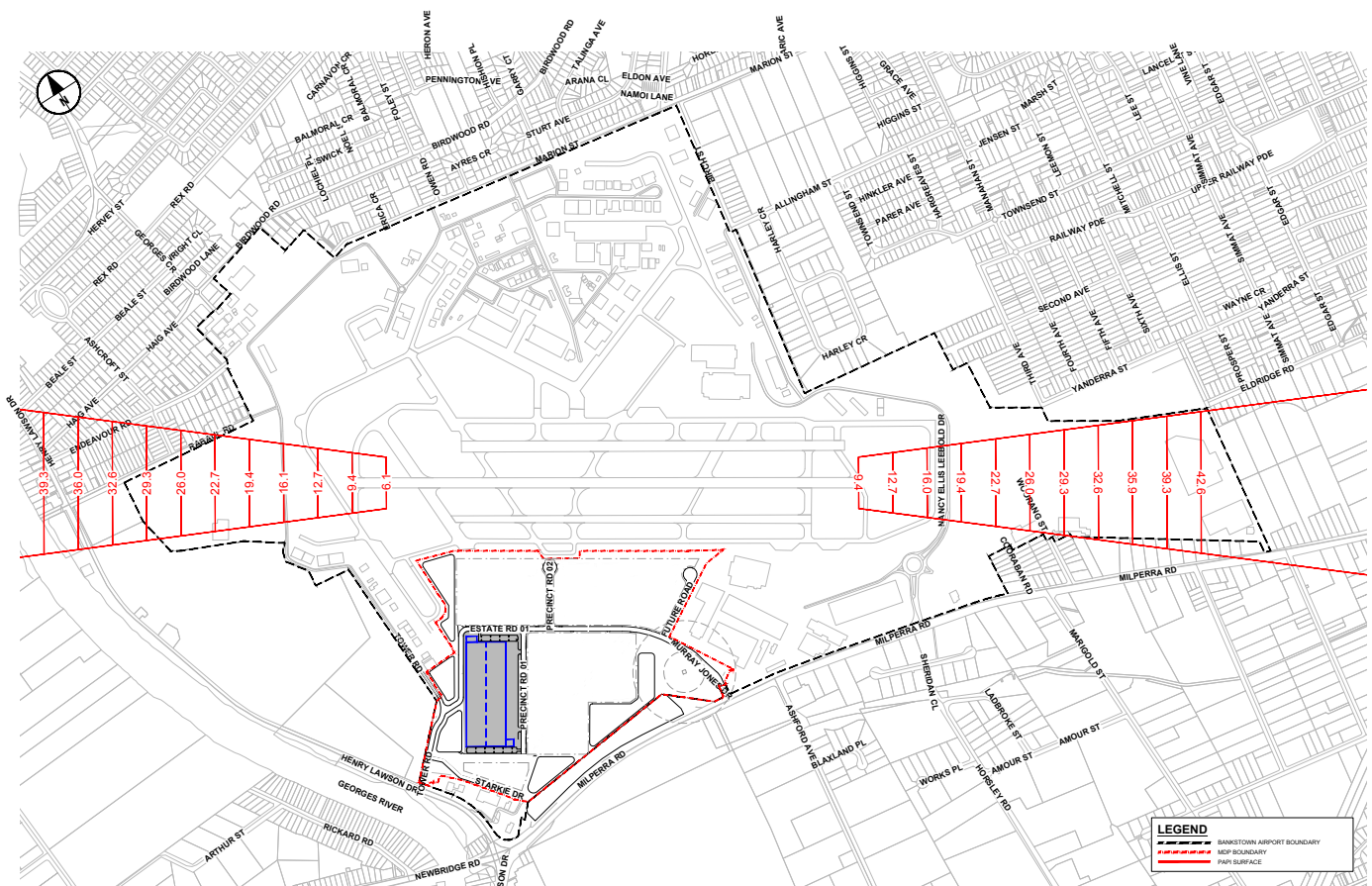


Figure 7.5: Precision Approach Path Indicator protection surface area (Source: AECOM, 2018)

## 7.4.2 WIND INDICATOR

Bankstown Airport has two illuminated wind indicators, one is located in the north-west part of the Airport, and the other is located in the south-east part of the Airport, as shown on Figure 76. Both illuminated wind indicators are located within the Aviation Zone, as defined in Master Plan 2014.

The Bureau of Meteorology (BoM) provides guidance on the siting of wind indicators in the document Observation Specification No. 2013.1 Guidelines for the siting and exposure of meteorological instrument and observing facilities (1997). The document lists the World Meteorological Organization (WMO) standard as the minimum requirement, which states an obstruction free slope of 1:10. This protection surface in relation to the Project is shown on Figure 7.6.

Based on the current location of the illuminated wind indicators, no impacts are predicted as a result of the Project.

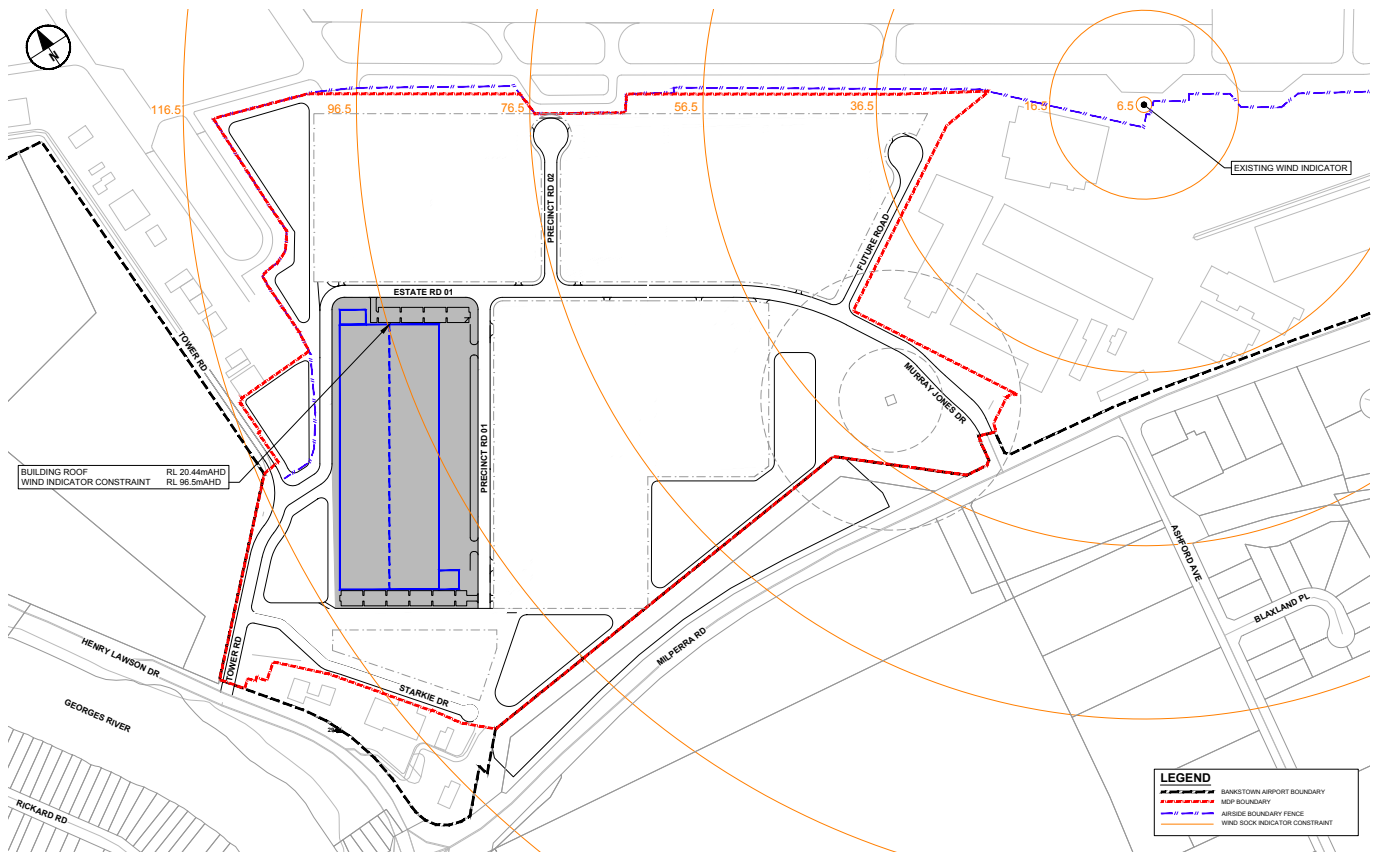


Figure 7.6: Wind indicators protection surface area [Source: AECOM, 2018]



### 7.4.3 GROUND BASE NAVIGATION AIDS

Ground based navigation aids are used for backup to primary navigation aids. They generate radio signals which are interrogated by airborne aircraft and used to assist with their navigation. Bankstown Airport currently has one ground-based navigation aid – the Non-Directional Beacon (NDB), which is located in a clear area of the airport south of the runway infrastructure, immediately adjacent to Murray Jones Drive (see Figure 7.7).

CASA MOS Part 139 provides the following guidance around the NDB:

- The immediate 150 metre radius area around the NDB should be kept free of buildings exceeding 2.5 metres

- The immediate 60 metre radius area around the NDB should be kept free of buildings less than 2.5 metres and any vehicular movement.

The proposed warehouse development on Lot 1 is located outside of the recommended protection areas and will therefore not impact the performance of the NDB.

The access road proposed as part of the Project will fall partially within the 60 metre exclusion zone. However, Airservices who own and operate the NDB, have provided approval for this intrusion (see Appendix D).

The proposed Project works have therefore been determined to not have an impact on the NDB.

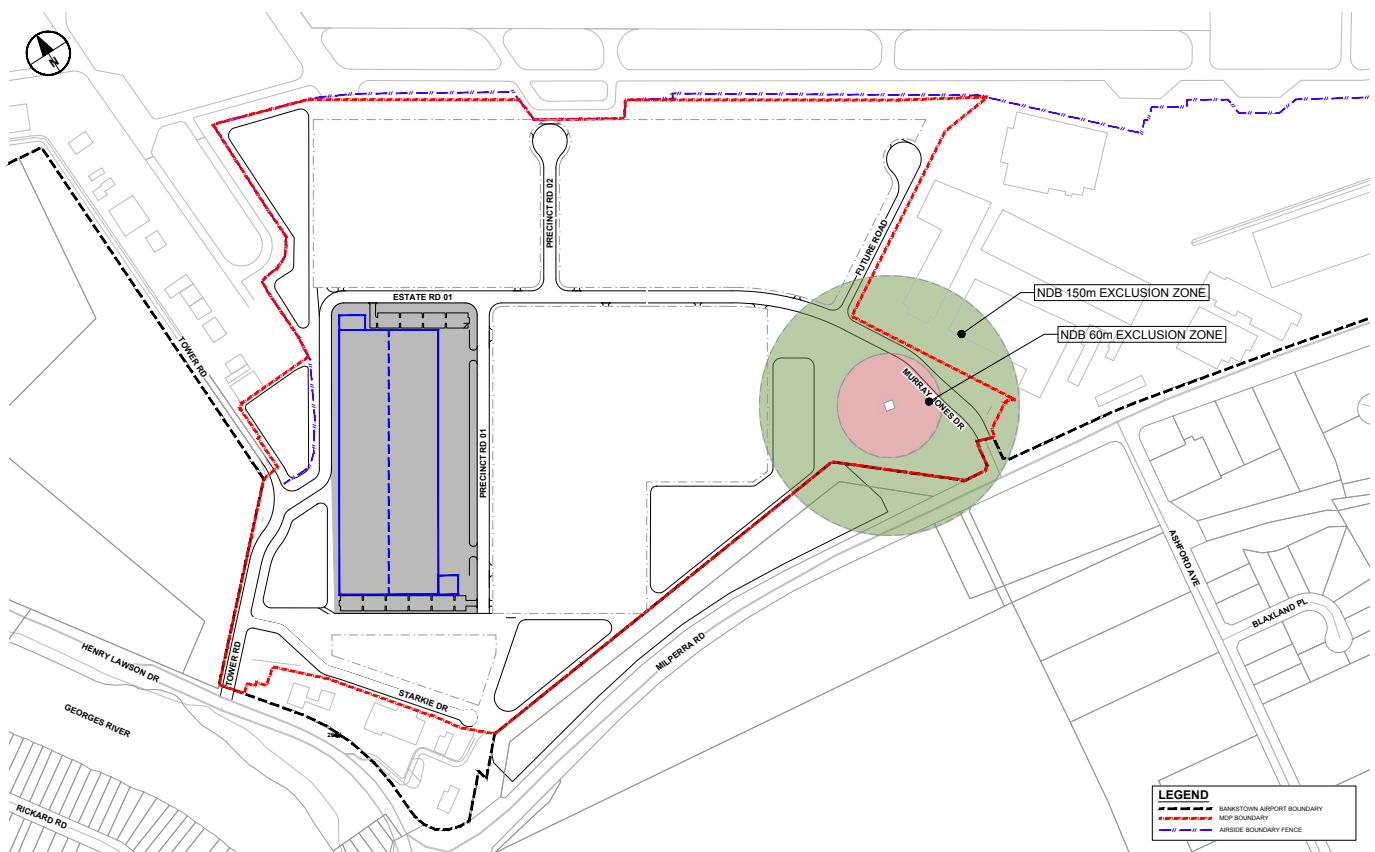


Figure 7.7: Non-directional beacon protection area (Source: AECOM, 2018)

## 7.4.4 AIR TRAFFIC CONTROL TOWER

The Air Traffic Control Tower (ATCT) is located along Tower Road in the north-western corner of the Project Site (see Figure 7.8).

An area of approximately 6 hectares to the northern boundary of the Project Site falls within the Control Tower sight lines to the airfield manoeuvring area. This area of the Project Site (shown on Figure 7.8) would potentially be subject to height restrictions to accommodate the viewing angle of the ATCT.

The proposed warehouse building on Lot 1 has been designed to avoid the line of sight of the ATCT and will not impact on its operation.

Airservices, who own and operate the ATCT, were consulted during the preparation of the MDP. Whilst not a formal guidance or regulatory requirement, Airservices has sought confirmation that following the construction of the warehouse on Lot 1, aircraft outside of the OLS and PANS-OPS would be visible on approach from the south and south-east. Visualisations are being prepared to confirm such arrangements.

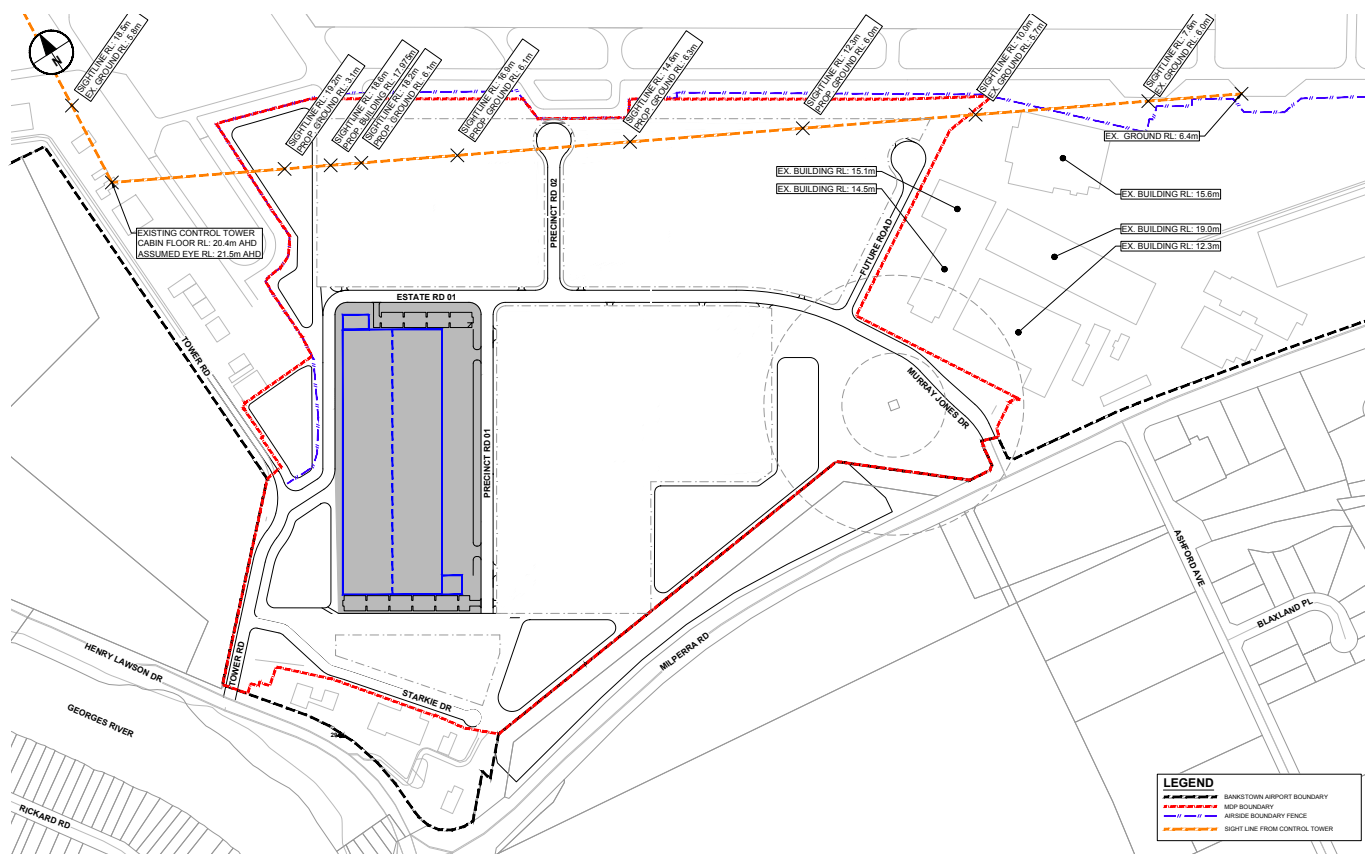


Figure 7.8: Air Traffic Control Tower line of site (Source: AECOM, 2018)

## 7.5 WIND SHEAR

The Project has been assessed in accordance with the updated NASF Guideline B – Managing the risk of building generated windshear and turbulence at airports.

Building induced windshear and turbulence impacts on runways at Bankstown Airport (including topographic conditions from the fill platform) were analysed using Computational Fluid Dynamics (CFD) simulations for the proposed warehouse building on Lot 1 in respect to the following criteria set out in NASF Guideline B:

- The “*7-knot along-wind criterion*” – the variation in mean wind speed due to wind disturbing structures must remain below 7 knot (3.6 metres/second) along the aircraft trajectory at heights below 200 feet. The speed deficit change of 7 knot must take place over a distance of at least 100 metres
- The “*6-knot cross-wind criterion*” – the variation in mean wind speed due to wind disturbing structures must remain below 6 knot across the aircraft trajectory at heights below 200 feet. The speed deficit change of 6 knot must take place over a distance of at least 100 metres
- The “*4-knot turbulence criterion*” – the standard deviation of wind speed must remain below 4 knot at heights below 200 feet.

The instability which building-induced wake effects can cause to an aircraft is significantly reduced once an aircraft has touched down (upon landing) or is at reasonable height (200 feet off the ground prior to landing). After touch-down, the aircraft has increased stability/support from contact with the runway pavement and above 200 feet, the consequences of a drop in altitude or a change in wind bank are considerably less and the pilot has increased latitude and hence time to correct for an induced effect on the aircraft prior to touch-down.

Bankstown Airport comprises three runways:

- Northern Runway (Runway 11L/29R)
- Centre Runway (Runway 11C/29C)
- Southern Runway (Runway 11R/29L).

All three runways are suitable for fixed wing aircraft movements. Night activity, representing approximately 2.5% of all movements, is primarily undertaken on the Centre Runway (Runway 11C/29C).

In relation to the location of the development proposed in this MDP, the wind directions deemed to have the greatest impact on the Southern Runway (Runway 11R/29L), and to a lesser extent the Centre Runway (Runway 11C/29C), are the winds originating from south 180° to south-west 225°.

A study of the current and post MDP development winds has been undertaken using a quantitative CFD analysis approach. The reference approaching wind speed for this study is 25 knots at 10 metres height, taking into account the local exposure factors by wind direction. Cross winds at and above 25 knots for the relevant south to south-west wind directions for the current study have a very low frequency of occurrence. A 25 knots or higher mean wind speed from the South to south-west occurs only 7 times in 5 years.

The results of the simulations for critical wind directions and an assessment of Bankstown Airport Bureau of Meteorology (BoM) Weather Station data covering a 5-year period from 2011 to 2015 inclusive are outlined in the following section.

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## EXISTING WIND CONDITIONS

The existing wind conditions described in the following section have been obtained from the BoM weather station at Bankstown Airport.

### MEAN WIND SPEED AT 10 METRE HEIGHT ABOVE FLOOR LEVEL

- There were 7 hours where the mean wind speed exceeded 25 knot taking into account wind directions between south to south-west over the 5-year BoM record period
- There were 99 hours where the mean wind speed exceeded 20 knot taking into account wind directions between south to south-west over the 5-year BoM record period.

The Southern Runway (Runway 11R/29L and Runway 11L/29R) operates during daylight only from 06:00 hrs to 18:00 hrs while Centre Runway (Runway 11C/29C) operates 24 hours a day. The occurrence of the exceedance for 25 and 20 knots is reduced when only daylight hours are included in the assessment.

### TURBULENCE EXCEEDANCE AT THE ANEMOMETER LOCATION

- There were 329 occasions during the 5-year BoM record period (66 per year) where natural turbulence exceeded 4-knots taking into account ALL wind directions
- There were 113 occasions during the 5-year BoM record period (approximately 23 per year) where natural turbulence exceeded 4-knots from south to south-west.

It should be noted that while many of those exceedance “occasions” occurred on different days, some occurred in consecutive hours on the same day during the passage of major windstorm events.

## FUTURE WIND CONDITIONS

The following major conclusions are associated with the post-MDP scenario and have been reached based on results of CFD simulations for the critical wind directions.

### WIND SHEAR

- In general the runways are currently exposed to southerly winds without a significant built environment upstream. The variation in the mean wind speed for the existing built environment is less than 6 knots along all analysed aircraft trajectories (Path 1, Path 2 and Path 3) at a height below 60 metres (200 feet) over a distance just below 100 metres.
- The post-MDP scenario has a small localised wake and very minor impact on the runways
- The variation in the mean wind speed due to the proposed MDP is less than 6 knots along all analysed aircraft trajectories (Path 1, Path 2, Path 3) at a height below 60 metres (200 feet) over a distance of at least 100 metres due to the following:
  - Shape of the proposed warehouse. The dimension in line with wind is greater than its width by a factor 2.75:1 resulting in a small wake behind the proposed warehouse.
  - Proximity to runways (more than 365 metres to the closest runway)
  - Relatively low building height (13.7 metres) above finished floor level
  - Site topography (e.g. the main runway is mostly at RL8 falling to 6 metres toward 11C while the Project Site sits between the RL's 6.3 and 6.74 metres). The proposed warehouse sits at RL 6.74 metres finished floor level
  - Building layouts and features, canopies, etc.



## WIND TURBULENCE

- Current Scenario: the turbulence criterion of 4 knots across the aircraft trajectory at heights below 60 metres (200 feet) is triggered at cross-wind of approximately 12 knot for the most critical wind direction.
  - There were 144 times in one year where the cross-wind speed exceeded 12 knots taking into account wind directions between S 180° and SW 225° (where the angle bandwidth is 11.25°. This covers wind directions from 168.75° to 236.25°).
  - Runway 11R/29L operated during the daytime (6:00 am to 6:00 pm) only. A 12 knots or higher mean wind speed from the south between S 180° and SW 225° occurred 115 hours in one year.
- Post-MDP Scenario: the turbulence criterion of 4 knots across the aircraft trajectory at heights below 60 metres (200 feet) is triggered at cross-wind of approximately 11.5 knots for the most critical wind direction.
  - There were 170 times in one year where the cross-wind speed exceeded 11.5 knots taking into account wind directions between S 180° and SW 225° (where the angle bandwidth is 11.25°. This covers wind directions from 168.75° to 236.25°).
  - Southern Runway (Runway 11R/29L) is operated during the daytime (6:00 am to 6:00 pm) only. An 11.5 knots or higher mean wind speed from the South between S 180° and SW 225° occurred 136 hours in one year.

A summary of these findings is provided in Figure 7.9.

The BAL operational strategy to mitigate building-induced turbulence for the Project Site (and the wider South West Precinct) involves amendments to operational procedures to Southern Runway (Runway 29L) so that it is not the duty runway when winds exceed 11.0 knots from the south to south-west, or to implement other operational risk mitigation measures acceptable to the Airport operator and CASA.

As outlined in detail in the correspondence with CASA provided at Appendix D, in order to mitigate existing windshear / turbulence impacts arising at the Southern Runway (Runway 11R/29L) BAL intends to adopt a management practice whereby a caution will be issued to pilots when wind speed exceeds 10 knots from a southerly direction. This has been determined as the most effective means of risk mitigation.

The full wind shear and turbulence assessment is provided in Appendix E.

Figure 7.9: Current and post-MDP wind turbulence summary

Scenario	Compliance Criteria			Limiting Wind (knots) to satisfy Turbulence Criterion	Turbulence Exceedance Probability in one Year. 24 Hrs <sup>1,2</sup>	Turbulence Exceedance Probability in One Year, 6 am - 6 pm <sup>1,2</sup>
	Along Wind 7 knots	Cross Wind 6 knots	Turbulence 4 knots			
Current	Yes	Yes	No	12	144	115
Post MDP	Yes	Yes	No	11.5	170	136

Note 1: The number of hours per annum that a 4-knot turbulence exceedance occurs is based on the mean wind speeds data recorded during the period 1999-2017 at BoM Station 66137. The calculation takes into account wind directions between S 180° and SW 225° where the angle bandwidth is +/-11.25°. This covers wind directions from S 168.75° to SW 236.25°).

Note 2: The calculation of the number of exceedance is slightly conservative. For example for the post-PMD scenario, the calculation assumes that the turbulence criterion of 4 knots is triggered at cross-wind of 11.5 knots from S to SW. The criterion is triggered at cross wind of 15 knot at Wind Angle = 180; 11.5 knot at Wind Angle = 215° and 12 knot at Wind Angle = 225°

## 7.6 AERODROME REFERENCE POINT INTERFACE

The Aerodrome Reference Point (ARP) is the designated geographical location of the aerodrome. The location of the ARP is confirmed to be north of the existing airside boundary fence. All MDP works proposed are south of the existing airside fence and therefore there are no impacts to the ARP.

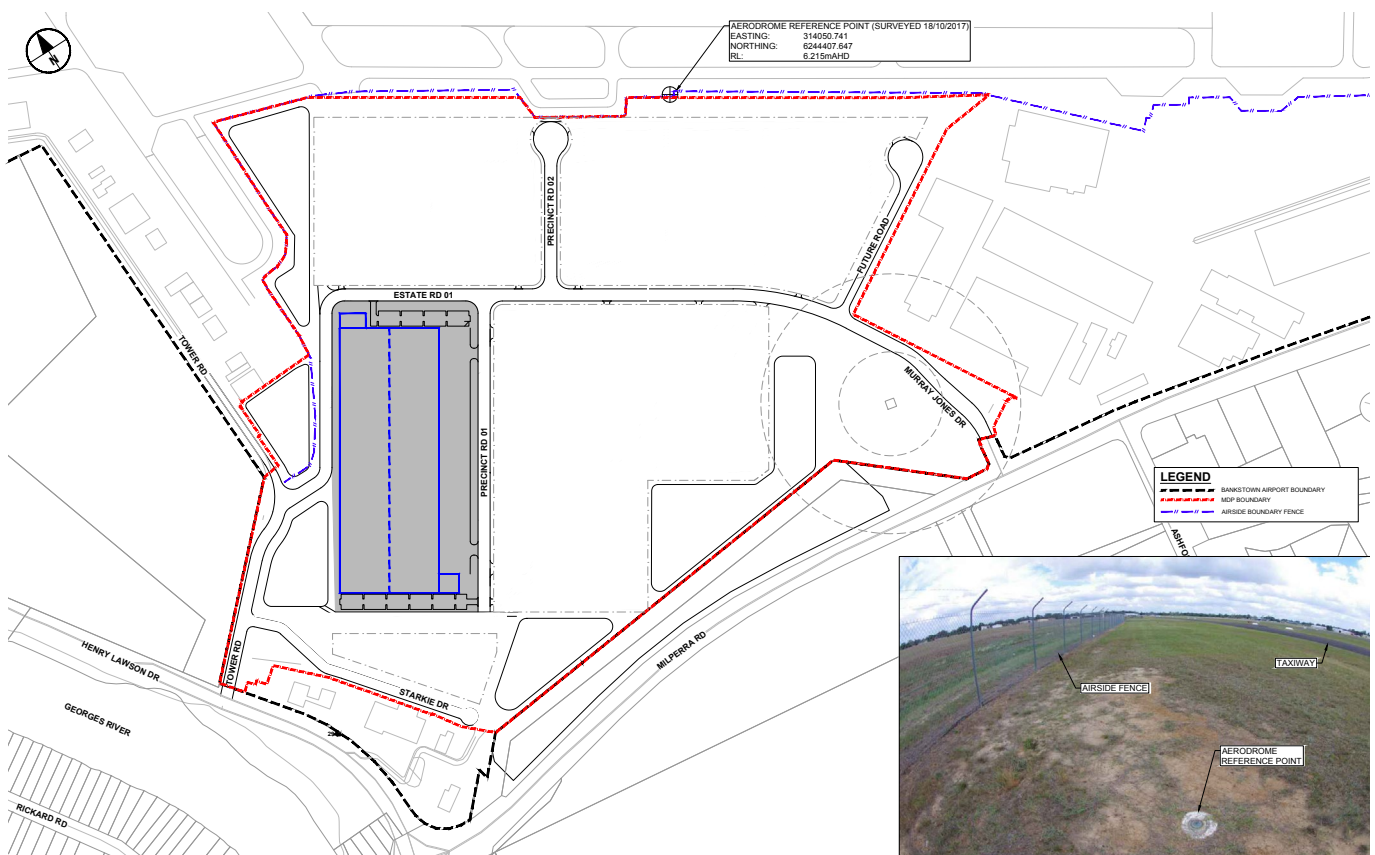


Figure 7.10: Aerodrome reference point [Source: AECOM, 2018]

## 7.7 SECURITY

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Bankstown Airport is classified as Security Controlled Airport Category 6 and has in place security measures based on risk assessments and the requirement of the *Aviation Transport Security Act 2004*.

The Airport has a transport security program based on a comprehensive security risk analysis and addresses how security activities are managed and how security incidents are reported and responded to.

Airside boundary fences should be clear of obstructions such as trees, fixed equipment or vehicle parking areas, and where possible, maintaining a horizontal clearance to the top of the fence 3 metres airside and 3 metres landside.

The following items have been identified as part of the future design development considerations:

- 3 metre-high fence with 3 metre landside horizontal clearance
- Automatic perimeter detection systems (PIDS)
- Airside Access gates
- CCTV surveillance
- Vehicle containment barriers.

It is not anticipated that the security fence will be impacted as part of the development. Any works that could potentially impact the fence will be temporary and have the appropriate measures in place.

## 7.8 ROTARY OPERATIONS

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Bankstown Airport has one operational helipad (HLS). The helipad and its associated Obstacle Limitation Surface (OLS) is located north-east of the Northern Runway (Runway 11L/29R). The development is proposed south of the three parallel runways and therefore outside of the rotary OLS. The rotary operations will not be impacted by this development.

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# 8.0 TRAFFIC AND CAR PARKING MANAGEMENT



## 8.1 EXISTING CONDITIONS

THE TRAFFIC IMPACT OF ANY DEVELOPMENT WITHIN THE BANKSTOWN AIRPORT SITE IS GUIDED BY THE GROUND TRANSPORT PLAN CONTAINED WITHIN THE CURRENT BANKSTOWN AIRPORT MASTER PLAN, MASTER PLAN 2014.

THE NEW MASTER PLAN, DRAFT MASTER PLAN 2019, IS CURRENTLY BEING PREPARED. THE UPDATED INVESTIGATIONS INFORMING THE NEW GROUND TRANSPORT PLAN ARE RELEVANT FOR THE CONSIDERATION OF TRAFFIC MANAGEMENT ASSOCIATED WITH THE PROPOSED DEVELOPMENT.

A DETAILED TRAFFIC AND TRANSPORT IMPACT ASSESSMENT HAS BEEN PREPARED TO SUPPORT THIS MDP. A COPY OF THIS REPORT, WHICH INCLUDES LETTERS FROM RMS CONFIRMING ACCEPTANCE OF THE TRAFFIC MODEL AND AGREEMENT IN PRINCIPLE FOR THE PROPOSED DEVELOPMENT, IS INCLUDED AT APPENDIX F.

### 8.1.1 ROAD NETWORK

With frontages to both Milperra Road and Tower Road, the Project Site is well-placed to provide direct vehicular access to the wider strategic road network surrounding Bankstown Airport.

Milperra Road/Newbridge Road is a NSW State road and forms part of the A34 road corridor, providing an east-west link from Newtown to Liverpool.

Tower Road is an internal road within Bankstown Airport, providing an internal north-south connection adjacent the Airport's western boundary.

Tower Road, at its southern junction, connects to Henry Lawson Drive, a State road with a north-south alignment.

The M5, to the south of the Airport, is the primary motorway link between the M7 in the west and the M1 in the east, providing regional connections to and from Bankstown Airport. The Airport site is accessed via two interchanges off the M5 at The River Road and Henry Lawson Drive. These interchanges are within 3 to 4 km from the Airport's southern access onto Milperra Road, providing proximate access to the regional motorway network.

Existing access to the Project Site is via the following key intersections:

- **Milperra Road/Murray Jones Drive:** 3-leg signalised intersection providing access to the de Havilland site and associated administration and hangar buildings
- **Milperra Road/Henry Lawson Drive/Newbridge Road:** The most heavily trafficked intersection in the area as the confluence between major north-south and east-west routes, in close proximity to the M5 interchange and with heavy turning movements
- **Henry Lawson Drive/Tower Road:** Signalised intersection used primarily for access into the airport's northern precinct from the south and west and for access into the existing businesses in the SWP off Starkie Drive.



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Both Milperra Road and Henry Lawson Drive are gazetted B-Double routes suitable for higher-mass limit (HML)

Currently access to the Project Site is possible via Starkie Drive off Tower Road, and via Murray Jones Drive off Milperra Road. No internal road connection is provided between these intersections.

## 8.1.2 PUBLIC TRANSPORT

A number of bus routes operate in the vicinity of Bankstown Airport, including route M90 which provides access to the Project Site. The nearest bus stop is located on Milperra Road near Ashford Avenue, approximately 900 metres from the Project Site.

## 8.1.3 PEDESTRIAN AND CYCLING NETWORKS

There are limited pedestrian and cycling facilities in the vicinity of Bankstown Airport. Due to current land uses and arterial roads surrounding the airport, there are limited pedestrian links.

The Henry Lawson Drive corridor includes an off-road shared pedestrian and cyclist path located along the western side of the road and to both the north and the south of Milperra Road.

## 8.1.4 CAR PARKING, ROADS AND TRAFFIC

Parking is highly dispersed around the Airport and typically involves free off-street parking associated with each of the businesses that occupy the site. A number of on-site parking spaces will be provided within the Project Site. These spaces are accessible via Starkie Drive off Tower Road.

Similarly, parking for existing established commercial premises in the south-west, southern and south-east parts of the Airport are mostly in at-grade on-site car parks associated with each business (e.g. Bunnings, McDonalds, etc.).

## 8.2 PROPOSED DEVELOPMENT

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As detailed in Section 5.1, the MDP consists of the following specific elements:

- An overall layout concept, including earthworks and site works, site-wide stormwater and flood mitigation, and addressing historic site contamination issues
- A new internal road network connecting to Murray Jones Drive and Tower Road
- Construction of a warehouse distribution building of approximately 37,000 square metres in area on proposed Lot 1, including ancillary office administration facilities, heavy vehicle loading dock and hardstand areas, at-grade employee and visitor car parking areas, and associated landscaping areas.

From an access and traffic perspective, the following road upgrades are proposed as part of the development:

- Extending Murray Jones Drive (adjacent its junction with Milperra Road) to create the new internal road (Estate Road 01 – connecting Murray Jones Drive and Tower Road)
- Removing the existing Tower Road/Starkie Drive roundabout and converting it to an all-movement priority intersection
- Upgrading the existing two-lane (one lane each way) section of Tower Road between Henry Lawson Drive and the new Estate Road 01 to four lanes (i.e. two lanes each way)
- Constructing internal precinct roads – Precinct Roads 01 and 02 and an eastern Precinct Road off Estate Road 01.

In relation to the proposed warehouse development on Lot 1, primary access to the site and the heavy vehicle loading dock area will be via the new Precinct Road 01. Access to the north-eastern and south-western on-site car parking areas will be via Estate Road 01 and new Precinct Road 01, respectively. This is shown in Figure 8.1.

The proposed warehouse development includes on-site at-grade car parking spaces for 193 spaces and bicycle parking racks for use by employees and visitors.





**Figure 8.1:** Proposed Internal Road Network and Access [Source: AECOM, 2018]

## 8.3 TRAFFIC AND CAR PARKING IMPACT ASSESSMENT

All traffic impacts of the development of the Project both during the construction and operational phases have been analysed. A detailed Traffic and Car Parking Impact Assessment Report is provided in Appendix F and summarised below.

### 8.3.1 CONSTRUCTION TRAFFIC

As outlined in Section 6.0, the construction phase for the Project is anticipated to take approximately 15 months.

The peak period for the construction traffic movements is considered to occur during the 'engineered fill import' period, when approximately 250 truck movements are expected to take place in 12-hour periods per day over four weeks. Given the relatively small volume of peak period traffic generated during the construction phase, intersection assessment has been limited to the following intersections:

- Milperra Road/Murray Jones Drive
- Henry Lawson Drive/Tower Road.

SIDRA models were created to assess the impact of construction vehicles on general traffic movements. The results indicate that the additional construction traffic is not expected to have any substantial negative impacts on the performance of the key intersections in both the AM and PM peak periods.

Overall, the construction period traffic will have a marginal impact at the Henry Lawson Drive/Tower Road intersection during construction.

Traffic assessment has indicated that this intersection is currently over capacity. However, given the relatively short construction period and that the construction traffic will add an average 10 seconds per vehicle additional delay, this is considered acceptable.

### 8.3.2 POST-CONSTRUCTION TRAFFIC

In order to quantify the traffic performance within the study area, without and with the proposed development associated with this MDP, a detailed assessment of road network capacity was undertaken using the AM and PM peak VISSIM models, developed for the draft Master Plan 2019.

The modelling indicates that the proposed development is expected to have no negative impacts on the performance of the major intersections within the surrounding area.

The Milperra Road/Henry Lawson Drive intersection shows similar results between 'base' and 'with development' cases.

Traffic delays at the Henry Lawson Drive/Tower Road intersection are expected to reduce slightly, especially in the PM peak. This is attributed to reduced delays on the Tower Road approach because of the construction of an additional lane as part of the development works, as outlined in Section 8.3.4.

Traffic delays at the Milperra Road/Murray Jones Drive are expected to remain similar in the AM peak but would increase slightly in the PM peak.

Overall 126 additional peak hour trips are introduced by the development in each peak and, when apportioned between the Murray Jones Drive/Milperra Road intersection and the Henry Lawson Drive/Tower Road intersection, and split between entry and exit movements, result in a negligible impact per signal-cycle at these intersections (e.g. one to two additional vehicles entering or leaving each intersection per cycle).

Further, the internal link to be constructed between Tower Road and Murray Jones Drive also provides some ability for existing Starkie Road development traffic to choose a more efficient access/egress location, reducing impacts on the external road system, particularly on the Henry Lawson Drive/Milperra Road/Newbridge Road intersection.

Section 8.5 provides an assessment of the impacts related to potential future works. Refer to Appendix F for a letter confirming agreement in principle from RMS.

### 8.3.3 WAREHOUSE DEVELOPMENT – TRAFFIC AND CAR PARKING

Estate Road 01 and Precinct Road 01 have been designed to ensure safe and convenient access for large articulated vehicles can be achieved – providing access and appropriate manoeuvring to the heavy vehicle loading dock and hardstand areas of the proposed warehouse.

Further, on-site at-grade employee and visitor car parking areas have been designed to comply with Australian Standard AS 2890.1—1993 Parking facilities Part 1: Off-street car parking.

To determine the likely parking requirements for the proposed warehouse development the Bankstown Development Control Plan 2015 (DCP) has been used as a guide. Part B5 of the DCP indicates that the car parking rate for a 'warehouse/distribution centre' is 1 car space per 300 square metres of gross floor area. Based upon the DCP car parking rate, 123 spaces would be required for the proposed development. A total of 193 on-site car parking spaces are proposed, representing almost 60% more car parking spaces than required.

Such car parking is conveniently located to the office components of the warehouse development.

### 8.3.4 PROPOSED MANAGEMENT AND MITIGATION MEASURES

As previously detailed, the following road upgrades are proposed as part of the development:

- New access on Tower Road in the form of an all-movement priority intersection
- A new road, Estate Road 01, which will link Tower Road with Murray Jones Drive
- Widening the section of Tower Road between Henry Lawson Drive and the access road from two lanes (one lane each way) to four lanes (two lanes each way)

It is important to note that the benefit of the widening is only associated with the westbound approach to the Henry Lawson Drive intersection in order to reduce delays at the intersection. The additional lane in Tower Road eastbound is beneficial when a second right turn lane is introduced from Henry Lawson Drive into Tower Road, with further development in the future. However, there are likely to be efficiencies in widening both sides of Tower Road at the same time.

- Replacing the existing roundabout intersection with Starkie Drive to an all movement priority intersection to allow additional storage lane length to be provided on the Tower Road approach to the Henry Lawson Drive signals.

The VISSIM modelling indicates that this change does not result in a degradation of intersection performance.

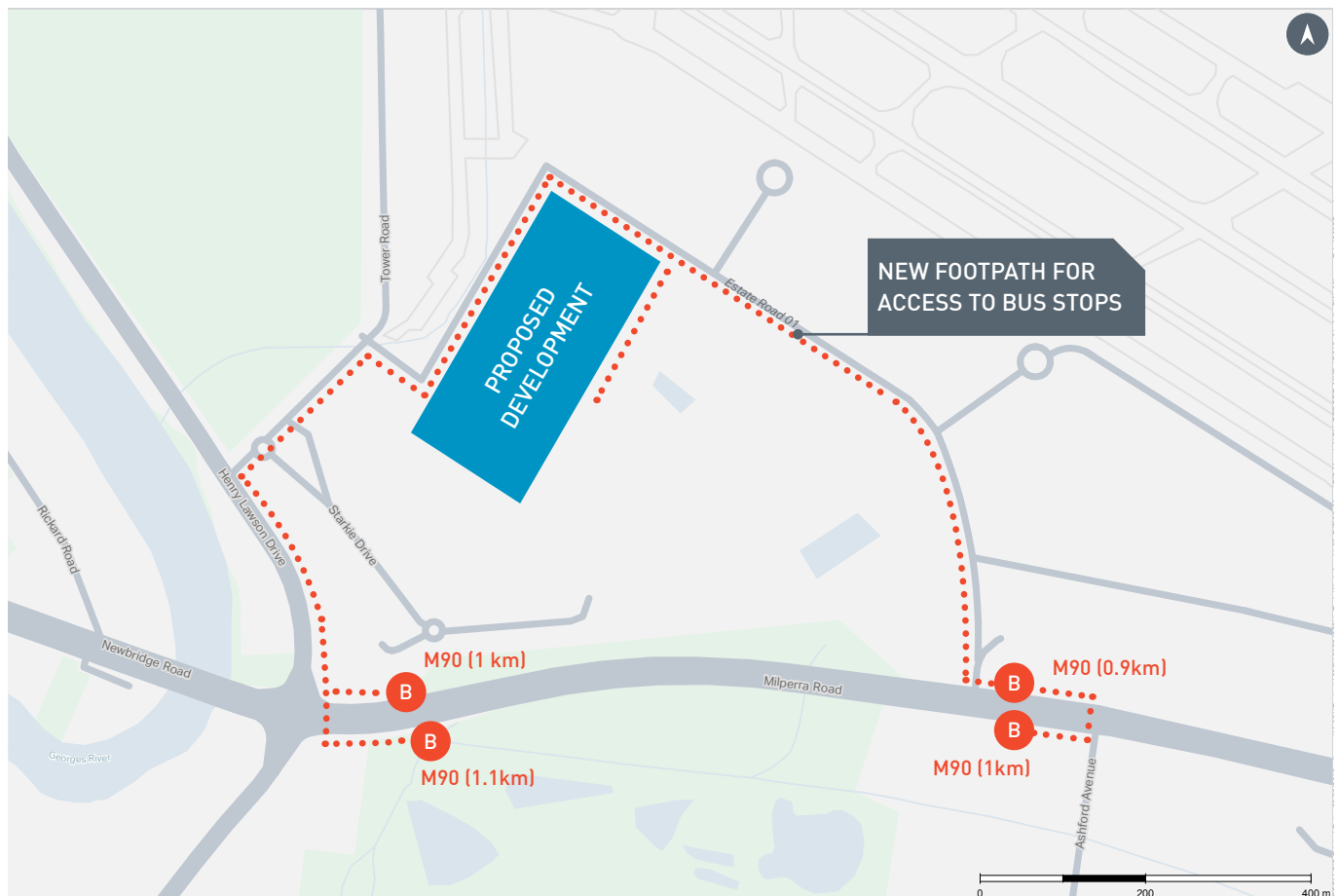
### 8.3.5 ACTIVE TRANSPORT OPPORTUNITIES

Figure 8.2 shows the location of the eastbound and westbound bus stops in relation to the proposed warehouse development within the Project Site.

The M90 bus service is currently in operation on Milperra Road, adjacent the southern boundary of the Project Site. Bus stops for eastbound and westbound travel are located within 900 metres and 1,000 metres, respectively, from the proposed warehouse development as shown in Figure 8.2.

Estate Road 01 will be constructed with a footpath along its south-western side, providing safe pedestrian access to the bus stops near the Murray Jones Drive/Milperra Road intersection.

Further, the proposed warehouse development is located 700 metres east of the closest dedicated shared cycle and pedestrian path along the western side of Henry Lawson Drive. Figure 8.3 shows the location of this dedicated cycle and pedestrian shared path near the proposed site. To facilitate access to this path, the widening of Tower Road will include a footpath along its southern side to align with the signalised pedestrian crossing at the Tower Road/Henry Lawson Drive intersection.



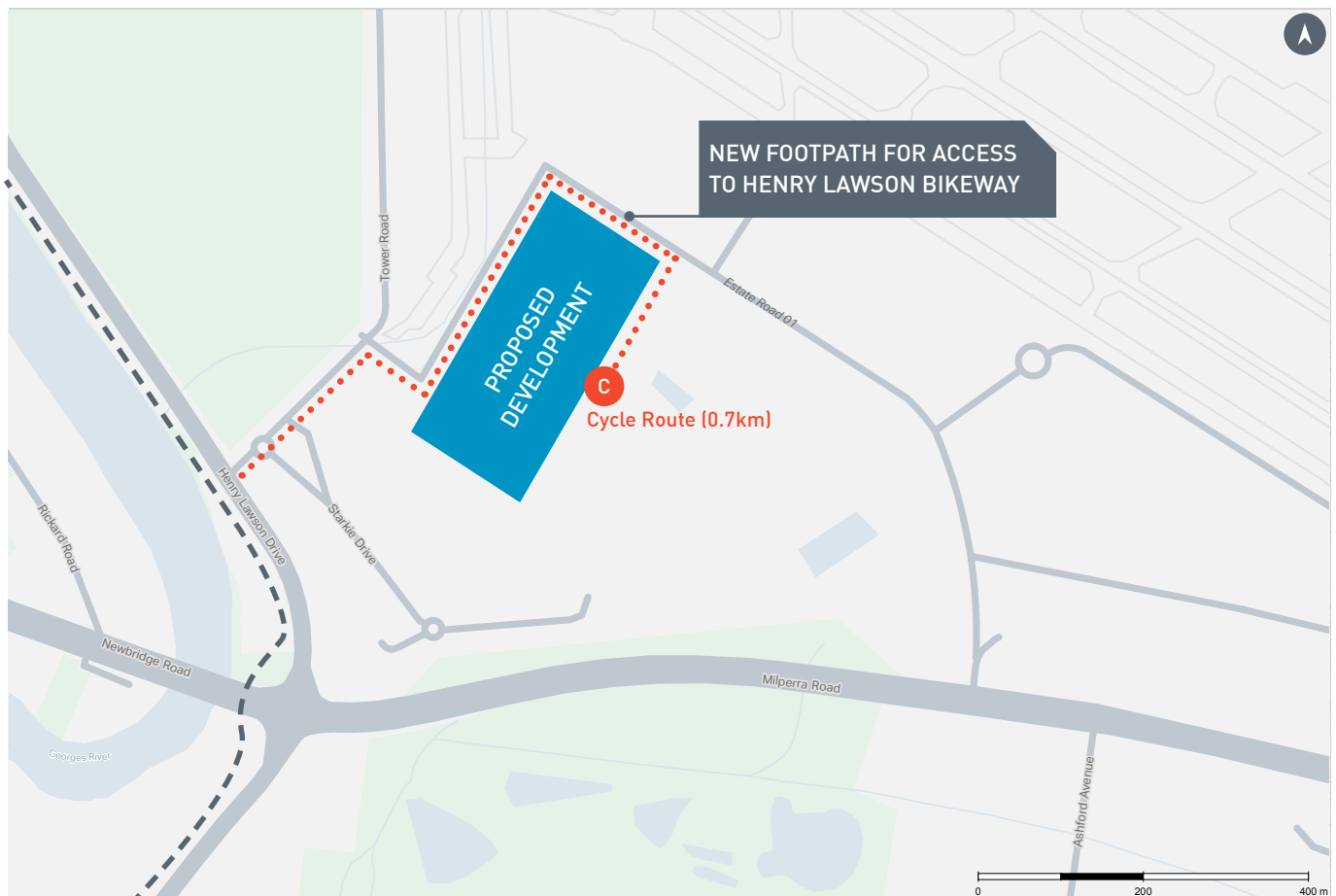
**Figure 8.2:** Location of Bus Stops in Proximity to the Site and Proposed Footpath [Source: Bitzios, 2018]



## 8.4 RELOCATIONS, RE-ROUTING AND TEMPORARY WORKS

Temporary traffic management measures are likely to be required during the construction phase on Tower Road, Starkie Drive and Murray Jones Drive.

The location and configuration of the temporary measures required to mitigate construction impacts will be identified in the Traffic Management Plan (TMP), forming part of the Construction Environmental Management Plan (CEMP). This will require consultation with all affected stakeholders.



**Figure 8.3:** Regional Shared Paths in Proximity to the Site and Proposed Path (Source: Bitzios, 2018)

## 8.5 POTENTIAL FUTURE WORKS

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Although beyond the scope of this MDP, consideration has been given to the traffic management requirements for a potential 'fully developed' precinct within the Project Site. It must be recognised that the future uses within the Project Site (with the exception of the Lot 5 – Mixed Use Site Area) will be limited to low traffic generating uses such as light industry/warehouse or hard stand areas. This will be achieved through the land use restrictions imposed in Master Plan 2019.

Master Plan 2019 proposes to update the land use planning framework for the Project Site and wider southern area of the Airport to a 'Commercial Zone', with the majority of the Zone being designated 'Industrial Warehouse and Commercial Precinct'.

When fully developed, the proposed 'Industrial Warehouse and Commercial Precinct' is planned to accommodate approximately 110,000 square metres of additional light industry/warehouse/hard stand development plus up to 10,000 square meters of mixed-use on Lot 5.

To develop a preliminary understanding of the scale of the required works under background traffic growth and full development of the Project Site, the VISSIM model was used to identify the future potential road upgrade requirements. Potential future upgrades, along with any associated triggers, timing and contributions will be discussed with the relevant authorities (including RMS, TfNSW and CBC), and these matters will be fully detailed in future development proposals.

# 9.0 ENVIRONMENTAL ASSESSMENT

THE PROJECT SITE HAS A NUMBER OF KNOWN ENVIRONMENTAL ISSUES, INCLUDING:

- FLOODING AND STORMWATER MANAGEMENT (WIDER AIRPORT AND CATCHMENT MANAGEMENT ISSUE)
- CONTAMINATION ISSUES, RELATING TO A FILL PLATFORM, STOCKPILES, AND POSSIBLE LOCATIONS OF PFAS WHICH ARE TO BE INVESTIGATED

IN ADDITION, CONSTRUCTION AND OPERATIONAL ENVIRONMENTAL ISSUES ALSO NEED CONSIDERATION. FOR EACH ENVIRONMENTAL ISSUE, CONSIDERATION WILL BE GIVEN TO THE EXISTING SITUATION, IMPACT ASSESSMENT, MITIGATION AND MANAGEMENT MEASURES.



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Bankstown Airport's 2014 Airport Environmental Strategy ensures Bankstown Airport Limited (BAL) meets its obligations under the *Airports Act* and the *Airports (Environment Protection) Regulations 1997* (Commonwealth) (the AEPR). It forms the central management tool that enables BAL to ensure the integrated environmental management of ground-based activities, and to avoid, or otherwise, mitigate the impacts of activities at the Airport on the environment and its surroundings. The strategy will be used as a guide when developing controls for managing potential environmental impacts of the project.

Environmental impacts of the project have been assessed and a strategy put in place to mitigate those impacts. Environmental impacts are assessed in relation to:

- Stormwater and hydrology
- Visual impact and massing
- Noise
- Archaeology and heritage
- Geology, hydrogeology and soil contamination
- Air quality
- Flora and fauna
- Waste management.

Likely impacts during construction and operation will be managed to acceptable levels through a range of mitigation measures. Measures related to construction would be incorporated in a project-specific Construction Environmental Management Plan (CEMP).

## 9.1 STORMWATER AND HYDROLOGY

IN ORDER TO ENSURE THAT THE DEVELOPMENT AT THE PROJECT SITE WILL NOT ADVERSELY IMPACT NEIGHBOURING PROPERTIES, OR THE GEORGES RIVER IN A FLOOD EVENT, BAL HAS PREPARED A FLOOD STRATEGY THAT TAKES INTO ACCOUNT THE ROLE OF THE AIRPORT IN THE BROADER MILPERRA CATCHMENT. THIS STRATEGY IS PROVIDED IN FULL AT APPENDIX G.

THE DRIVER BEHIND THE STUDY WAS TO “START BIG AND GET SMALL” THEREBY PROVIDING A MECHANISM TO FULLY UNDERSTAND THE ROLE OF THE PROJECT SITE IN THE CONTEXT OF BOTH THE BROADER AIRPORT AND THE MILPERRA CATCHMENT, OF WHICH IT FORMS AN IMPORTANT COMPONENT.

THE STUDY HAS ALLOWED A DESIGN RESPONSE ON THE PROJECT SITE THAT IS DEMONSTRATED TO HAVE NO ADVERSE OFF SITE IMPACTS TO NEIGHBOURING PROPERTIES WHILE ALLOWING FOR THE PRODUCTIVE DEVELOPMENT OF THE LAND ABOVE THE 1:100 FLOOD LEVEL .

### 9.1.1 EXISTING ENVIRONMENT

#### SURFACE WATER CATCHMENT AND STORMWATER NETWORK

Bankstown Airport lies to the north of the Milperra Drain within the Milperra Catchment and the Georges River floodplain. The upstream Georges catchment is approximately 571 square kilometres comprising urban and bushland area, which ultimately discharges to Botany Bay.

The topographic conditions on and around the Airport are shown on Figure 9.1.





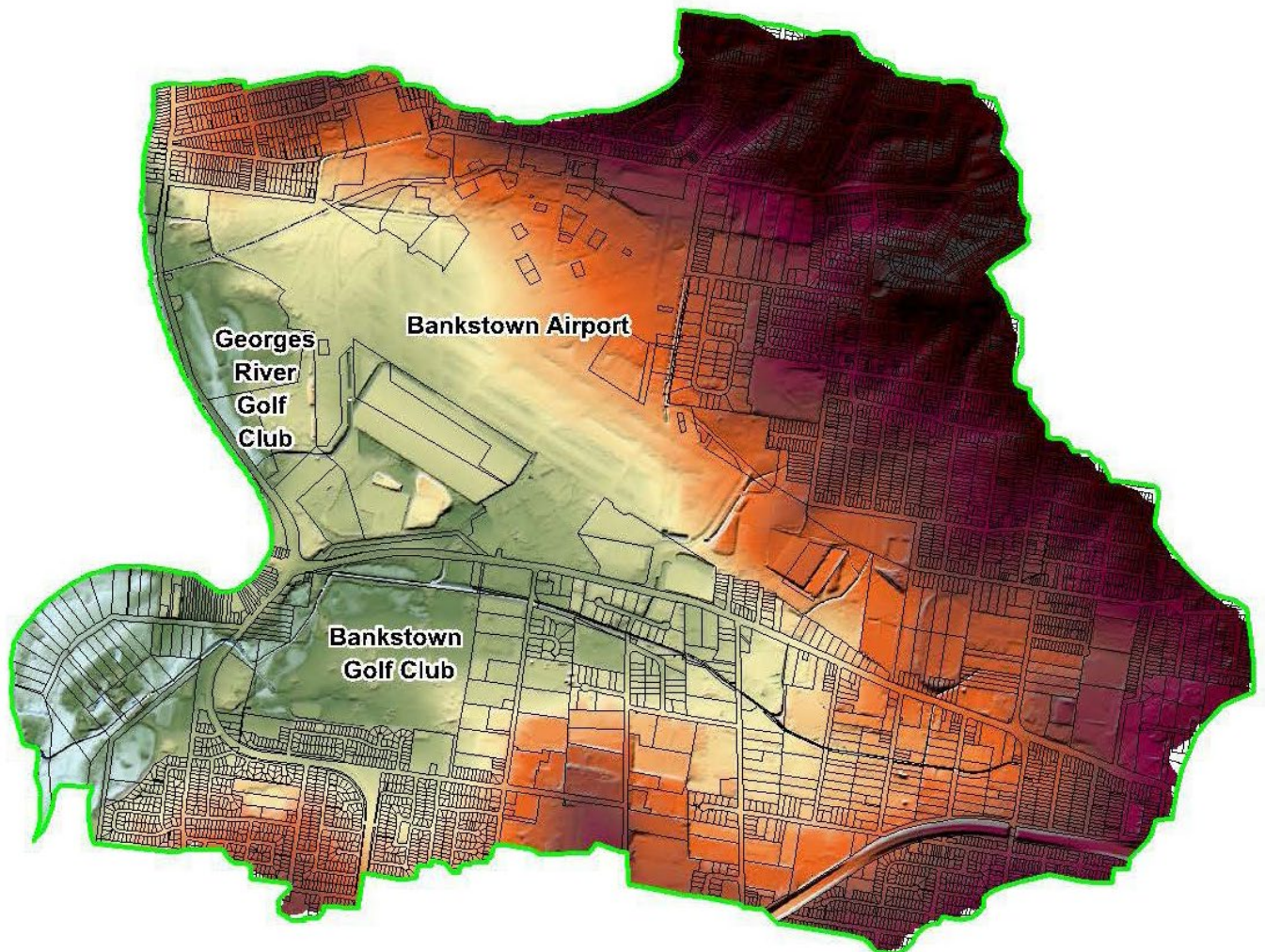
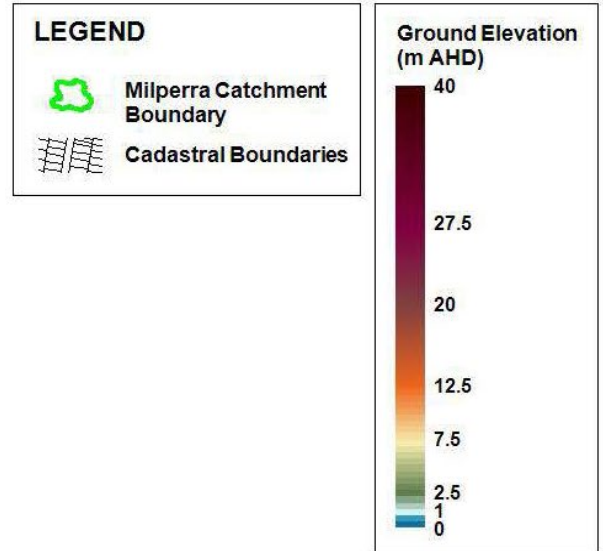
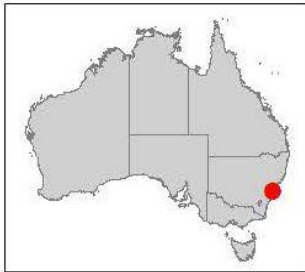


Figure 9.1: Milperra Catchment – Topography [Source: BMT WBM, 2015]

Bankstown Airport forms a large proportion of the Milperra Catchment area that contributes runoff to the local Milperra Drain, including approximately 50% of the existing open space areas within the Milperra Catchment. However, the Airport also receives runoff from upslope catchments (outside of the Airport) situated to its north and east. These external catchment areas are approximately 300ha – approximately the same size as the Airport (as shown Figure 9.2).

Stormwater at Bankstown Airport is collected through a system of pipelines, box culverts, open drains and drainage channels which discharge to five points on the Airport boundary (refer Figure 9.2).

Rainfall within the Project Site may land in one of two possible catchments discharging south to the Milperra Drain and west to the Georges River.

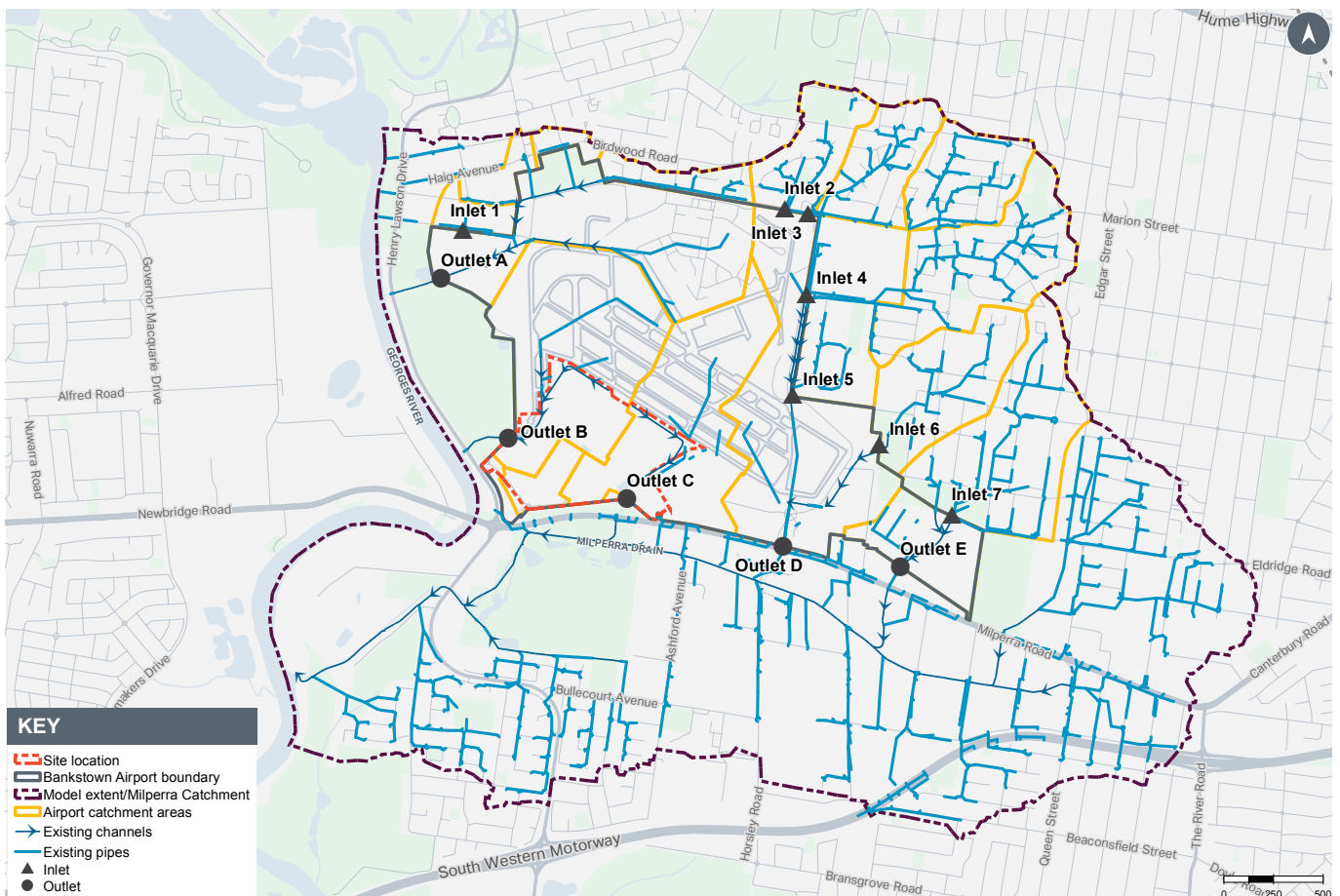


Figure 9.2: Local Catchment Plan and Drainage System (Source: AECOM 2018)

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## FLOODING

A Bankstown Airport Flood Strategy has been developed in collaboration with the Canterbury-Bankstown Council. Significant informal flood storage is currently provided on Bankstown Airport in localised depressions. The Project Site is affected by mainstream flooding from the Georges River and overland flooding also occurs during heavy rain events on the local Milperra catchment to the north and east.

The existing ground level within the Project Site footprint ranges from 1.2 to 6.0 metres Australian Height Datum (AHD). The 100 year average recurrence interval (ARI) event flood levels from the Georges River catchment reach a level of 6.0 metres AHD adjacent to the Project Site. As such, the Georges River 100 year ARI flood extent will impact on much of the MDP site, other than the existing fill platform.

Local catchment flood water generally enters the site from the north-east and drains across the site in a south-west direction. For the assessment of local catchment overland flooding from the Milperra Catchment, the 100 year ARI local storm has assessed in conjunction with the 20 year ARI Georges River main stream flood (consistent with Council practice for combined probability assessment). Flood depths resulting from this assessment are less than those resulting from Georges River main stream flooding. Areas to the south of the Project Site are flood affected by flooding associated with the Milperra Drain, which conveys much of the runoff from the local Milperra Catchment (refer Figure 9.3 which shows water inlets and discharge points at the Airport).

Council flood risk mapping identifies the majority of the Project Site as having a 'Medium Flood Risk'. Medium flood risk means the majority of the existing land is below the 1% Annual Exceedance Probability (AEP) flood level that is not subject to high hydraulic hazard and where there are no significant evacuation difficulties. A significant risk of flood damage remains, but damage can be minimised by the application of appropriate development controls such as raising the building finished floor levels to a minimum of 6.3 AHD.

The fill platform at the Project Site is at or above the 1% AEP level and are therefore identified as having a 'Low Risk'. Likewise, any new development on the Project Site will also be identified as "Low Risk".



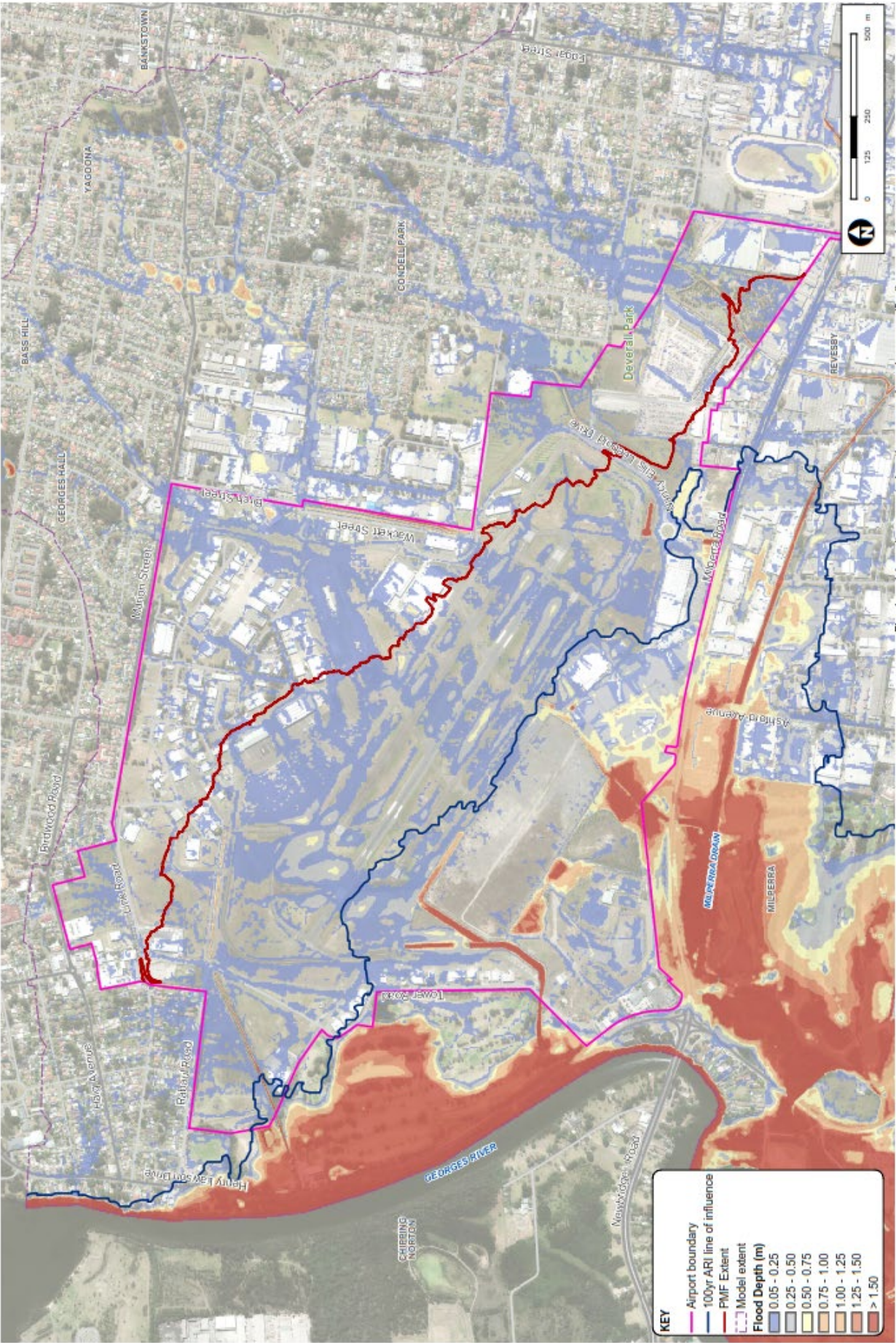


Figure 9.3: Bankstown Airport – Indicative Existing Flooding Conditions (1:100 overland and 1:20 mainstream) [Source: AECOM, 2018]

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## SURFACE WATER QUALITY

Surface water quality monitoring is undertaken every six months in accordance with the Bankstown Airport Water Quality Management Plan (2012). The quality of the surface water is monitored along both stormwater channels that could contain run-off from the site (shown on Figure 9.2).

Monitoring results along these two channels has indicated some exceedances of surface water quality limits listed in Schedule 2 of the Regulations for contaminants including metals (e.g. copper and zinc) and nutrients levels. These exceedances are not unusual for a well-established and urbanised area of Sydney and with a former landfill site to the north-east of the Project.

The quality of water draining onto Bankstown Airport is affected by the surrounding land uses. Overall, the Georges River catchment has historically been subject to pollution as a result of industrial and residential development in the catchment. The exact source of existing contaminants is difficult to ascertain and is likely to be associated with non-point source pollutants such as vehicular traffic, building materials or related to the local geology and soils.

## 9.1.2 IMPACT ASSESSMENT

Earthworks and filling will be required to raise development sites above the local 1% AEP flood level within the Georges River floodplain. Compensatory floodplain storage will be provided to offset any floodplain filling and ensure no incremental impacts on flood levels resulting from reduced floodplain storage. Where possible, fill material would consist of re-used material.

During construction of the project, earthworks and lot-forming activities must be managed to prevent discharge of potential sediment, chemical and hydrocarbon pollutants to the Georges River.

The project will result in an increase in impervious areas and will impact the volume of stormwater runoff during operation. The quantity of runoff from additional impervious areas will be managed through attenuation to reduce risk of flood impacts on downstream areas, both during frequent and rare storm events. The Project Site will discharge to drainage systems within existing flood prone areas to the south of the Airport.

During operation of the development, the quality of stormwater runoff discharged to the Georges River and ultimately Botany Bay will be treated to achieve the water quality targets specified in the Botany Bay Water Quality Improvement Plan. This applies to generic stormwater pollutants such as nutrients, litter, sediment, hydrocarbons and heavy metals and also specific stormwater pollutants over other parts of the Airport site which may result from any future spills and leaks occurring during aircraft servicing, maintenance and refuelling.



### 9.1.3 MITIGATION AND MANAGEMENT MEASURES

#### FLOODPLAIN STORAGE

Flood risk on the Project Site (including future stages) will be managed by raising the warehouse building and associated offices above the 1% AEP flood level (6.0 metre AHD) along with a minimum 300 millimetre freeboard in accordance with the 2014 Master Plan.

The proposed earthworks design for the project, including filled areas and detention basins, will provide a floodplain storage volume of approximately 165,000 cubic metres below 6.0 metre AHD. This floodplain storage volume has been assessed in the Tuflow Flood model provided by Canterbury-Bankstown Council and has demonstrated that there are no detrimental off-site impacts in flood conditions.

#### STORMWATER MANAGEMENT DURING OPERATION

The Bankstown Airport Site-Wide Flood and Stormwater Management Strategy (AECOM, 2018) (Stormwater Management Strategy- Appendix G) outlines how trunk stormwater and flood management works can be implemented across Bankstown Airport in order to mitigate flood and stormwater impacts associated with any foreseeable development of the airport site including the 'fully developed' precinct within the Project Site.

Canterbury-Bankstown Council has been consulted during the development of the Strategy.

The flooding assessment informing the Stormwater Management Strategy has been carried out in accordance with Council endorsed studies, including for the Georges River. When new studies become available and endorsed by the Canterbury-Bankstown Council, flood modelling and management measures will be updated as required. The key management outcomes of the Stormwater Management Strategy, which includes stormwater management infrastructure in the South West Precinct, are as follows and outlined in Figure 9.4. A copy of the draft Strategy is provided at Appendix G.

End-of-pipe flood detention basins proposed under the Stormwater Management Strategy will attenuate stormwater volumes from the Project Site to prevent increases in downstream flood levels resulting from local catchment flood events up to the 1% AEP event.

Drainage swales and biofiltration within detention basins would be deployed to achieve the pollutant load reduction targets (in terms of total nitrogen, total phosphorous and suspended sediment) required to protect the condition of Botany Bay, its estuaries and waterways, which includes the Georges River and Milperra Drain. The swales and biofiltration basins would be designed to hold water for up to 24 hours after rainfall. The basins will be designed to accommodate maintenance which will ensure that the basins do not hold surface water for extended periods. Measures to prevent the basins becoming bird habitats include the basin design, planting choice and vegetation management, and potentially netting if required.

Staging of drainage works will be incorporated into any work permits applications and would broadly comprise the following indicative steps:

- Site clearance
- Temporary stormwater detention basis to be established (during construction phase)
- Establishment of access roads/haul roads, etc.
- Temporary site works areas

Prior to finalisation of the project, detailed design and flood modelling will be carried out to optimise the size of trunk drainage infrastructure and confirm that the earthworks, roads, drainage and any staged stormwater management works, including temporary fencing or barriers, are re-modelled to confirm that the hydraulic and hydrologic performance is consistent with the Stormwater Management Strategy.



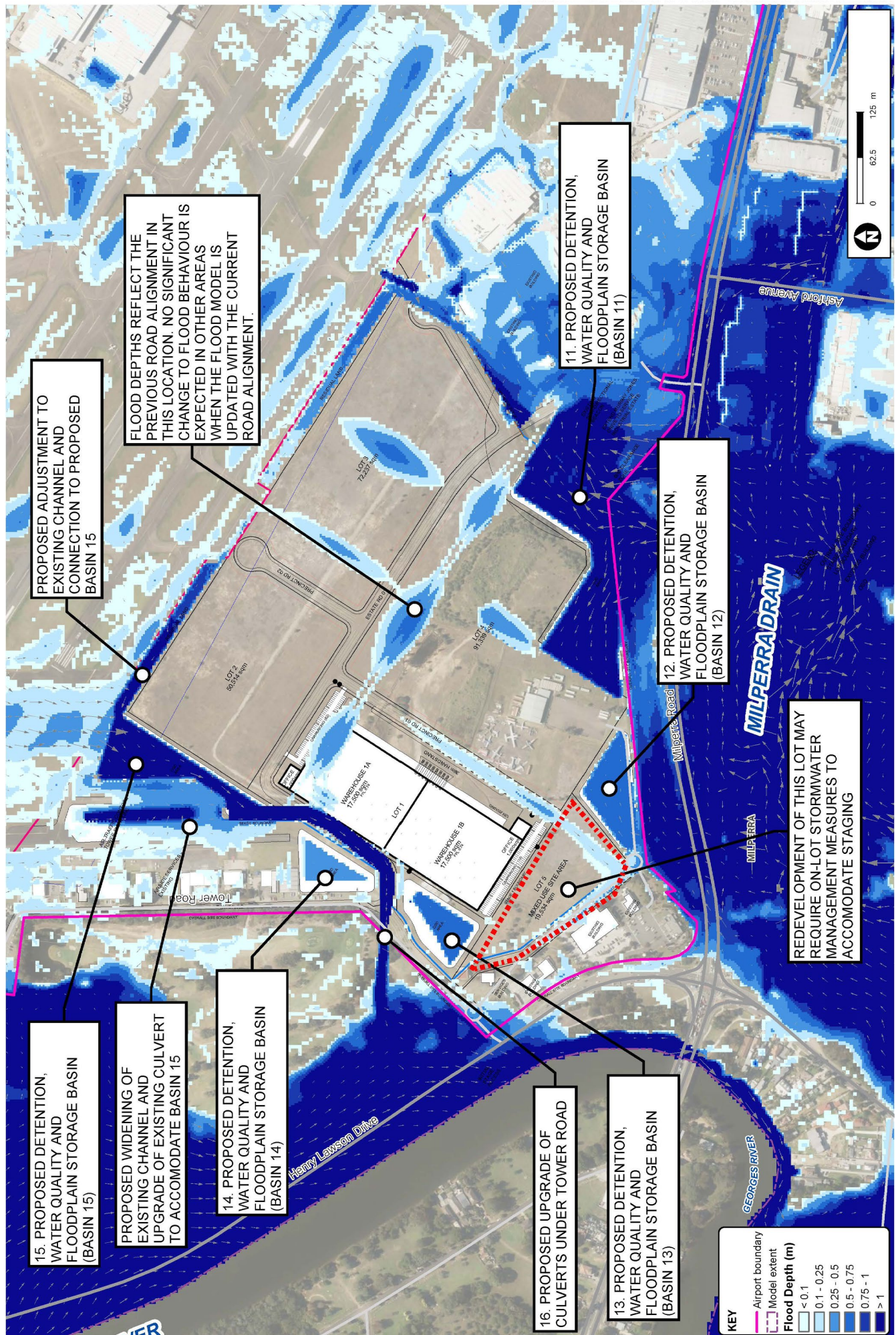


Figure 9.4: South West Precinct – Proposed flood and stormwater management strategy [1 in 100 year ARI] [Source: AECOM, 2018]



## SOIL AND WATER MANAGEMENT DURING CONSTRUCTION

Earthworks will expose soil that might run off into Bankstown Airport's stormwater system. Such exposed soils may contain hydrocarbon or asbestos contamination which may be subject to run-off and dispersion in rainfall events. Controls will therefore be installed and maintained as specified in the "Blue Book" – Managing Urban Stormwater: Soils and Construction (Landcom, 2004).

These controls, designed to minimise sediment-laden run-off during excavations and minor earthworks, include, but are not limited to:

- Inspecting erosion and sediment controls for effectiveness
- Construction planning to limit the extent of area and duration that ground surface is exposed
- Allow sediments to settle out, direct run-off to sediments ponds and control the release of water to the drainage system
- Dust suppression measures will reduce the potential for sediment to be transported into the airport's stormwater system, such as dust mesh, water trucks, and sprinklers
- Pollution control devices (some are already present in the main areas of the Airport), including absorbent booms installed on the drains.

## SPILL MANAGEMENT

In addition, during construction and operation, to minimise the potential for leakage of stored plant fuel and chemicals into the drainage system, the appropriate preventative and management measures will be finalised during detailed design. These may include, but are not limited to:

- Providing bunds for fuel storage areas
- Conducting refuelling in designated areas
- Containing and collecting all spills for treatment and disposal at designated sites.

As part of the Bankstown Airport Environment Strategy, bi-annual stormwater testing will continue through the construction and operation of the construction and operational phase for development associated with this MDP.

## FLOOD EVACUATION DURING CONSTRUCTION AND OPERATION

Modelling shows that the Project Site will be trafficable in a 1% AEP local storm event. A site evacuation plan will be developed for more extreme events up to a Probably Maximum Flood (PMF) event.

## 9.2 GEOLOGY, HYDROGEOLOGY AND SOIL CONTAMINATION

Numerous and detailed contamination investigations have been undertaken across the Project Site, including over 300 boreholes and test pits and over 400 laboratory samples subjected to independent NATA accredited lab analysis.

The following section provides a summary of the investigations undertaken, further detail is provided in Appendix H.

### 9.2.1 EXISTING ENVIRONMENT

The Project Site is predominantly vacant airport land, with a small portion occupied by the former aviation museum, some redundant buildings, a services building and three buildings along Tower Road. The redundant buildings, located on the western corner of the Project Site adjacent to Tower Road were formerly used as flying schools and a spray painting facility. In 2008, “Stage 1” bulk earthworks were undertaken across the Project Site to facilitate proposed redevelopment, including construction of a raised platform and drainage works (refer to Section 2.2.1).

A total of 11 separate studies, including associated investigation and analysis, have been carried out at the Project Site between 2005 and 2018 to understand the issues around site contamination. These investigations are listed below, with some of the key works that have been undertaken demonstrated on Figure 9.5 (works prior to June 2018) and Figure 9.6 (most recent works).

- Consulting Earth Scientists (November 2005) Stage 2 Environmental Site Assessment: Area 6, Bankstown Airport (CES, 2005)
- Consulting Earth Scientists (April 2009) Environmental Management Plan: Construction Phase, Stage 1 – South West Precinct, Bankstown Airport NSW (CES, 2009)
- DLA Environmental (May 2009) Asbestos Contamination Assessment: South West Precinct Stages 1 and 2, Bankstown Airport (DLA, 2009a)
- DLA Environmental (May 2009) Remediation Recommendations Asbestos Contamination: South West Precinct Stages 1 and 2, Bankstown Airport (DLA, 2009b)
- DLA Environmental (May 2009) Remediation Recommendations Asbestos Contamination: South West Precinct Stages 1 and 2, Bankstown Airport (DLA, 2009c)
- Consulting Earth Scientists (November 2013) Bankstown Hyperdome Site Remediation Strategy (CES, 2013)
- DLA Environmental (May 2014) Fill Material Landuse Suitability Assessment: Lot 305 DP10774400, 41 L Starkie Drive, South West Precinct, Bankstown Airport (DLA, 2014)
- DLA Environmental (March 2015) Fill Material Landuse Suitability Assessment: Lot 305 DP10774400, 41 L Starkie Drive, South West Precinct, Bankstown Airport (DLA, 2015)
- Jacobs (January 2017) Preliminary PFAS Risk Assessment for Bankstown Airport (DLA, 2017)
- Jacobs (June 2018) Preliminary Contamination Investigation, South West Precinct, Bankstown Airport
- Jacobs (August 2018) Contamination Investigation, South West Precinct, Bankstown Airport.

Geology of the Project Site is characterised by unconsolidated alluvial clay, silt, sand and gravel deposits and is part of the wider Sydney Sandstone geologic region. Shallow groundwater, where present, is likely to be perched above the natural clay soils and is anticipated to flow in a south-westerly direction towards the Georges River. Volatile organic compounds (VOC) are known to be present in groundwater to the east of the Project Site (within the former Boeing site).

The majority of the Project Site has been classified as Class 3 acid sulfate soils. Acid sulfate soils in Class 3 areas are likely to be found beyond one metre below the natural ground surface. Any works that extend beyond one metre, or works which are likely to lower the water table beyond one metre below the natural ground surface, will trigger the requirement for assessment and may require additional management.



# LEGEND

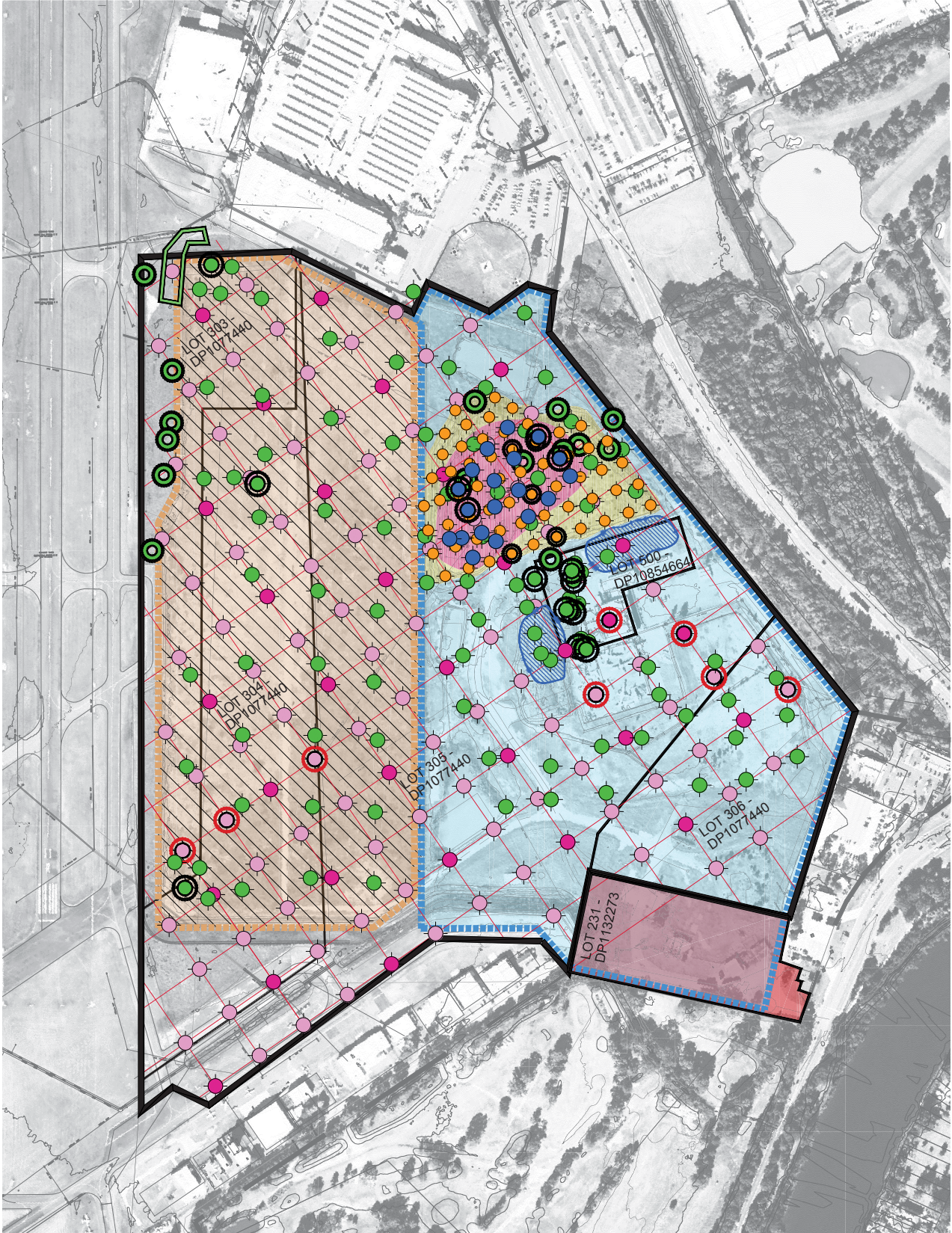
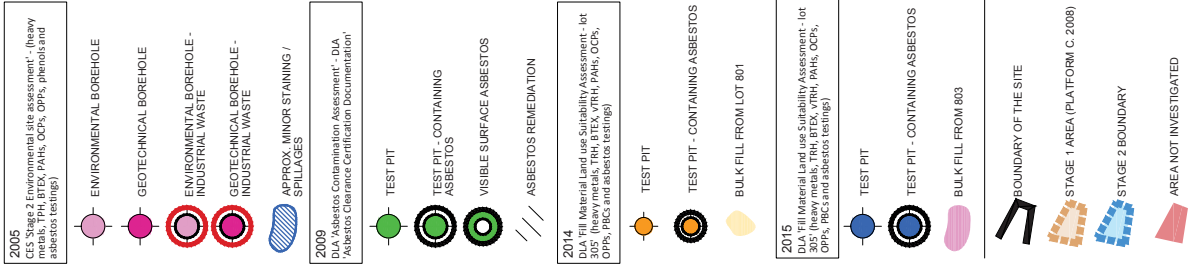


Figure 9.5: South West Precinct Contamination Summary [Source: Jacobs, June 2018]



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## 9.2.2 IMPACT ASSESSMENT

A Tier 1 Contamination Investigation, prepared in accordance with current National Environment Protection (Assessment of Site Contamination) Measure (NEPM) standards, was undertaken for the Site (Jacobs, August 2018). The investigation relates to the entire Project Site with the exception of the aviation museum lease area.

The report found that the Project Site in its existing condition (subject to the results of the aviation museum lease area investigation) is considered suitable for commercial / industrial uses subject to appropriate environmental management plans. Commercial / industrial use is consistent with the use proposed by this MDP.

The following is known with respect to contamination at the Project Site:

- Bonded and friable asbestos containing materials (ACMs) have been identified at the surface and buried in fill material and stockpiles at locations across the Project Site.
- Benzo(a)pyrene contamination has been identified in stockpiled material at isolated locations across the Project Site (DLA, 2014). The elevated benzo(a)pyrene concentrations are likely to be associated with bitumen identified within the material sampled
- Localised hydrocarbon staining was present in the vicinity of the former aviation museum
- PFAS was detected within the former plane parking area (in the western portion of the investigation area).

Jacobs has undertaken a review of all analytical data provided and has assessed concentrations in context of the current NSW EPA endorsed guidelines and the *Airports (Environment Protection) Regulations 1997* (AEPR). The results indicate that only one sample for Benzo(a)pyrene, one sample for total PAH, one sample for PFAS and 18 samples for asbestos exceeded the respective guidance for the protection of human health in context of the site use (i.e. commercial/industrial and airport use).

The elevated Benzo(a)pyrene and total PAH concentrations in one sample are likely to be associated with bitumen materials observed at the sample location. These compounds are likely to be well bound within the bitumen and are unlikely to be readily leachable. In this bound and low leachable condition, these compounds are unlikely to represent an ongoing risk to environmental (groundwater and surface water) receptors.

The PFAS detected in one sample within the former plane parking area is likely to be associated with hydraulic leaks.

Asbestos is likely to be present at the surface and throughout the fill material (placed and stockpiled) present across the site. Considering that the majority of the site is highly modified from extensive filling (likely to represent a highly disturbed terrestrial ecosystem with little ecological value), the exceedances of relevant guidelines and criteria are unlikely to pose a risk to terrestrial ecosystems (if present) within this area or represent a risk to environmental receptors.

Potential impacts of development with regard to soil contamination include the excavation of potentially contaminated soils or encountering potential acid sulphate soils during construction activities. The proper management and containment of fuel and other materials during construction and operational phases of the proposal, will mitigate the risk of further contamination within the project area.

### 9.2.3 MITIGATION AND MANAGEMENT MEASURES

Based on the results of the investigations undertaken to date (and subject to the results of proposed investigations / appropriate environmental management plans being implemented) the Project Site in its current condition is suitable for commercial/industrial land uses.

Environmental management plans (EMP) will be implemented during both construction and occupation to manage potential exposure to site occupants and adjacent land users. Further testing may be required as the proposed works progress and further soils are exposed.

The NEPM (2013) and Western Australian Department of Health (2009) guidelines (the key guidelines for asbestos management in Australia) state that where asbestos is known to be present, a management plan to control risks is to be adopted.

A Construction Environmental Management Plan (CEMP) will be prepared to control the risks associated with asbestos, PFAS and potentially other contamination (if present). This CEMP would include management of risks during both construction and ongoing management of the development.

Management of asbestos in situ, which may include uncontaminated fill, concrete or other protective or warning layers, is encouraged by the NEPM (2013) and WADOH (2009) guidelines and is the typically adopted approach. The health risks posed by a well-managed site are likely to be negligible and there are no known remediation technologies to destroy asbestos thus moving it would only result in moving the problem elsewhere. Management of asbestos at the Project Site will therefore align with this recommended and preferred method.

Critically, having a CEMP and an EMP in place with robust management and oversight and capping the asbestos (with uncontaminated fill or concrete), will provide a better outcome and lessen risk compared to the current situation at the Project Site.

Any PFAS contaminated material would be handled appropriately and disposed of in an environmentally sound manner such that potential for the PFAS content to enter the environment is minimised. The CEMP will contain procedures that must be followed for assessing and managing contamination of soil and water by PFASs. The CEMP will be developed and implemented prior to the commencement of any horizontal or vertical construction or other works that have the potential to disturb areas of known or potential PFAS contamination.

There is an ongoing requirement for supervision and careful assessment of fill materials in any cases where excavation is planned or where fill from below the surface is exposed. Visual inspections, sampling and analysis for asbestos will be conducted where appropriate. All persons or contractors working on the site will be made aware of the need and requirements for supervision and assessment and will be made part of site inductions for relevant personnel. Further protocols for the management of fill material would be covered in the CEMP.

Groundwater and vapour monitoring will be undertaken along the eastern portion of the Project Site, adjacent to the former Boeing facility, during both construction and management of the development. Monitoring would focus on volatile organic compounds which pose the risk of accumulating within buildings or other below and above ground structures.

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Based on the investigations to date, no site-specific remediation program has been identified as required. This means there is no current identified need for a Remedial Action Plan (RAP). Instead, supervision with adequate testing as outlined above, and classification of fill materials undertaken at the time of excavation and any off-site disposal would be considered sufficient (to minimise the potential health and ecological impacts associated with contaminated soil and will prevent contamination of adjoining properties). The need for a RAP/s will however need to be revisited following investigation of the aviation museum lease area.

The measures outlined above will be incorporated into the CEMP and implemented during construction activities.



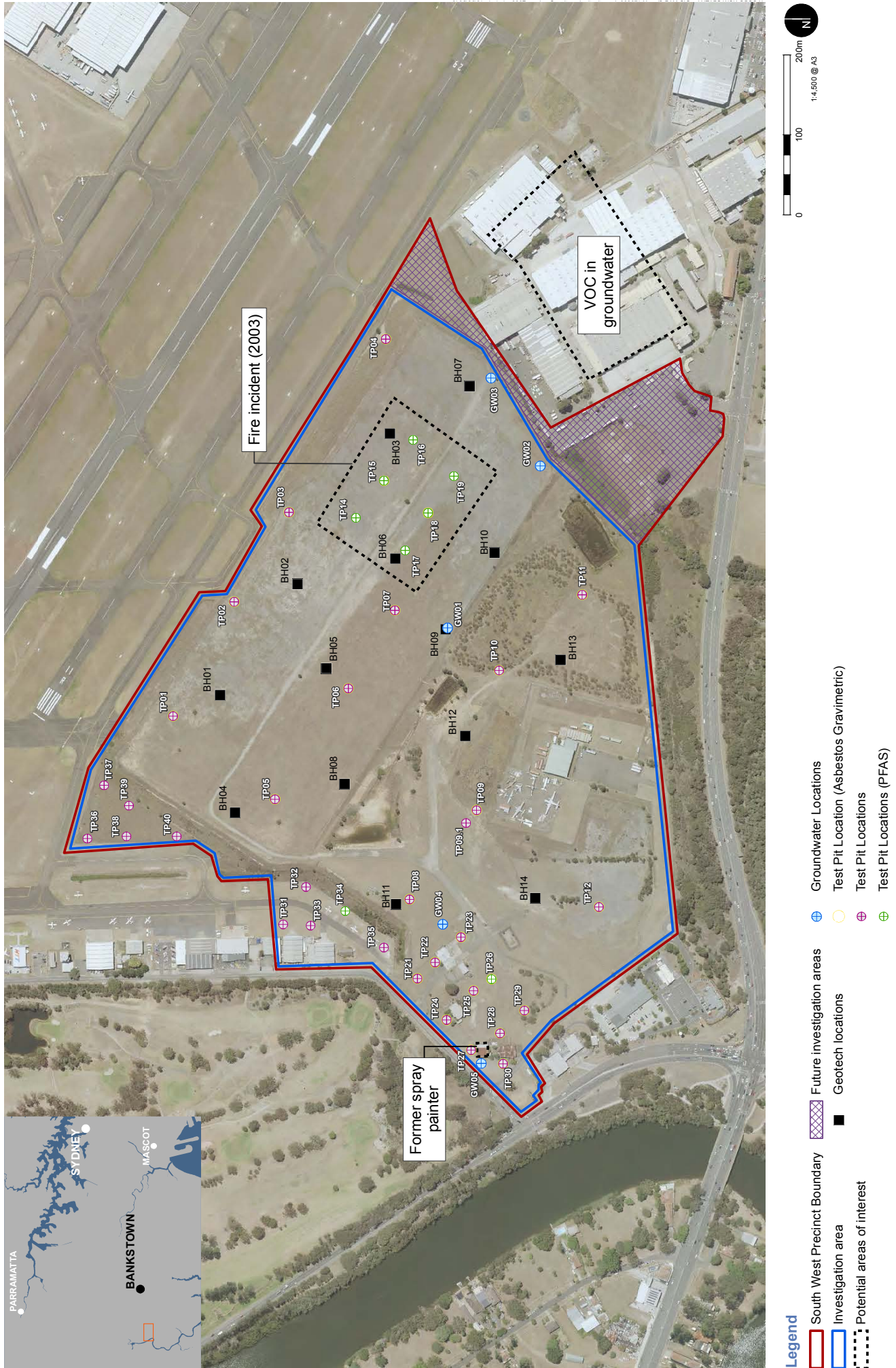


Figure 9.6: Locations of the most recent investigations at the Site (Source: Jacobs, August 2018)

## 9.3 FLORA AND FAUNA

Flora and fauna at Bankstown Airport is subject to the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Management of any biodiversity values at Bankstown Airport must be aligned with the Bankstown Airport - Airport Environment Strategy 2014 which aims to protect environmentally significant and sensitive areas, manage bushland adjacent to Deverall Park as a habitat to protect its flora and fauna values and to contribute to the protection of native flora and fauna and their habitat at the Airport.

An Ecological Impact Assessment was undertaken for the Project Site by Cumberland Ecology. The following section provides a summary of the findings and the full impact assessment is provided at Appendix I.

### 9.3.1 EXISTING FLORA AND FAUNA ENVIRONMENT

The Airport is located within a long-established urban setting and much of the Project Site was filled in 2008. The vast majority of the Project Site comprises exotic grassland, with some small occurrences of young native and non-native regrowth (grown from fill) and a single remnant native *Angophora costata* (Smooth-barked Apple) tree. No threatened flora species were recorded within the Project Site based on targeted surveys. The vegetation is highly disturbed, as it has mostly regrown from fill and is regularly slashed.

Five wetland areas, including artificially constructed dams and a drainage line occur on the Project Site. The wetland areas do not conform to the listing of Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, which is an endangered ecological community, listed under the New South Wales *Biodiversity Conservation Act 2016* (BC Act). Artificial wetlands created on previously dry land for purposes such as sewerage treatment, stormwater management and farm production, are not regarded as part of

this community, and as the wetlands have all been artificially constructed on previously dry land, and have been confirmed not to comprise endangered ecological communities.

A total of three weeds recorded within the Project Site are listed as State priority weeds, or regional priority weeds listed under the Greater Sydney Regional Strategic Weed Management Plan 2017-2012. Two of these species are also nationally listed Weeds of National Significance; *Asparagus asparagoides* and *Senecio madagascariensis*.

Fauna habitats are highly limited on the Project Site and are predominantly comprised of exotic grassland. It is likely to support only 'hardy' natives, including common urban birds, and species associated with farm dams, such as eels, frogs and turtles. Wetland areas on the Project Site present a low to moderate quality habitat for the threatened Green and Golden Bell Frog. However, the presence of Mosquito Fish, a predatory fish species, greatly reduces the habitat suitability of the dams.

The patches of regrowth Swamp Oak and regrowth Acacia scrub provide some habitat for fauna, including foraging habitat for small birds, the Grey-headed Flying-fox (*Pteropus poliocephalus*) and potentially microbats. No hollows were recorded from the trees on the site, which significantly limits the utility of the area as habitat for native fauna species.

A number of derelict buildings (which are to be demolished) are present in the south-western corner of the Project Site. These buildings could potentially provide roosting habitat for a number of threatened microbat species including the Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*), Little Bentwing-bat (*Miniopterus australis*), Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*) and Southern Myotis (*Myotis macropus*).

## 9.3.2 IMPACT ASSESSMENT

### ECOLOGICAL COMMUNITIES

The main vegetation community impacted by the proposed development is Exotic Dominated Grassland.

Wetland vegetation will also be removed. However, this community is associated with constructed dams, and is not highly diverse. Therefore, the conservation significance is reduced.

Swamp Oak regrowth would be removed, which is associated with small drainage lines. Additionally, areas of Acacia scrub regrowth would be removed, which have regrown on fill stockpiles.

The removal of these communities from the Project Site will not have a significant detrimental impact on the biodiversity values of the site or locality, as the vegetation offers little ecological value.

No endangered ecological communities listed under either the BC Act or the EPBC Act are present on the Project Site, and no impacts to endangered ecological communities are predicted to occur.

### FLORA SPECIES

No threatened flora species have been recorded on the Project Site or are considered likely to occur.

The threatened flora species previously recorded elsewhere at Bankstown Airport; *Hibbertia puberula* subspecies *glabrescens*, *Hibbertia fumana* and *Acacia pubescens*, have not been recorded on the Project Site, and are considered unlikely based on the lack of native groundcover species, and dense exotic grass cover present. The entire Project Site was previously filled, and all of the vegetation communities present are considered to be artificial.

Therefore, the proposed development is unlikely to impact on any threatened flora species listed under the BC Act or EPBC Act, or impact suitable habitat for threatened species.

### FAUNA

No threatened fauna species have been recorded from the Project Site due to the lack of suitable habitat and the extent of previous disturbance. Several threatened fauna species have been recorded from the locality and some have limited potential to occur due to the presence of suitable foraging habitat.

Potential habitat for the Green and Golden Bell Frog was identified, based on the presence of suitable wetland and shelter habitats. Based on targeted surveys, the species was not detected. The closest records for the species are not recent, and it is considered likely that a viable population is no longer present in Western Sydney, or close to the Project Site. For these reasons, it is considered that the proposed development will have no impact on Green and Golden Bell Frog.

Threatened fauna species considered to have potential and may be affected by the removal of habitat include four bird species, the Grey-headed Flying-fox and seven microchiropteran bat species.

The removal of derelict buildings and sheds would remove some potential roosting habitat for a number of 'cave' dependant microbats. The potential for bats to be roosting was not able to be verified, but would be managed through the implementation of mitigation measures prior to and during construction, as described in Section 9.3.3.

The habitat present for these threatened fauna species is considered marginal, and the removal of exotic and regrowth vegetation is unlikely to represent a significant area of habitat for these species. The bird and bat species are highly mobile, and would forage over a much broader area.



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### 9.3.3 MITIGATION AND MANAGEMENT MEASURES

Mitigation and management measures to minimise the impacts during construction of the project will be outlined in the CEMP and will include the following:

#### VEGETATION PROTECTION

To avoid unnecessary removal or damage to vegetation occurring outside of the Project Site, the clearing area would be demarcated and signed (where appropriate), to ensure no vegetation beyond these boundaries is removed. Clearing works and equipment would be excluded from areas outside the clearing area. Site inductions are to be given by the civil contractor to ensure all site workers and visitors are aware of project area boundaries.

#### EROSION, SEDIMENT AND POLLUTION CONTROL

Potential impacts to flora and fauna occurring in the construction phase that can be managed include:

- Run-off
- Sedimentation
- Erosion
- Pollution.

To reduce sedimentation on the construction site, erosion control measures will be implemented and outlined within the CEMP. These measures will focus on containing all sediments, and pollutions are retained within the Project Site.

#### DAM DEWATERING SUPERVISION

The dams on the Project Site will be dewatered prior to excavating or filling. The dewatering process will be supervised by the Bankstown Airport Environment and Heritage Manager to minimise impacts on native aquatic fauna that may be present. A dewatering protocol will be prepared prior to dewatering being undertaken and outline the necessary steps to be followed during dam dewatering to minimise impacts on native aquatic fauna.

Due to the potential for contamination in the soil and waterbodies from Polyfluoro Alkyl Substances (PFAS), all fauna may need to be euthanised, rather than translocated to another waterbody to prevent spread of potential diseases.

#### WEED CONTROL MEASURES

The priority weed species occurring within the Project Site will be managed in order to prevent further spread. Weeds will be disposed of appropriately as identified in the Regional Strategic Weed Management Plan.

#### FAUNA MANAGEMENT

A Fauna (and Flora) Management Study has been undertaken for the Project Site. This Strategy will be used to manage potential fauna that may be found during the operational phase of the development.



## 9.4 HERITAGE AND ARCHAEOLOGY

Heritage is generally regulated through State legislation and planning instruments at a Local Government level. However, Bankstown Airport is located on Commonwealth Government land and is therefore subject to Commonwealth legislation.

The Airports Act requires BAL to take all reasonable measures to ensure that there are no adverse consequences for existing heritage items and to consult with a suitably qualified person in regard to these items, particularly in relation to significance and conservation.

Natural, Aboriginal and non-Aboriginal heritage values at Bankstown Airport are protected under the *Environment Protection and Biodiversity Conservation Act 1999*. Furthermore, the *Commonwealth Australian Heritage Council Act 2003* requires airports to conserve structures listed on the National and Commonwealth Heritage Lists.

The Bankstown Heritage Management Plan 2015 (HMP) provides the basis for decision-making in relation to the non-Aboriginal heritage values the Bankstown Airport site. Policies for appropriate development of the Airport site are outlined, along with conservation measures for individual items. The HMP is being updated as part of Master Plan 2019.

Potential impacts to Aboriginal and non-Aboriginal heritage values as a result of the Project have been assessed by AECOM. The following section provides a summary of the findings of these (the full impact assessments are provided at Appendix J).

### 9.4.1 EXISTING ENVIRONMENT

#### IDENTIFIED ITEMS OF ABORIGINAL CULTURAL HERITAGE

The Airport site would have been a favourable location for local Aboriginal people prior to European settlement, given its proximity to the Georges River. However, the whole of the Airport has been extensively cleared and regraded over the majority of its area to make it suitable for its present purpose. Hence, the potential for the occurrence of Aboriginal sites in surface and subsurface contexts is considered to be low.

A search of the Aboriginal Heritage Management System (AHIMS) database previously recorded Aboriginal sites was lodged with Office of Environment and Heritage NSW (OEH) on 15 June 2018. No sites of Aboriginal significance have been recorded in or near the Project Site.

#### IDENTIFIED ITEMS OF NON-INDIGENOUS CULTURAL HERITAGE

Identified protected heritage building items are located to the north and west of the Project Site and are not affected by the proposed development.

The Project Site itself contains no heritage assets.

### 9.4.2 IMPACT ASSESSMENT

Given levels of past disturbance within the Project Site, the potential for impacts to Aboriginal heritage values as a result of the Project are considered to be low.

In regards to non-Indigenous heritage impacts, the proposed development would result in the removal of the existing Bellman hangar and two other buildings on Tower Road, none of which have any heritage status. As no non-Indigenous heritage values have been identified within the Project Site, there would be no non-Indigenous heritage impacts.

## 9.5 AIR QUALITY

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### 9.4.3 MITIGATION AND MANAGEMENT MEASURES

The following recommendations are proposed to be included in the CEMP. They are cautionary and would be implemented to ensure that BAL continues to satisfy its legislative obligations to Aboriginal heritage:

- In the unlikely event that Aboriginal objects, including possible human remains, are identified at any point during the life of Project, the procedure outlined in Appendix J should be followed
- Although considered unlikely, should ground disturbance works associated with the Project intercept any areas of natural soils across the Project Site, the Gandangara LALC should be notified as soon as practicable and afforded the opportunity to inspect these areas for Aboriginal objects. Should any such objects be identified, the procedure outlined in Appendix D should be followed. This recommendation is in keeping with the Gandangara LALC's previous recommendation for monitoring in areas of natural soils which are shown in Appendix D.

### 9.5.1 EXISTING ENVIRONMENT

The Bankstown Air Quality Management Plan (AQMP) has been prepared to cover the emissions of pollutants to the air from those activities directly controlled by BAL. The AQMP further addresses airport tenant requirements and procedures for community engagement on air quality issues.

The plan further specifies the criteria for operation of Bankstown Airport, including the operation of its tenants. The plan includes both stationary source emission limits and ambient air quality objectives. The stationary source of emission limits including soot, dark smoke, solid particles, sulfuric acid mist, volatile organic liquid vapour and carbon monoxide, among others. It is noted that emissions from aircraft engines are regulated by different legislation and plans of management.

Emissions from ground based operations at Bankstown Airport, such as fuel storage, stack emissions and ground based engine running constitute only a very small proportion of total Airport emissions. Given its location at the intersection of two major transport routes (Milperra Road and Henry Lawson Drive) and the density of road traffic in the local region, ambient air quality is anticipated to reflect the impacts of road transport rather than to provide useful information regarding the effectiveness of construction or operational control measures at the Airport on the ground.

The Project Site currently consists predominately of vacant land. Therefore, there are no significant existing sources of air emissions on the site.

The NSW EPA operates several ambient air quality monitoring sites across the Sydney region. The sites nearest to Bankstown Airport are located at Chullora (six kilometres to the north-east) and Liverpool (seven kilometres to the west). The data shows the following:

- Four exceedances of the PM10 24 hour criterion were recorded at Chullora in 2017 and two exceedances were recorded at Liverpool
- Exceedances of PM2.5 criterion was detected on eight occasions in 2017 at Chullora and on three occasions at Liverpool
- OEH Annual Air Quality Statements indicate that a majority of exceedances in 2017 were due to exceptional events which are defined as events related to bushfires, hazard reduction burns and dust storms.

The Bureau of Meteorology, Bankstown Airport weather station provides up to 50 years of weather data. A summary of key weather data for Bankstown Airport is provided below:

- The warmest temperatures occur in summer, with the average maximum temperature recorded in January being 28.4°C
- July is the coldest month, with an average minimum temperature of 5.1°C
- Rainfall is highest in February (mean rainfall of 102.1 millimetres) and lowest in September (mean rainfall of 42.9 millimetres). Annual average rainfall is 871.8 millimetres.

The meteorological data indicate variable wind patterns throughout the year, with a summer easterly and winter westerly wind pattern. Given the predominant winds and the surrounding land use, there are no indications of any potential air quality impacts due to prevailing meteorology.

## 9.5.2 IMPACT ASSESSMENT

Potential air quality impacts were assessed in line with the UK Institute of Air Quality Management (IAQM) Assessment Process (2014). The IAQM guidance process is a four-step risk based assessment of dust emissions associated with demolition, including land clearing and earth moving, and construction activities. The assessment incorporates surrounding sensitive receivers, proposed activities, and meteorological conditions to provide unmitigated impact risks for both dust soiling and human health.

The results of this assessment are provided in Appendix K. The highest unmitigated impact predicted is medium for earthworks, construction and trackout.

Given the nature of the local area and the activities to be undertaken, the principal pollutant of concern included in this assessment is fine particulate matter.

Dust and other emissions must be managed to avoid potential impacts on airport operations and safety. These potential impacts are addressed in Section 9.5.3 and will also be included in the CEMP.

Emissions from diesel powered construction equipment and exhaust from vehicles travelling to and from the Project Site is considered to be insignificant in both the local and regional traffic contexts. This is due to the separation distances to the closest residential receivers to the north and south of the project.

**Table 9.1:** Unmitigated air quality impact risk

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Scale of activity	Small	Large	Large	Large
Dust soiling	Low	Medium	Medium	Medium
Human health	Negligible	Low	Low	Low

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### 9.5.3 MITIGATION AND MANAGEMENT MEASURES

Left unmitigated, the risk of air quality impacts during demolition, earthworks and construction could be classified as medium for dust soiling on people and property and low for human health. To minimise the predicted level of risk, the following precautionary management and mitigation measures are recommended and will be included in the CEMP:

- Minimise exposed surfaces, such as stockpiles and cleared areas, including partial covering of stockpiles where practicable
- Implement dust suppression measures, such as watering of exposed soil surfaces, dust mesh, water trucks and sprinklers to minimise dust generation
- Minimise, modify or avoid dust generating activities and water stockpiles and exposed areas during adverse weather conditions such as high winds and dry periods
- Establish hard surfaced haul routes which are regularly damped down and cleaned
- Perform regular visual inspections to identify areas that may require watering
- Establish defined site entry and exit points to minimise tracking of soil on surrounding roads
- Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport
- Regular dust observations of active excavation or stockpiling areas will be undertaken by the environmental officer to ensure visible dust is not moving offsite. Records of observations should be compiled to enable the demonstration that dust is being managed in an ongoing manner. Records should include (as a minimum) the following:
  - Observation date and time
  - Area being inspected
  - Level of dust being generated
  - Meteorological conditions when observation occurred
  - Mitigation measures undertaken (if any).



## 9.6 NOISE MANAGEMENT

The Bankstown Airport Noise Management Plan 2017 (NMP) identifies initiatives to manage noise associated with operations at Bankstown Airport. All development at the Airport is required to address potential noise impacts. Noise impacts are required to be managed during both the construction and operational stages of any developments.

In accordance with the NMP, a construction and operation noise and vibration impact assessment has been prepared for the Project. The following relevant guidelines have been used to inform and provide appropriate guidance for the noise and vibration assessment:

- Interim Construction Noise Guideline (ICNG), Department of Environment and Climate Change (DECC), 2009;
- NSW Road Noise Policy (RNP), Department of Environment Climate Change and Water (DECCW), 2011;
- Noise Policy for Industry (NPfI), Environmental Protection Authority (EPA), 2017;
- Australian Standard (AS) International Electrotechnical Commission (IEC) 61672.1-2004 Electroacoustics - Sound level meters - Specifications, 2004; and
- Australian Standard AS 2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction.

The Construction and Operation Noise and Vibration Impact Assessment is provided in Appendix L.

The impact of the Project on the Australia Noise Exposure Forecast (ANEF) contours is discussed in Section 7.1.

### 9.6.1 EXISTING ENVIRONMENT

The acoustic environment of the Project is dominated by road traffic noise from Milperra Road and Henry Lawson Drive, in addition to aircraft noise from Bankstown Airport and industrial noise from the surrounding industrial areas.

The closest residences are approximately 160 metres to the south west of the Project Site on Rickard Road. Georges River Grammar School is located approximately 550 metres to the north of the Project on Georges Crescent. Commercial areas are located directly to the south and north east of the Project. Georges River Golf Course and Bankstown Golf Club are located directly to the west and south of the Project, respectively.

### 9.6.2 IMPACT ASSESSMENT CONSTRUCTION NOISE

It is expected that the construction of the project may impact the ground based noise environment. A range of plant and equipment will be employed during the construction phase. The operation of such equipment will affect the noise environment for a short-term within the Bankstown Airport boundary and surrounding areas.

Noise impacts associated with the construction works for the project will be compliant with the noise management levels set out in the ICNG, and so no further mitigation is required. Impacts to sensitive receivers, including residences and schools, are not anticipated as they are located 160 metres or more from the project.

A construction traffic assessment, based on a conservative scenario allowing for 250 truck movements per daytime period and 50 light vehicle movements per daytime period, was undertaken in accordance with the relevant criteria outlined in the EPA's NSW Road Noise Policy, 2011 (RNP). The assessment found that the increase in noise levels as a result of construction traffic along Henry Lawson Drive and Milperra Road are not expected to be above the two RNP criteria. No further consideration of construction traffic is therefore required.

A detailed assessment of the traffic impacts of the project are discussed in Section 8.0.

## OPERATIONAL NOISE

An operational noise assessment was carried out in accordance with the EPA's *Noise Policy for Industry, 2017* (NPfI). Likely operational scenarios during day and night times were assessed at all receiver locations across the project area against the project noise trigger levels. In addition, likely maximum noise events from activities within the project area were used to assess sleep disturbance at all assessment residential receivers.

Results show predicted operational noise emissions from the developed warehouse (Lot 1 development) comply with the project noise trigger levels at all locations and for all noise-enhancing meteorological conditions. Therefore, such operations are considered to comply with the criteria outlined in the NPfI, and no further mitigation is considered necessary.

An assessment of the likely operational road traffic was conducted in accordance with the RNP. This assessment indicates that the likely operational traffic for all roads external to the development site is predicted to be below the criteria set out in the RNP. Therefore, no further assessment is required, in accordance with the RNP.

## 9.6.3 MITIGATION AND MANAGEMENT MEASURES

The construction and operation of the proposed development is considered to comply with all relevant criteria and, as such, no further assessment or mitigation is considered necessary for the construction or operation phases of the project.

Prior to construction of the warehouse/offices, it is recommended that aircraft noise levels across the site be predicted or measured using a methodology provided in the AS 2021 (this is being undertaken for the draft Master Plan 2019). This would inform the assessment of construction necessary to achieve internal sound design levels recommended in Australian Standard AS 2021 for office components of the development.

## 9.7 WASTE MANAGEMENT

Adequately sized waste storage facilities will be positioned within the proposed external hardstand areas and clear of the facility loading zones and operational activities. Dedicated waste storage type and collection bins will be located to ensure that practical and safe access is provided for the facility users and for waste collection contractors.

The waste and recycling collection vessels will be provided and located according to the required specific waste categories and types. The storage areas will be located in order to contain and prevent the risk of pollution contamination and mitigate potential hazards that may arise in the event of any possible site flooding. Exact locations for waste/recycling bins will be confirmed during further detailed design of the project.

### 9.7.1 EXISTING ENVIRONMENT

The Project Site currently comprises unoccupied land that is zoned for business use and generally consists of a flat grassed area devoid of any trees, with limited man-made structures. Previous contamination assessments of the Project Site found that there were a number of stockpiles containing construction materials and that a few localised spillages have been identified, likely to be associated with the servicing and refuelling of aircraft.

### 9.7.2 CONSTRUCTION WASTES

It is anticipated that waste will be generated during site preparation and construction processes, including contaminated materials common to construction. Any demolition waste would, where practicable, be recycled at Bankstown Airport. This could include any excavated materials that can be used as fill, subject to meeting relevant environmental standards.

The Airport Environment Strategy lists objectives relating to waste at the Airport. These include:

- To comply with the principles of the waste management hierarchy of avoid, reuse, recycle and disposal, where practicable
- To have regard to Commonwealth and NSW regulatory guidelines in relation to waste management.

Foreign object debris is a major concern for Bankstown Airport operations during construction works. Foreign object debris can include plastic packaging, screws, roof sheets and other items that could potentially blow from the work site into operational air and ground space. The CEMP will include measures to reduce the risk of foreign object debris from entering the operational areas of Bankstown Airport including:

- Training for workers encouraging the prompt disposal of construction waste;
- Regular inspections of the site, including perimeter fencing, for potential items of foreign object debris;
- Avoidance of activities potentially generating foreign object debris, including unpacking of materials, during high wind events blowing towards the operational areas of Bankstown Airport.

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### 9.7.3 OPERATIONAL WASTES

In accordance with the Airport Environment Strategy, additional consideration of operational wastes will be undertaken with future tenant(s) of the warehouse development.

Ongoing removal of waste during operation of the warehouse will be required to meet the terms of BAL's guidelines for tenants relative to waste management and environmental controls. No disposal of operational waste should occur on land within Bankstown Airport. Waste collected from public areas, including the litter bins would be disposed of by BAL.

EPA licensed waste contractors will be used to dispose of any waste.

Bankstown Airport, like many commercial and industrial areas, generates wastewater. The development will be connected to the existing sewerage system at Bankstown Airport, which ultimately discharges to the external Sydney Water operated sewerage network.

### 9.7.4 MITIGATION AND MANAGEMENT MEASURES

#### CONSTRUCTION

During the construction phase, concrete, steel, cabling, timber and scrap metal will likely be generated as a result of construction activities. In accordance with the principles of waste management, opportunities for re-use and recycling will be utilised.

Inert material (including steel waste in the unlikely event that it is encountered during the excavation for footings) would be kept in a designated 'clean' stockpile area and covered as required with plastic and/or tarpaulins, to minimise potential dust impacts, while awaiting transport off-site.

Where possible, material will be transported to a building waste recycling facility to be specified at a later date. Alternatively, it would be disposed of at a licensed landfill site.

'Domestic' debris comprises everyday waste such as paper, aluminium cans and other materials generated by construction and maintenance workers. Recyclable materials will be stored separately. Both domestic waste and recycling will be removed by an appropriately licenced waste contractor.

A cigarette butt collection point will be provided on-site for construction workers.

Putrescibles and 'green' waste comprises food scraps. These wastes will be collected and stored separately from other wastes produced during construction and disposed off-site by a licensed contractor to either a 'green waste' facility or landfill.



Any site works will be monitored and further environmental investigation will be undertaken if required. Should unexpected materials be discovered during the course of excavations, and the UFP in the CEMP will be followed including activation of any plans for the safe handling, storage and disposal in accordance with relevant statutory guidelines.

Any waste oils accumulated during maintenance of heavy machinery will be disposed off-site by the contractor as part of their own licence agreements. Waste oil contractors and maintenance and refuelling contractors will be required to have spill response procedures in place. Refuelling will be carried out at designated areas to control potential spill and maintenance issues. Spill response equipment will be stored at the construction site in the event of unforeseen spills due to hose breaks, etc. Minor waste oil spills will be contained and impacted soils disposed of according to NSW legislation.

No other hazardous wastes are anticipated on site.

BAL will ensure the principal contractor prepares a detailed waste management plan (WMP) will be developed once a building contractor(s) has been engaged to undertake the civil works. This will form part of the CEMP.

In accordance with the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act), and the EPA's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes, waste tracking requirements apply to the generation, storage, transport, treatment or disposal of certain types of wastes. Potential wastes which could be generated on site that will require tracking include waste oils, oil and fuel filters and oily water.

A register of wastes will be kept throughout the construction period. The register will contain details pertaining to:

- The types and quantity of wastes for each load taken off site
- The place to which the waste was taken for treatment or disposal
- The waste contractor used for each waste load.

If any asbestos is detected during construction activities, then the procedures for asbestos handling and removal in the BAL Asbestos Management Plan 2015 will be implemented by licenced contractors

Controls such as foreign object debris fencing/barriers must be in place early in construction and extra vigilance such as regular site rubbish walks must be undertaken. Additionally, strict controls around leaving the site tidy and locked down at the end of the day will be enforced.

## OPERATION

An Operational Environmental Management Plan will include waste management procedures for the site. Operational waste management should comply, to the extent necessary, with the POEO Act and the *Protection of the Environment Operations (Waste) Regulation 1997* (NSW).

## 9.8 VISUAL IMPACT ASSESSMENT

An assessment of the visual impact of the project was undertaken to consider relevant mitigation measures for any identified adverse impacts, based on the current visual environment within and surrounding the Project Site.

### 9.8.1 EXISTING VISUAL ENVIRONMENT

The visual environment external to the Project Site is characterised by aviation-related development to the north, industrial/commercial development along Milperra Road to the south, various aviation-related development to the east and Georges River Golf Course to the west.

The open, flat topography and relatively low height of development within the Project Site provides open views across the landscape and to areas beyond. As the Airport has been in continuous operation since the 1940's the visual landscape has remained relatively unchanged. Development across Bankstown Airport has largely been limited based on the necessary height restrictions imposed by the operation of aircrafts.

Elements which contribute to the existing visual landscape in the vicinity of the Project Site include the runways, aircraft, internal road networks, single storey administration buildings and hangars, open grassed and landscaped areas. The existing roadside vegetation along Milperra Road provides screening of the Project.

The built environment within the vicinity of the Project consists of brick or grayscale buildings and hangars with low sloping roofs. To the south-east along Henry Lawson Drive, built form comprises prominent business and commercial development including a petrol service station, supermarket and fast food chains. Views are visually confined within the road corridor of Henry Lawson Drive. However, glimpse views can be seen to the site works beyond the fringing development along perpendicular roads such as Tower Road and through gaps between buildings.

The potential viewing audiences to the Project comprise of:

- Workers and users of Bankstown Airport
- Recreational users of Georges River Golf Course including golfers, cyclists and walkers
- Visitors and customers of the commercial development along Henry Lawson Drive
- Students, pilots, visitors and workers in the administration areas of Bankstown Airport to the north-east
- Commuters, motorists and other passers-by along Henry Lawson Drive and Milperra Road.

### 9.8.2 IMPACT ASSESSMENT

The Project includes a light-coloured warehouse building with sloping roof and associated parking and hardstand areas for vehicles, and is largely characteristic of the existing visual amenity for Bankstown Airport. The Project will comprise landscaped areas, including planted areas to maintain visual filtering and facilitate improved amenity.

The height of the proposed warehouse will be 13.7 metres above the established finished floor level. Although the warehouse will likely be larger in scale than the existing buildings in the vicinity, it is appropriate in the context of surrounding development and is considered to have a substantial level of visual congruency with the built form of Bankstown Airport.

### 9.8.3 MITIGATION AND MANAGEMENT MEASURES

Mitigation measures will be implemented to minimise the level of visual impact during the design development, construction and operation phases of the Project.

## 9.9 CEMP FRAMEWORK

### 9.8.4 DESIGN DEVELOPMENT

The following mitigation measures are proposed to minimise visual impacts during the detailed design development process:

- During detailed design, the design of the proposed warehouse will be further refined to articulate form and profiles which may assist in minimising the overall bulk of built form
- Materials, colours and finishes of the warehouse building will be selected, with the aim of minimising the bulk of the structure and ensuring that non-reflective materials for façades and finishes are not used.

### 9.8.5 CONSTRUCTION

The following mitigation measures are proposed to minimise visual impacts as a result of construction:

- Provide well-presented and maintained construction hoarding and site fencing with shade cloth (or similar material where necessary) to minimise visual impacts during construction. Hoardings and site fencing will be removed following construction completion
- Storage of construction waste and materials in designated stockpile areas
- Construction methodology that limits crane times on-site, which could include off-site manufacturing of fabricated / built elements.

### 9.8.6 OPERATION

The following mitigation measures are proposed to minimise visual impacts at operation:

- Ongoing maintenance and repair of constructed elements
- Long term maintenance (and replacement as necessary) of landscaping and planting within the Site Works to maintain visual filtering and screening of views where appropriate.

A Construction Environmental Management Plan (CEMP) provides a detailed set of site environmental compliance control requirements for all construction projects with the potential to impact the environment on Airport land, site users and surrounding receptors. Construction contractors will be required to generate a project-specific CEMP, addressing all the mandatory objectives, and a supporting set of Standard Operating Procedures (SOPs). To ensure compliance requirements are understood and reflected in contractor documentation, BAL will provide the following:

- Guideline – Construction Environmental Management Plan; and
- Construction Environmental Management Plan for Civil Works Template.

The following provides an initial list of potential issues which may impact upon the environment, site users and surrounding receptors during construction and mitigation measures. This list of issues is not exhaustive and may change dependant on the results of future investigations, construction methodologies, changes in legislation and stakeholder requirements.

# FRAMEWORK FOR CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

## AIRPORT OPERATIONS

The vast majority of the Project Site sits outside of the airside area of the airport. During construction a fence will be set up around the Project Site and as a result all the construction and related works will be undertaken on landside areas of the Airport. There will be no interference from construction activities on airport operations [is this true – i.e. what about the deletion of a section of taxiway and hangars at the south of tower road?]. Crane penetrations through the OLS, if required during construction, will be managed to ensure that there is no impact on airport operations. Any construction equipment taller than a regular truck will follow the NOTAM procedure whenever operating at the Airport.

## CONSTRUCTION TRAFFIC

Construction traffic associated with the works will include the delivery of building materials and equipment, as well as the vehicle movements associated with the construction workforce. Construction traffic is expected to have a minimal impact to the external road network and temporary traffic management measures during the construction phase (developed as part of a Traffic Management Plan) will be designed to minimise any disruptions to existing developments that utilise Tower Road, Starkie Drive and Murray Jones Drive.

## WATER QUALITY

The works will expose soil that might run off into the Airport's stormwater system. Therefore, controls will be installed and maintained as specified in the "Blue Book" – Managing Urban Stormwater: Soils and Construction (Landcom, 2004) throughout the construction period to minimise the risk of sediment transportation from the construction site to surrounding surface water bodies, roadways etc. This would include the use of cattle grates and truck wash for vehicles leaving the site to prevent soil from being transferred onto the road network.

## NOISE

The earthworks proposed for the construction of the Project will generate some noise associated with the use of earthmoving and other construction equipment. Noise generated from construction should not exceed 75 dB (A) at the site of any sensitive receptor, consistent with the noise levels specified by the Airports (Environment Protection) Regulations 1997. Due to the distances from sensitive receptors, it is considered that there will be no significant noise impacts associated with the construction works external to the Airport site.

## AIR QUALITY

There is the potential for some localised dust generation during soil excavation. Measures such as dust suppression, minimising exposed surfaces, minimising or avoiding dust generating activities and establishing hard surfaced haul routes which are regularly damped down and cleaned will be implemented to prevent dust generation. Dust monitoring stations will also be included at the boundary of the site. Emissions from diesel-powered construction equipment and exhausts from construction vehicles are considered to be insignificant in local and regional traffic contexts. Emissions from equipment would be minimised by ensuring equipment is turned off when not in use.

## FLORA AND FAUNA

The works will be undertaken in accordance with the Flora and Fauna Management Study which has been undertaken for the Project Site. Part 5 of the study will be used to manage / mitigate impacts to potential flora and fauna that may be found during the operational phase of the development.

## ACID SULPHATE SOILS

The Project Site lies within a class 3 Acid Sulfate Soils (ASS) area. ASS in a class 3 area is likely to be found beyond 1 metre below the natural ground surface. Given the potential to impact ASS, contractors will be required to document strategies for managing these soils in accordance with the ASSMAC Acid Sulphate Soils Manual 1998 and Part 4 of the NSW EPA Waste Classification Guidelines 2014.



## DEWATERING

The dams on the Project Site will be dewatered prior to excavating or filling. The dewatering process will be supervised by the Bankstown Airport Environment and Heritage Manager to minimise impacts on environmental receptors including native aquatic fauna that may be present and receiving surface water bodies. A dewatering protocol will be prepared prior to dewatering being undertaken and outline the necessary steps to be followed during dam dewatering. Water pumped from excavations may be directed to sewer in accordance with NSW Office of Water's Liquid Trade Waste Regulation Guidelines.

## FILL IMPORTATION

Any fill imported onto the Airport must comply with the Sydney Metropolitan Airports' Environment Information Sheet 3 – Importation of Soil and Fill Materials. Initial cut and fill calculations indicate that no external fill will be required with the exception of engineering fill.

## CONSTRUCTION WASTE

Construction waste will be managed through approval conditions for the Project and construction activities and must be disposed of appropriately in accordance with NSW EPA requirements. If any asbestos is detected during construction activities, then the procedures for asbestos handling and removal in the BAL Asbestos Management Plan will be implemented by licenced contractors.

## CONTAMINATED SOIL

There is some known existing contamination within the Project Site. Additional soil and groundwater investigations and testing will be carried out as part of the site works preparation. Appropriate site remediation will be undertaken in line with NEPM standards where contamination is detected and where remediation is deemed necessary to ensure the site is suitable for its intended use. An asbestos management plan will also be prepared and BAL will establish a development approvals process for the Contractor to reduce the risk of any potential contaminating activities during construction.

Contamination of soil and water by PFAS will be assessed and managed in a manner consistent with the ASC NEPM, the PFAS NEMP and the National Water Quality Management Strategy, including the Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

If PFAS is detected in soil or water above the guideline values and criteria in the PFAS NEMP, then a risk assessment associated with the proposed actions including storage, containment, release or re-use will be undertaken and management strategies developed. This will include matters such as:

- Identification of the extent and concentrations of possible contamination within the project footprint
- Identification of possible exposure pathways and ecological receptors
- Identification of possible risks tailored to the identified concentrations, pathways and receptors
- An outline of management strategies to be undertaken, as well as any remediation action plans or strategies, to manage any identified or potential risks, and to reduce runoff and mitigation of contamination across and off the proposed site

Any PFAS contaminated material (including but not limited to excavated soil or sediment, leachate from soil or sediment, water arising from de-watering of soil or sediment, concrete, tarmac, appliances, pumps, pipes, hoses, fittings) would be handled appropriately and in an environmentally sound manner such that potential for the PFAS content to enter the environment is minimised.

PFAS contaminated material with a PFOS, PFHxS or PFOA content above those specified in the PFAS NEMP and NWS EPA 2014 Waste guidelines, would be stored at the Airport land or disposed of in accordance with appropriate legislative requirements.

Groundwater and any underlying soils containing contamination above appropriate guideline levels, potentially hazardous (eg. Asbestos) and polluting materials will be stored, handled and disposed of in accordance with appropriate legislative requirements during construction. This will ensure that risks during both the construction are properly managed. Specific management measures for leaks and spills will be documented in the CEMP

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# 10.0 CONSISTENCY WITH AIRPORT MASTER PLAN



# 10.1 OVERVIEW

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Part 4 Section 91 of the Airports Act prescribes the contents of an MDP, with subsection (1)(d) requiring an assessment whether or not the development is consistent with the Master Plan for the airport. This section of the MDP provides an assessment of the project against Master Plan 2014.

Master Plan 2014 land use zones are shown in Figure 101. The proposed Project is to be located within the Business Zone of the Master Plan. The Business Zone specifically encourages a mix of employment, business and industrial development and the following uses as 'permissible' with consent:

- Warehouses
- Land filling
- Road
- Flood mitigation works
- Utility installation.

The project aligns with the above permissible uses within the Business Zone.





Figure 10.1: 2014 Bankstown Airport Master Plan Land Use Zones (Source: BAL, 2014)

# 10.2 BANKSTOWN AIRPORT MASTER PLAN 2014

## 10.2.1 BANKSTOWN AIRPORT OBJECTIVES

The key objectives for the development of the Airport, as outlined in Master Plan 2014, and how the Project relates, is provided in Table 10.1.

**Table 10.1:** Bankstown Airport objectives

Objective	How the Project relates
Facilitate the efficient use of the existing aviation infrastructure	The Project Site has been identified as surplus to aviation needs.
Facilitate the growth of high value and multi-use aviation activity through the provision of appropriate capacity	The Project Site has been identified as surplus to aviation needs. The works will however facilitate the potential future development of aviation related support industries, particularly for the parts of the site that are adjacent to the runway and provide airside access opportunities.
Provide a safe environment for all users, including commercial operators, employees, recreational users and members of the public	The warehouse building will be designed in accordance with the mandatory performance requirements of the 'deemed to satisfy' provisions of the National Construction Code of Australia (NCC) and the relevant applicable Australian Standards. It will provide a modern, safe environment for all users. Suitable external lighting solutions to roads, hardstand areas, pedestrian areas and entry approaches to address security and safety considerations will be provided.
Incorporate high standards of environmental sustainability and social responsibility in all development	The detailed design of the Project will incorporate high standards of environmental sustainability. Sustainable environmental design and energy efficiency initiatives will be encouraged and implemented where possible. For example, the expansive warehouse roof areas provide potential for solar panel installation, rainwater collection for storage and recycling, and areas for the installation of solar hot water roof systems.
Provide a level of security across the Airport in line with statutory requirements	The Project will be developed in such a way that it meets all statutory requirements. Suitable external lighting solutions to roads, hardstand areas, pedestrian areas and entry approaches to address security and safety considerations will be provided.
Improve value and provide employment through the development of land surplus to existing and future aviation activity	The Project will enable the establishment of employment generating businesses for the community on land that has been determined as surplus to aviation activity.
Develop appropriate flexibility within the planning framework so that BAL can grow	The proposed layout of the Project provides the capability and flexibility for staged construction in order to best serve the evolving needs and requirements of the Airport.
Develop to reflect potential changes in aviation and non-aviation customer needs	The Project reflects evolving local and regional area needs which are evidenced in and influenced by the following: <ul style="list-style-type: none"> <li>Strategic directions set out by the State Government for the Bankstown Airport/Milperra industrial urban services precinct</li> <li>The Airport's proximity to three key existing and developing intermodal facilities and arterial roads</li> <li>The progress towards the development of a new Western Sydney Airport at Badgerys Creek.</li> </ul>
Set out a process for ongoing communication and engagement with stakeholders and the wider community on all aspects of the Airport's operations.	Chapter 11 Consultation – sets out the consultation process developed for this Project which includes communication and engagement with stakeholders and the wider community.



## 10.2.2 BUSINESS ZONE

### ZONE OBJECTIVES

The Business Zone is approximately 129.9 hectares in size and includes the non-aviation areas to the south of the runway complex (Aviation zone) as well as some areas at each of the runway ends. North of the runway complex in three sections, the Business Zone provides a transition between the Aviation Zone and the Aviation / Business Zone.

The objective for the zone is:

*“To encourage a broad range and mix of employment, business and industrial development within a coordinated and cohesively planned environment.”*

The Project meets the objective of the Business Zone as it would consolidate the Bankstown Airport Commercial Zone in a coordinated and cohesive manner and deliver a high quality development. It would also serve to attract additional business activity and employment.

### PLANNING OBJECTIVES AND PRINCIPLES

Master Plan 2014 provides planning objectives and principles for development within the Business Zone. The objectives, and how the Project meets the objectives, are provided in Table 10.2. The principles and how the Project meets the principles, are provided in Table 10.3.

**Table 10.2:** Non-aviation development objectives and how the Project meets the objectives

Objective	How the Project relates
<b>To consolidate Bankstown Airport's role as a major activity hub:</b> A key objective for BAL is to optimise the contribution that Bankstown Airport makes to jobs and economic activity in Bankstown and Greater Western Sydney.	The Project would serve to consolidate the Project Site and facilitate the development of a business estate which would elevate Bankstown Airport's role as a major activity hub. The Project will enable the establishment of employment generating businesses and facilitate the optimisation of the Airports economic contribution to Bankstown and Greater Western Sydney.
<b>To enhance value:</b> The development of land surplus to aviation activity will ensure that value is enhanced for BAL's shareholders and businesses located on the Airport.	The Project Site has been identified as surplus to aviation needs. The Project would provide enhanced value to BAL's shareholders and businesses as the business estate will be able to leverage its proximity to arterial roads and other transport nodes, proximity to the Milperra industrial area, proximity to three developing and existing Intermodal Terminals and its proximity to two urban centres. It would also leverage the growing economic need for the types of businesses it could support (as discussed in Section 11.1).
<b>To grow and diversify the business:</b> The growth and diversification of non-aviation development on the Airport will contribute to BAL's long term sustainability and reduce the impact of revenue shocks such as the loss of a major tenant or large scale reduction in aviation activity due to external factors.	The development of a business estate would serve to both grow and potentially diversify business at the Airport.
<b>To integrate with metropolitan planning policies and land use in surrounding areas:</b> A key objective is for non-aviation development to complement metropolitan and regional planning strategies and to integrate with surrounding areas and the local community.	The Project is compatible with metropolitan and regional planning strategies and integrates with surrounding areas and the local community as discussed in Chapter 10.0.
<b>To meet all BAL's statutory, regulatory and governance obligations:</b> BAL will meet all of its statutory, regulatory and governance obligations.	The Project will meet BAL's statutory and regulatory obligations as discussed in Chapter 8.0 and Chapter 11.0.

**Table 10.3:** Non-aviation development principles and how the Project meets the principles

Objective	How the Project relates
<b>Compatibility with aviation operations:</b> Any non-aviation development is to be compatible with aviation activity – for example, taking into account appropriate prescribed clearances, prescribed airspace requirements and aviation risk considerations and to ensure the safety and security of persons at the Airport in general.	The Project is compatible with aviation operations as discussed in Chapter 6.0.
<b>Sustainability:</b> Property developments are to adopt high levels of environmental and social sustainability by striving to use resources in an efficient manner while meeting the expectations of stakeholders including government regulators, employees, tenants, investors and the broader community with regard to financial, social and environmental performance.	The detailed design of the Project will incorporate high standards of environmental sustainability. Sustainable environmental design and energy efficiency initiatives will be encouraged and implemented where possible. For example, the expansive warehouse roof areas provide potential for solar panel installation, rainwater collection for storage and recycling, and areas for the installation of solar hot water roof systems.
<b>Development planning:</b> Developments are to be planned taking into account local and State planning regulations where relevant and other matters identified in Bankstown Airport Urban Design Guidelines as reviewed from time to time and posted on the Airport website.	The project will be developed in accordance with the Bankstown Airport Urban Design Guidelines and with regard to relevant local and State planning regulations.
<b>Traffic management:</b> Developments are to be planned to take into account traffic impacts on external road systems and residential areas in the vicinity of the Airport.	The Project will be planned to take into account traffic impacts on external road systems and residential areas as discussed in Chapter 7.0.
<b>Conservation of heritage items:</b> Key heritage elements of Bankstown Airport are to be conserved in accordance with the Bankstown Airport Heritage Management Strategy and the proposed Bankstown Airport Heritage Management Plan. Any new development will consider and respect heritage issues.	There are no known heritage elements within the Project Site.
<b>Open space and environmental areas:</b> The Non-Aviation Development Concept is to be implemented having regard to Environmentally Significant sites addressed in Section 4.5 in the Bankstown Airport - Airport Environment Strategy 2014. Adequate open space areas and landscaping will be provided by each development proponent.	The Project would not impact on identified Environmentally Significant sites and adequate open space areas and landscaping will be provided.
<b>Community consultation:</b> Development proposals will be subject to BAL's Consultation Policy – Development Assessment 2014 as reviewed from time to time which takes into account the potential impacts and scale of developments. Consultation will include the Bankstown Airport Community Aviation Consultation Group and the Planning Coordination Forum.	Chapter 12.0 Consultation – sets out the consultation process developed for this Project which includes communication and engagement with stakeholders and the wider community. This includes the Bankstown Airport Community Aviation Consultation Group and the Planning Coordination Forum.
<b>Flooding and stormwater:</b> Developments are to be planned to take into account BAL's Stormwater and Flood Management Strategy.	The Project will be developed taking into account BAL's Stormwater and Flood Management Strategy as discussed in Chapter 8.0. A significant amount of land (5ha) within the Project Site has been set aside for flood storage.



## 10.3 BANKSTOWN AIRPORT MASTER PLAN 2019 (DRAFT)

For context and clarity, an assessment of the Project against the draft Bankstown Airport Master Plan 2019 (Draft) is also provided.

The proposed land use zones included in draft Master Plan 2019 (Draft) are shown in Figure 102. The Project Site is proposed to be located within the Commercial Zone. The Commercial Zone specifically encourages a range of transport logistics and distribution facilities, commercial, industrial, warehousing and aviation related support industries in the form of a major logistics hub. The following uses are classified as 'permissible' with consent:

- Warehouses or distribution centres
- Roads
- Earthworks and engineering works.

The Project aligns with the above permissible uses within the proposed Commercial Zone.

Land use zones have been revised as part of draft Master Plan 2019 to reflect the new Master Plan vision. The names of zones have also been amended, with the purpose of reflecting the nature of the activities (current and envisaged). The zone within which the Project would be located under this Master Plan is the Commercial Zone.

The desired future character of this Zone is:

*"The Commercial Zone will provide an environment that promotes employment and economic growth at the Airport, by providing a number of commercial uses that will benefit from the proximity to arterial roads and motorways. The zone will support office and warehouse facilities that will engage with the surrounding Milperra and Condell Park industrial precincts whilst providing a high level of amenity and quality built form for users and their visitors in this precinct."*

The Project aligns with the desired future character of the proposed Commercial Zone as the warehouse development would promote employment and economic growth through providing for additional business activity. The location and land uses proposed also mean the Project will compliment and engage well with the surrounding industrial precincts. The Project will also deliver a high quality development with a well-considered design (as described in Section 5.0)

The objectives of the proposed Commercial Zone, along with how the Project meets each of these objectives, are detailed in Table 10.4.

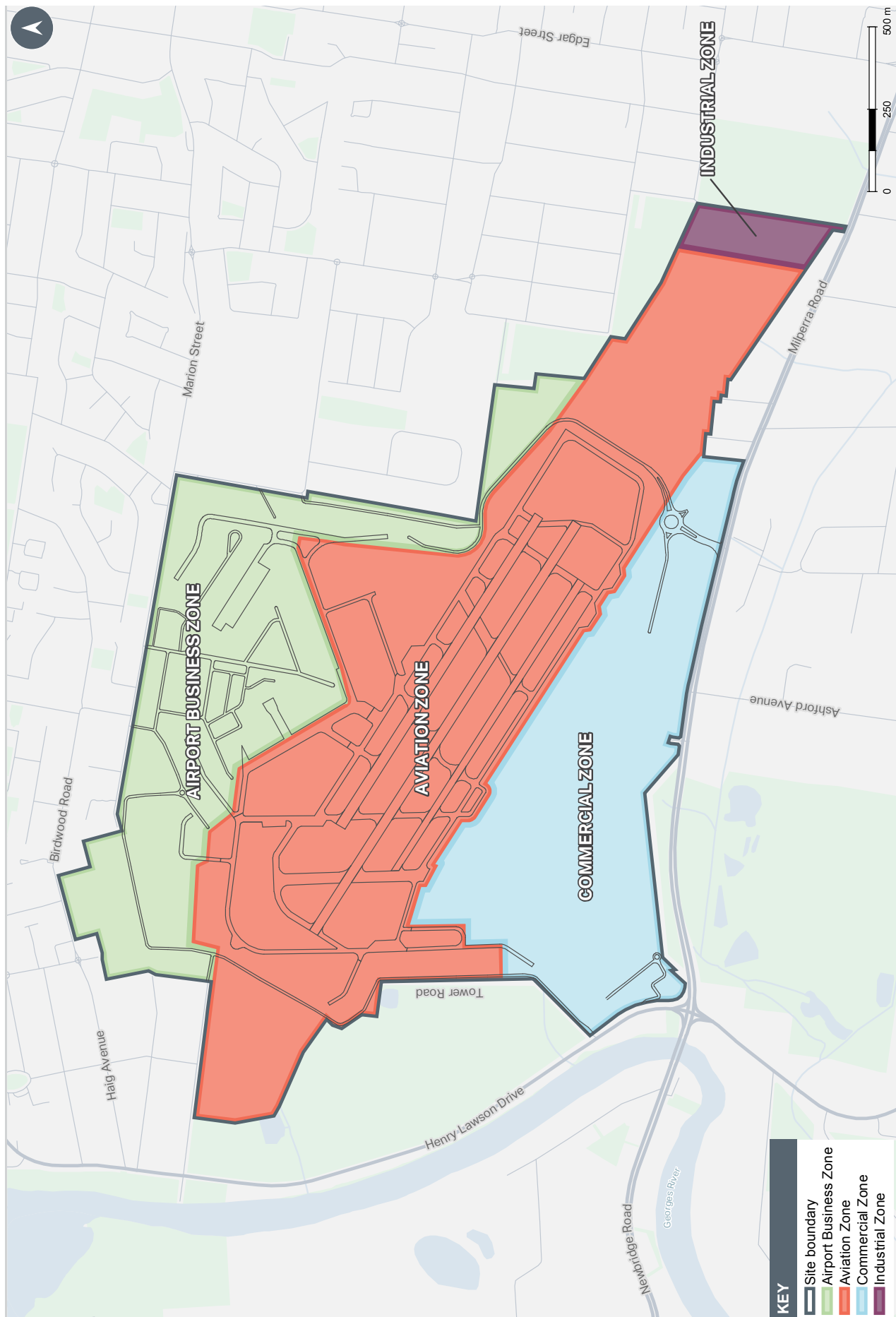


Figure 10.2: Draft Bankstown Airport Master Plan 2019 Land Use Zones and Precincts [Source: BAL, 2018]

**Table 10.4:** Commercial Zone objectives

Objective	How the Project relates
Provide an area primarily accommodating a range of transport logistics and distribution facilities, commercial, industrial, warehousing and aviation related support industries in the form of a major logistics hub.	<p>The Project would provide for the development of a major logistics hub within the Commercial Zone through the construction of a warehouse facility and site works that would enable the future development of land uses such as transport logistics and distribution facilities, commercial, industrial, warehousing, high tech manufacturing and aviation related support industries.</p> <p>The Project layout provides the capability and flexibility for staged construction in order to best serve the needs and requirements of the site.</p>
Encourage retail development in Gateway Precincts, forming gateway entry statements to the Commercial Zone	<p>The Project would result in the provision of a site within the Gateway Precinct that is prepared for, and suited to, potential future development for retail land uses that would contribute to the entry statement nature of this Precinct.</p>
Ensure safe and convenient pedestrian access and car parking throughout the Zone	<p>In combination with appropriately located new car parking areas and dedicated pedestrian access ways, the proposed infrastructure development will facilitate circulation and way finding throughout the site.</p> <p>The proposed building structures, warehouse hardstand and on grade car park areas are appropriately setback from the allotment boundaries and roads with landscaping buffer zones and these are consistent in depth and scale throughout the development.</p> <p>Suitable external lighting solutions to roads, hardstand areas, pedestrian areas and entry approaches to address security and safety considerations will be provided.</p>

**Table 10.5:** Industrial, Warehouse and Commercial Precinct objectives

Objective	How the Project relates
Accommodate a range of transport logistics and distribution facilities, commercial, industrial, warehousing and aviation related support industries in the form of a major logistics hub	<p>The Project would provide for the development of a major logistics hub within this precinct through the construction of a warehouse facility and site works that would facilitate the future development of land uses such as transport logistics and distribution facilities, commercial, industrial, warehousing and aviation related support industries.</p> <p>The Project layout provides the capability and flexibility for staged construction in order to best serve the needs and requirements of the site.</p>
Provide an area accommodating development that caters for a range of innovative and technology-based industries and activities	<p>The Project layout would provide for the flexible development of different uses according to their needs including innovative and technology based industries and activities.</p>
Enable development that incorporates high quality design, materials and finishes that enhances the visual amenity of the precinct	<p>The proposed external materiality of the Project is to be generally contemporary in appearance, prefinished, durable and refined in aesthetic presence.</p>
Ensure that landscaping softens the impact of development and enhances the character of the area	<p>The proposed building structures, warehouse hardstand and on grade car park areas will be appropriately setback from the allotment boundaries and roads with landscaping buffer zones which will serve to soften the impact of the built form and enhance the character of the area.</p>

In addition to the revised land use zones, a number of Precincts have also been established within some zones to provide a greater level of detail with regard to planning guidance for particular areas. The Project would be located primarily within the Industrial and Warehouse Precinct with a small portion located within the south-western Gateway Precinct. The objectives of each of these Precincts are detailed in Table 105 and Table 106, along with how the Project meets the objectives.

**Table 10.6:** Gateway Precincts objectives

Objective	How the Project relates
Encourage retail development forming key 'entry statements' to the Commercial Zone	The Project would result in the provision of a site within this Precinct that is suitable for potential future development for retail land uses. The site will be prepared in such a way that it will support development that contributes to the entry statement nature of this Precinct.
Provide a variety of different sized retail and accommodation spaces	The Project would result in the provision of a site within this Precinct that is suitable for potential future development of a variety retail spaces.
Ensure that the location, scale and bulk of development afford high levels of visual amenity and enhance the character and setting of the area	The Project would result in the provision of a site suitable for potential future development within this Precinct. The site will be prepared in such a way that it will support high quality built form that reflects its context and enhances the character of the setting of the area.



# 11.0 CONSISTENCY WITH STATE AND LOCAL PLANNING INSTRUMENTS



THE AIRPORT IS A PRIVATELY LEASED COMMONWEALTH AIRPORT AND, AS SUCH, IS SUBJECT TO THE PLANNING FRAMEWORK SET OUT IN THE AIRPORTS ACT.

Although State and local government land use planning systems do not apply to Commonwealth land, the Airports Act requires MDP's to describe the consistency with such planning schemes. It is expected that airports should, to the greatest extent possible, be compatible with local planning regimes.

The following Chapter describes the State and Local Government strategic and statutory planning frameworks that relate to the Airport, and outlines how the Project aligns with them.





# 11.1 STATE GOVERNMENT STRATEGIC INSTRUMENTS

In undertaking strategic planning processes, and/or preparing and considering Planning Proposals to amend Local Environment Plans (LEP), planning authorities must give effect to the Greater Sydney Region Plan and South District Plan.

## 11.1.1 GREATER SYDNEY REGION PLAN (2018)

The Greater Sydney Region Plan developed by the Greater Sydney Commission (GSC) and released in March 2018, sets the vision and strategy for the Greater Sydney Region. The vision for Greater Sydney is based on the concept of 'a metropolis of three cities' comprising the current CBD, the emerging CBD of Parramatta and a new Western Sydney CBD to be planned as part of the future Western Sydney Airport.

In undertaking strategic planning processes, and/or preparing and considering Planning Proposals to amend LEPs, planning authorities must give effect to the Greater Sydney Region Plan, specifically the Planning Directions and Strategies.

The Region Plan states that protecting the Airport's operational activities is important and notes that a state-wide approach to implementing the National Airport Safeguarding Framework is being developed by the NSW Department of Planning and Environment. The National Airport Safeguarding Framework, and this MDPs demonstrated compliance with it, is detailed in Chapter 6.0.

## 11.1.2 SOUTH DISTRICT PLAN (2018)

The Airport is located within the South District of Greater Sydney (see Figure 11.1). The South District Plan (Greater Sydney Commission, 2018) sets out aspirations and proposals for Greater Sydney's South District. It is a guide for implementing the Greater Sydney Region Plan at a District level and is a bridge between regional and local planning.

The District Plan identifies the Airport as a Trade Gateway that fulfils a significant state-wide role. It also identifies that the Airport has great potential to further benefit the economies of the District and the State. It notes that the Airport's future must be strategically planned in the context of the Western Sydney Airport and Badgerys Creek Aerotropolis and the need to manage airspace and the future distribution of regional and freight aviation services.

One of the 18 Planning Priorities set out in the District Plan identifies an aim to grow and invest in the Bankstown Airport Trade Gateway as an economic catalyst for the District. Under this priority, the District Plan identifies that the 130 hectares of land within the Airport site adjacent to the Milperra industrial land (within which the Project is located) has great potential for future development for non-aviation uses. It states that this potential is driven by the Airport and the industrial area's good location in terms of access to air transport, the road and rail freight network, proposed Moorebank intermodal terminal, Liverpool, Bankstown and the Liverpool health and education precinct. It also notes that public transport for workers could improve with the potential expansion of the Sydney Metro City & Southwest passenger rail network from Bankstown to Liverpool which would further support this type of development.

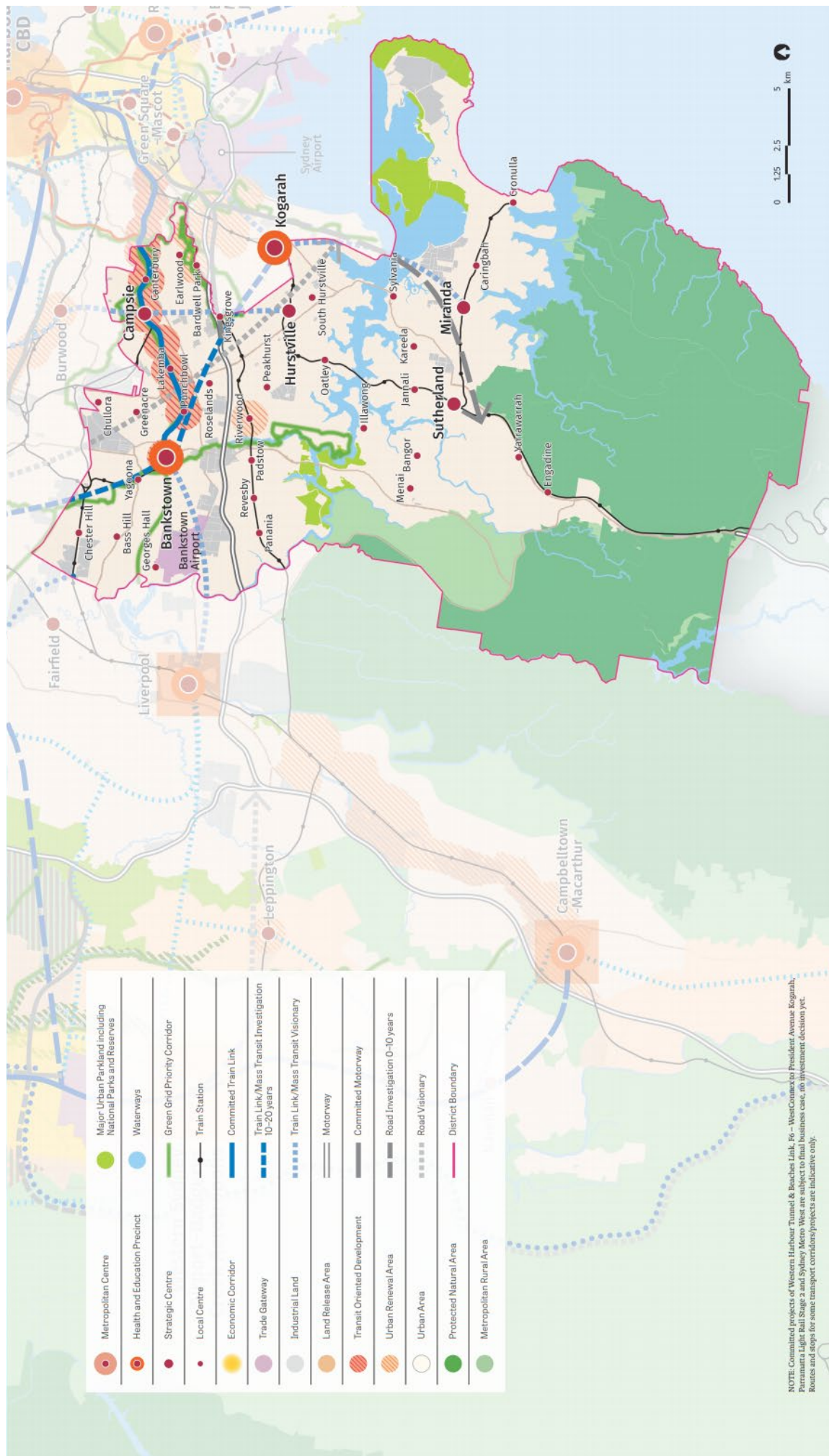


Figure 11.1: South District Plan (Source: Greater Sydney Commission, 2018)



Based on these identified strategic opportunities, the Airport and the adjoining Milperra industrial area have been collectively identified as a 'Collaboration Area' (refer Figure 11.2). Collaboration Areas are nominated places where the Greater Sydney Commission will facilitate the establishment of governance arrangements and support the coordination of activities across agencies and governments to deliver significant productivity, sustainability and liveability outcomes. The District Plan states that the GSC will work with the City of Canterbury-Bankstown Council, NSW Government, the Australian Government, BAL, industry and the community to develop a long-term economic strategy for the Collaboration Area. The Plan states that this will result in:

- Improving transport connections to the broader district
- Integrating planning for the Airport with planning of surrounding lands
- Coordinating infrastructure delivery
- Facilitating advanced manufacturing and innovation
- Expanding opportunities stemming from Western Sydney University Bankstown Campus and the University of NSW Aviation School.

The Plan acknowledges the importance of industrial land within the South District to Greater Sydney's economy and the competitive advantages and efficiencies afforded by proximity to the Villawood and Chullora freight intermodal terminals (see Figure 2.1).

The Plan states that there is limited undeveloped industrial land in the District and that future growth in the sector will require additional floor space, additional land or both.

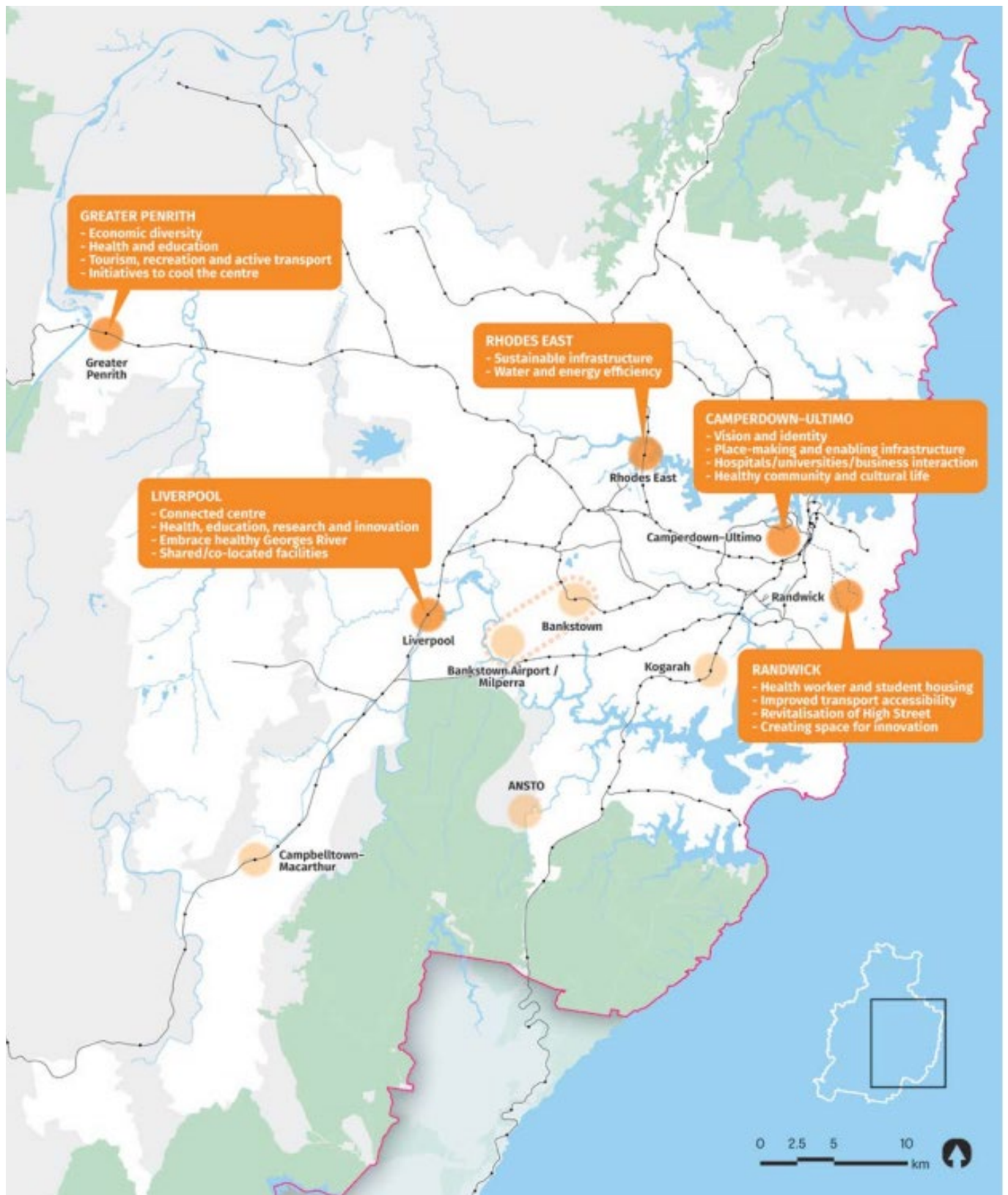


Figure 11.2: Greater Sydney Collaboration Areas (Source: Greater Sydney Commission, 2018)

## 11.2 LOCAL GOVERNMENT PLANNING INSTRUMENTS

Development at Bankstown Airport is exempt from local planning provisions and therefore approval from the Canterbury-Bankstown Council, in accordance with the Bankstown Local Environmental Plan 2015 (Bankstown LEP), is not required. However, the Airports Act requires any developments be undertaken in a manner that considers local planning regulations.

In 2008, BAL and the (former) Bankstown City Council entered into a Memorandum of Understanding (MoU) which provides a framework for consultation with Council with respect to proposed developments on Bankstown Airport.

### 11.2.1 BANKSTOWN LOCAL ENVIRONMENTAL PLAN 2015

Under the Bankstown LEP (2015), Bankstown Airport is zoned SP2 Infrastructure (Air Transport Facility) to provide for airport operation and associated land uses on the site.

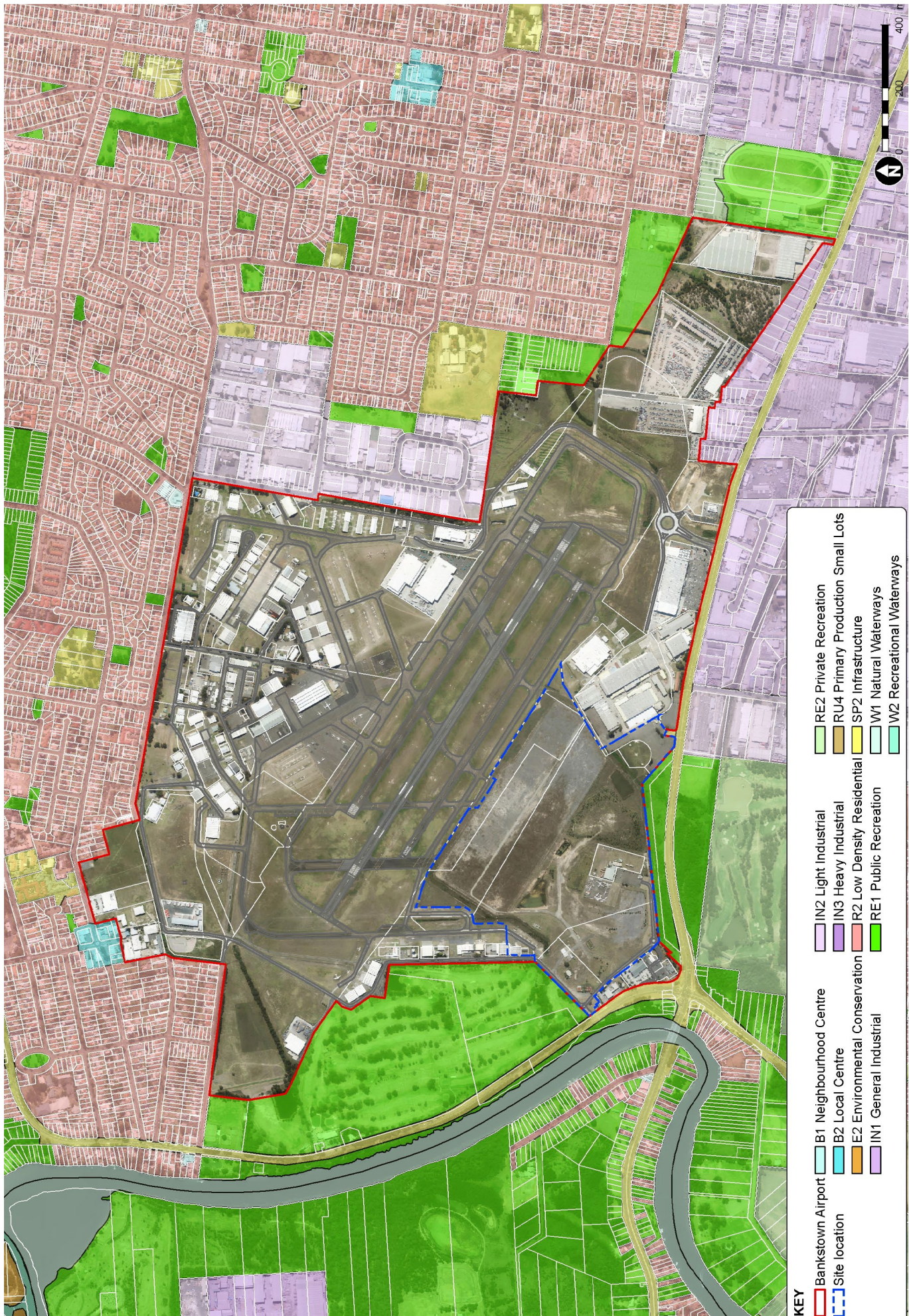
The land immediately to the west of the Project Site is zoned for recreation uses which provide a buffer to some small pockets of low density residential zoned land beyond. Land to the south of the Project Site is zoned for a mix of industrial and recreation uses. The land to the north and east of the Project Site is located within the Airport site. The zoning of the areas surrounding the Airport are shown in Figure 11.3, and their associated objectives are outlined in Table 11.1.

Bankstown Airport is listed as a local heritage item (I18 Bankstown Aerodrome) for its regional strategic importance during the 1940s.

**Table 11.1:** Objectives of zones surrounding Bankstown Airport

Zone	Zone objectives
RE1 Public Recreation	Enable land to be used for public open space or recreational purposes, provide a range of recreational settings and activities and compatible land uses and to protect and enhance the natural environment for recreational purposes.
RE2 Private recreation	Enable land to be used for private open space or recreational purposes, provide a range of recreational settings and activities and compatible land uses and protect and enhance the natural environment for recreational purposes.
IN1 General Industrial	Provide a wide range of industrial and warehouse land uses, encourage employment opportunities, minimise any adverse effect of industry on other land uses and support and protect industrial land for industrial uses.
IN2 Light Industrial	Provide a wide range of light industrial, warehouse and related land uses, encourage employment opportunities, support the viability of centres, minimise any adverse effect of industry on other land uses, enable other land uses that provide facilities or services to meet the day-to-day needs of workers in the area and support and protect industrial land for industrial uses.
R2 Low Density Residential	Provide for the housing needs of the community within a low density residential environment, enable other land uses that provide facilities or services to meet the day to day needs of residents, allow for certain non-residential development that is compatible with residential uses, allow for housing that has regard to local amenity and require landscape as a key characteristic.
B1 Neighbourhood Centre	Provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood and provide for certain residential uses that are compatible with the mix of uses in neighbourhood centres.
B2 Local Centre	Provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area, encourage employment opportunities in accessible locations, maximise public transport patronage and encourage walking and cycling and provide for certain residential uses that are compatible with the mix of uses in local centres.







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## 11.2.2 BANKSTOWN AIRPORT- MILPERRA SPECIALISED CENTRE

The Bankstown Employment Lands Development Study 2009 prepared by Bankstown City Council sets out a strategic direction for employment lands in Bankstown and makes recommendations on how New South Wales Government jobs targets may be met. The Study was adopted by Council in September 2009.

One of the key directions of the Study was to strengthen the role of the Airport-Milperra area as a 'Specialised Centre'. The Specialised Centre categorisation indicates that the Centre is of strategic significance to the Sydney Metropolitan Region in terms of attracting employment and future investment. Specialised centres will be a focus of future infrastructure investment.

At the time of publication, of the 15,400 existing jobs, around 3,000 people were employed in association with the Airport. The remainder were predominantly employed in the Milperra industrial area and the University of Western Sydney.

The vision for this Specialised Centre is to expand opportunities for high value-added industries and skilled jobs associated with aviation, manufacturing and logistics. This is to be done through improved planning and industry networks, development and redevelopment opportunities, and access to and from the area. Value chain profiling indicates significant opportunities to further strengthen aerospace industries. The Study notes that the Airport represents the major potential for new activities through improved use of surplus land, if airport-related activities are rationalised, and the short north south runway is removed. The short north south runway was closed subsequent to the Study being released (in 2006).

# 12.0 CONSULTATION



BAL IS COMMITTED TO ONGOING ENGAGEMENT WITH KEY STAKEHOLDERS IN RELATION TO PLANNING, DEVELOPMENT AND OPERATIONAL ISSUES RELATED TO BANKSTOWN AIRPORT.

AS PART OF THIS PROJECT, BAL IS COMMITTED TO UNDERSTANDING THE COMMUNITY AND STAKEHOLDER'S VIEWS, ISSUES, AND OPPORTUNITIES TO MINIMISE THE IMPACT DURING THE PLANNING, CONSTRUCTION AND OPERATION OF THE PROJECT AS PROPOSED BY THIS MDP.



A Consultation Strategy (the Strategy) has been developed for the combined public consultation of the Project along with Bankstown Airport's Master Plan 2019. The Strategy outlines how BAL will approach the community and stakeholder consultation for both projects. This includes:

- Meeting the legislative requirements for public consultation
- Identifying key stakeholders, their issues, risks and concerns
- Identifying communication activities that best suit stakeholders and the community for both projects; and encourage submissions during public consultation
- Identifying how Bankstown Airport can leverage public consultation to raise its profile amongst stakeholders and the community; and enhance relationships with its neighbours.



## 12.1 AIRPORTS ACT CONSULTATION REQUIREMENTS

Under the Airports Act, Section 79 and 80 for Master Plans and Section 92 for Major Development Plans:

- Before making the Preliminary Draft Master Plan or Major Development Plan available for public comment, BAL must advise the following persons of its intention to undertake a Master Plan and a Major Development Plan:
  - The Minister, of the State or Territory in which the airport is situated, with responsibility for town planning or use of land
  - The authority of that State or Territory with responsibility for town planning or use of land
  - Each local government body with responsibility for an area surrounding the airport.
- BAL must publish in a newspaper circulating in the State or Territory in which the airport is situated, and on the airport's website, a notice stating:
  - That a Preliminary Draft Master Plan and a Major Development Plan has been prepared;
  - The consultation period
  - Where copies of the documents are available for inspection during the consultation period
  - Where copies are available for purchase and inspection, and that copies are available free of charge on the airport's website throughout the consultation period
  - A consultation period of 60 business days after the publication of the notice must be carried out
  - Written comments made by members of the public on the Preliminary Draft Master Plan and the Major Development Plan must be included in the Draft Master Plan and Major Development Plan submitted to the Minister. Specifically, the Draft Master Plan and Major Development Plan must be accompanied by copies of written public comments, a certificate signed on behalf of the company listing the names of those who made comment, a summary of the comments and how such comments have been considered in finalising the Draft Master Plan and Major Development Plan.

Therefore, the opportunity exists to align the public consultation of the Preliminary Drafts of the Bankstown Airport Master Plan 2019 and this MDP as:

- Two separate and distinct consultation processes – but combining the into a consolidated public exhibition which will minimise public confusion, allowing for a more consolidated and holistic public consultation approach
- The Major Development Plan can be clearly referenced as a key strategic project contained within the Master Plan.

## 12.2 APPROACH TO CONSULTATION

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The objectives of consultation for the two projects are to:

- Inform the local and wider community about the opportunities that Bankstown Airport can offer with respect to its strategic location in Western Sydney and role in economic development and employment growth
- Provide the community with a long term vision for Bankstown Airport and set expectations that the SWP development (and other projects) will facilitate and transition the airports towards this long term vision
- Create awareness of the Preliminary Draft Master Plan and Major Development Plan to keep the community and stakeholders informed throughout the project
- Build and maintain goodwill with the community given the future developments/projects that Bankstown Airport is likely to undertake
- Provide a range of opportunities for stakeholders, interested groups and the wider community to be informed about the project and provide feedback
- Identify, explore and capture ideas, issues, concerns and opportunities relayed during consultation that may be considered in the Draft Master Plan or Major Development Plan
- Anticipate and identify issues that may attract media or negative community attention
- Increase knowledge, profile and awareness of BAL in the wider community and within government and continue to build strong stakeholder relationships and partnerships which continue beyond these projects
- Foster a sense of transparency around key decisions and create an accessible and inclusive process for stakeholder and community input and constructive dialogue
- Provide direction for the Draft Master Plan and Draft Major Development Plan through feedback and comments obtained during the consultation process.

To achieve the above, BAL's approach to consultation is focussed on creating robust, transparent and engaging communications befitting the Preliminary Draft Master Plan 2019 and Major Development Plan consultation process. It will:

- Meet legislative consultation requirements as outlined in Section 79, 80 and 92 of the Airports Act
- Raise Bankstown Airport's profile, brand and awareness; and enhance its reputation
- Focus on the future benefits of the Airport (e.g. increased employment opportunities and economic growth in Western Sydney)
- Reach a wide stakeholder group at all levels (e.g. government, business, tenants and the general community)
- Use creative, innovative and engaging communication tactics to interact with the community
- Use communications befitting Bankstown Airport's surrounding community
- Continue to engage, consult and request assistance from Canterbury Bankstown, Liverpool and Fairfield City Councils to facilitate mutual consultation and co-operative relations regarding issues related to the operation and development of the airport
- Leverage the Bankstown Airport Community Aviation Consultation Group (BACACG) and Planning Coordination Forum (PCF) to enable stakeholder consultation and involvement in the planning process and issues relating to the ongoing management of the Airport in a constructive and effective manner.

## 12.3 KEY STAKEHOLDERS AND SPECIALISTS CONSULTED

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As part of the preparation of this Exposure Draft MDP, BAL has consulted with key stakeholders and specialists including:

- Australian Government Department of Infrastructure, Regional Development and Cities
- Civil Aviation Safety Authority (CASA) Australia
- Airservices Australia
- Transport for NSW (TfNSW)
- NSW Office of Environment and Heritage
- Canterbury-Bankstown Council
- Bankstown Airport tenants
- Airport and Business Committees
- Bankstown Airport Consultative Committee
- Bankstown Airport Planning Coordination Forum.

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