ESSENDON FIELDS AIRPORT
MAJOR DEVELOPMENT PLAN

ARC Commercial Office Development
2 Larkin Boulevard, Essendon Fields

Approved 14 January 2020
Figure 1: Essendon Fields aerial photograph with subject development site annotated.
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Executive Summary

Essendon Airport Pty Ltd (EAPL) has prepared this Major Development Plan (MDP) for the construction of a six (6) storey office development with associated car parking at the Essendon Fields Airport site (Essendon Fields).

The proposed development comprises three buildings totalling approximately 22,000 sqm of Gross Floor Area which includes approximately 18,000 sqm Net Lettable Area (NLA) of office space, basement car parking and a café of approximately 250 sqm NLA.

The three buildings are designed to be constructed either concurrently or in stages as follows:

- Stage 1 (Building 1): 6,700 sqm NLA.
- Stage 2 (Building 2): 5,700 sqm NLA.
- Stage 3 (Building 3): 5,800 sqm NLA.

Car spaces will be subject to tenant demand and provided based on the rate of approximately 3.0 car spaces per 100 sqm of office NLA.

Essendon Fields is a strategically located parcel of land which, while providing aviation facilities, also provides a unique opportunity to reinforce its increasing employment precinct function by realising non-aviation development potential. Non-aviation developments on land that is surplus to aviation requirements support the economic viability of the Airport.

The Essendon Airport Master Plan 2013 (Master Plan) provides for the Airport’s English Street Precinct to be further developed with high value commercial developments.

A Major Development Plan (MDP) is required as the cost of construction for the proposed development will exceed the threshold amount in the Airports Act 1996 (currently $25 million) and EAPL may construct the buildings consecutively or concurrently.

The specific detail of the proposal and assessment of its potential impacts is contained within this document.

The proposed MDP is consistent with the current approved Master Plan and the proposed development does not raise any issues that have a significant impact on the environment or the local or regional community. The ongoing operation of the completed development will support more than 1,000 direct jobs.

On 14 January 2020, the draft version of this MDP was approved by the Minister for Infrastructure, Transport and Regional Development.
1.0 Introduction

1.1 Purpose of this report

Essendon Fields is located on Commonwealth land and is therefore subject to the Airports Act 1996 (the Act) and associated Regulations. This MDP has been prepared as a requirement of Section 89(1)(e) of the Act as construction of a new building is proposed where:

(i) the building is not wholly or principally for use as a passenger terminal; and
(ii) the cost of construction exceeds the threshold amount. (the current threshold is $25 million)

The Act requires at Section 90 that a “major airport development”, must not be carried out except in accordance with an approved MDP.

Section 91 of the Airports Act outlines the required contents of an MDP. This MDP provides:

- A description of the proposal.
- An outline of the statutory context for the development and its consistency with relevant provisions.
- An assessment of possible impacts and how these will be mitigated.

1.2 Structure

This MDP is structured to address the requirements of the Act as follows:

- **Section 2**: provides a description of the MDP process.
- **Section 3**: provides a description of the site and surrounding environment.
- **Section 4**: outlines the proposed development.
- **Section 5**: identifies the statutory context for the proposal and provides assessment of the proposal against the relevant airport planning documents, state and local policy.
- **Section 6**: provides an assessment of the potential impacts of the proposal, including the management measures and processes to manage the effects of the proposal.
- **Section 7**: outlines the objectives in the Airport Environment Strategy of relevance to this MDP.
- **Section 8**: describes the consultation that has taken place as well as the approval process required for the MDP.
- **Section 9**: outlines the conclusions of the report.
1.3 Essendon Fields Airport
Essendon Fields Airport comprises approximately 305 hectares and is located approximately 11 kilometres northwest of the Melbourne Central Business District and approximately 7 kilometres southeast of Melbourne Airport.

Essendon Fields serves as a reliever airport by accommodating mostly smaller, unscheduled aircraft which are less suited to the air traffic and fleet mix of Melbourne’s major airports.

The Airport is an important piece of aviation infrastructure and also an emerging activity centre with over 6,000 direct jobs and potential to create thousands of additional employment opportunities.

1.4 Master Plan 2013
The Essendon Airport Master Plan (2013) (Master Plan) establishes the strategic direction of the Airport for the next 20 years. The Master Plan provides for the planning of aviation activity, land use, commercial development and environmental and heritage management in an integrated manner.

EAPL’s vision for the Airport (as stated in the Master Plan) is:

‘To establish a commercially viable, safe and functional general aviation facility which meets projected aviation requirements whilst utilising the property’s strategic land holdings for high quality commercial development.’

The Master Plan identifies the following development objectives to achieve this vision:

- To improve and maintain safe, secure and efficient airport operations.
- To add value to the airport by realising and taking advantage of development opportunities.
- To increase market awareness of development opportunities at the airport.
- To improve the integration of the airport with its surrounds.
- To consolidate airport operations and aviation requirements to ensure efficient and sustainable land use.

Of the seven land use precincts identified in the Master plan, the proposal is included within the English Street Precinct (Refer Figure 2). The English Street Precinct is the main entry to Essendon Fields and is recognised as a desirable business district within Melbourne’s north-west. The Master Plan identifies the English Street Precinct to be developed with high value commercial buildings including office, hotel, retail, car parking and entertainment spaces.

1.5 Draft Master Plan 2019
A draft Master Plan for the period 2019 to 2039 was submitted to the Minister by 29 July 2019. Prior to this, a draft of the 2019 Master Plan was exhibited for public comment for a period of 60 business days.

It is possible that the 2019 Master Plan will be approved by the Minister prior to the approval of this MDP.

The proposed development is consistent with the Draft Master Plan, which estimates new office floor space of 25,000 sqm of net lettable area within the English Street Precinct. The specific location of the proposed “ARC“ development is identified.
1.6 Overview of the proposal

The proposal is to construct a six (6) storey office development at 2 Larkin Boulevard, with associated car parking nearby. The proposed development will be primarily utilised as office and will include a café and car parking.

The proposed development comprises approximately 22,000 sqm of Gross Floor Area which includes approximately 18,000 sqm Net Lettable Area (NLA) of office space and a café of approximately 250 sqm NLA.

Appendix A of this MDP contains development plans and elevations for the proposal. More detailed information regarding the proposal is included in Section 4 of this document.

1.7 Project objectives

EAPL’s objectives for the proposed development are that it:

- Contributes to the overall financial viability of the Airport through compatible non-aviation development.
- Provides high quality office accommodation.
- Contributes to employment opportunities within the Airport and local area.
- Provides social and economic benefits to the Airport and region.
- Adds high quality built form which enhances the business environment of the Airport.

Figure 3: Annotated aerial photo with artist impression of proposed "ARC" development and local amenities
1.8 Need and justification of Airport users

Section 91(1)(b) of the Act requires an MDP to include the Airport-lessee company’s “assessment of the extent to which the future needs of civil aviation users of the airport, and other users of the airport, will be met by the development.” The development of the proposed office building will support and encourage the use of existing Airport facilities and services without adversely affecting Airport users. The proposal will support the economic viability of the Airport and its existing businesses. Potential impacts on civil aviation users and non-aviation users of the airport are considered in Sections 1.8.1 and 1.8.2.

1.8.1 Civil aviation users

Essendon Fields operates a two-runway system supporting a mix of charter, corporate, emergency services and general aviation users.

The Airport is a base for Victoria’s Police Air Wing and Air Ambulance, along with the Royal Flying Doctor Service, Australian Maritime Safety Authority and other emergency transport, including closed-charters for medical evacuations. Erickson Air Crane fire-fighting helicopters are also located at the Airport during bushfire season.

Regular Passenger Transport (RPT) services operate from Essendon Fields to regional locations. As at January 2019, scheduled flights operate to Wollongong, Dubbo, Orange, Flinders Island, King Island, Portland and Warrnambool.

Closed-charter flights operate from Essendon Fields, including charters for tourist groups and special events. The Airport has also hosted regular closed-charter Fly-In-Fly-Out (FIFO) operations servicing the mining and energy sectors across Australia.

Other civil aviation uses at the Airport include a regional light freight service, light maintenance and flight training schools.

Whilst there is no direct need for the development from civil aviation users, the development may be used by civil aviation users who want to lease office space at Essendon Fields. The provision of a new modern office building will support existing civil aviation users by increasing patronage within the Airport precinct and contributing to the ongoing operation of the Airport. EAPL considers the revenues from non-aviation development are necessary to remain competitive and sustain its aviation operations.

1.8.2 Non-aviation users

According to the economic analysis prepared for the Master Plan in 2013, there were in excess of 170 active businesses at Essendon Fields representing 14 of the 19 major industry sectors, and employing over 4,200 persons (representing 13% of all jobs within the City of Moonee Valley). Since the commencement of the current Master Plan period, a further 1800 jobs have been added.

Non-aviation businesses located within the English Street Precinct include:

- Hyatt Place Hotel.
- Linfox Logistics Head Office.
- Armaguard Head Office.
- WorkSafe Victoria.
- Visy.
- VicRoads.
- Wilson Security.
- Bostik Australia.
- Commonwealth Bank.
- Matthews Steer Accountants & Advisors.
- Coles Supermarket.
- LaManna Supermarket.
- Essendon Fields Medical Centre.
Essendon Fields is located within the local government area of Moonee Valley where there are in excess of 10,000 local businesses in the municipality employing more than 40,000 people (Street Ryan, 2013).

The proposed office development will add to the existing commercial activities and employment base at the Airport. Approximately 1,000 employees are forecast to be accommodated within the proposed development. The proposed office building will therefore support the overall viability of the Airport and increase patronage at retail and other service businesses at Essendon Fields and surrounding areas.

With over one million people living within a 15 minute drive of Essendon Fields, the site presents an alternative to the Melbourne CBD and is a prime location to offer a significant amount of office floor area.

The proponent has the capacity to develop and own the building in its own right and regards the establishment of a new office development as beneficial for the future growth and sustainability of the Airport. This is consistent with the object of the Act contained at Section 3(c) ‘to promote the efficient and economic development and operation of airports’.

Meeting the needs of office tenants and workers in the region

There is demand in the local market for modern, high quality office product, as evidenced by the take-up of new floor space at 6 English Street Essendon Fields which was 90% pre-committed at project completion.

The proposed development will appeal to Government or private enterprise looking to locate in the area into large-floorplate A-Grade office space, which is currently lacking in northern suburban Melbourne. It will also appeal to potential workers by opening up localised employment opportunities and providing modern work spaces.

Creating skilled employment opportunities locally

The proposal will provide office space which can provide more skilled employment opportunities in the Moonee Valley area, allowing residents to work locally.

Catalyst for further development

The proposed development will add to the critical mass of office supply in the area which will increase the attraction of the precinct for other tenants.

Support for local business

The addition of approximately 1000 workers into Essendon Fields will create significant opportunities for retail and other service businesses, either existing or those who may establish in the future.

1.9 Proponent details

Essendon Airport Pty Ltd (EAPL) is the Airport Lessee Company for the Essendon Fields Airport Site, pursuant to the provisions of the Act and is the proponent for this Major Development Plan.
2.0 Major Development Plan Process

2.1 Major Development Plan
The typical process for preparing, submitting and the approval of an MDP is outlined in Figure 4. In summary, EAPL will:

- Prepare a Preliminary Draft version of the MDP.
- Seek public comment (for a period of 60 business days) on the Preliminary Draft version of the MDP and amend the document after having regard to written comments received.
- Submit a Draft MDP together with details of the public comments to the Commonwealth Minister for Infrastructure, Transport and Regional Development. During this process the Minister:
  - Refers the draft MDP and its assessment to the Commonwealth Department of the Environment and Energy (DoEE) and receives advice.
  - Determines whether to approve or reject the MDP and advises the proponent.
  - May specify conditions imposed on the approval of the MDP in accordance with Section 94A of the Act.

2.2 Other project approvals
New developments and building works at Essendon Fields are subject to an internal process to ensure consistency with the Master Plan and other relevant policies and plans.

Should the Commonwealth Minister for Infrastructure, Transport and Regional Development approve the Draft MDP, other separate independent approvals for construction of the proposed facilities will be sought through:

- The Airport Building Controller (ABC). The ABC exercises the power and functions prescribed by the Airport (Building Control) Regulations 1996, made under Part 5 Division 5 of the Airports Act 1996.
- The Airport Environment Officer (AEO). The AEO assesses the proposal against the environmental requirements of the Act, the Airports (Environment Protection) Regulations 1997 and provides referral advice to the ABC. The AEO may also examine Environmental Management Plans for construction and/or operations and assesses the project activities, including construction against the Essendon Airport Environment Strategy. The AEO may also inspect the site during construction works to ensure appropriate environmental measures are undertaken.
- Certificate of Compliance for Use / Occupancy issued by the ABC upon completion of the works.
The process for other approvals therefore comprises the following components:

- Airport Operator’s consent granted by EAPL.
- Assessment of the proposal and the Construction Environmental Management Plan (CEMP) (to be prepared by the construction contractor) by EAPL and the AEO.
- Building/Works permits issued by the ABC.
- Permit to Commence Work issued by EAPL.
- After completion of construction, Certificate of Compliance for Use / Occupancy issued by the ABC.

Approvals will be consistent with the Master Plan and the approved MDP. The new building will be designed in accordance with all relevant codes, such as the Building Code of Australia.

No additional approvals are required for this proposal under Division 5 or Part 12 of the Act with respect to capacity declarations or the protection of airspace, other than temporary penetrations of airspace which may be required during the construction phase.

Figure 4 below summarises the typical MDP process.

Figure 4: Typical MDP Process
3.0 Site and Surrounds

3.1 Essendon Fields

Essendon Fields comprises approximately 305 hectares of Commonwealth land, situated approximately 11 kilometres northwest of Melbourne’s Central Business District (CBD) and approximately 7 kilometres south-east of Melbourne Airport.

Essendon Fields is located in an established urban area surrounded by industrial, commercial and residential land uses and the suburbs of Airport West, Essendon, Niddrie, Tullamarine, Strathmore and Strathmore Heights. A range of existing office and retail uses are located in close proximity to the subject site to the south and east. The DFO shopping centre and the Homemaker Hub are also located at Essendon Fields, situated on land within the south-east section of the Airport.

Figure 5: Essendon Fields Location Plan
3.2 Surrounds

The surrounding area of Essendon Fields to the north comprises residential uses and Boeing Reserve which offers a range of recreation and sporting facilities.

Surrounding land to the east and south is generally established residential areas.

To the west of the site is the Airport West Principal Activity Centre which comprises a mix of retail, commercial, industrial and residential uses. Westfield Shopping Centre and Skyway Tavern are situated to the north of this centre. Towards the east of the centre are retail premises along Matthews Avenue and to the south and west are residential areas and community facilities such as schools and public open space.

Essendon Fields is connected to the metropolitan arterial road network which provides excellent access to Melbourne Airport and Melbourne CBD, the Western Ring Road and Calder Freeway. Refer to Figure 6 below.
3.3 Subject site

The proposed office development site is located within the Airport’s English Street Precinct and is bordered by Larkin Boulevard, Nomad Road and Vaughan Street. The site is approximately 9,000 sqm and is currently utilised for car parking at-grade, with associated landscaping. (Refer to Figure 7)
4.0 Proposed Development

The proposal is subject to detailed design and construction feasibility and will change slightly during and after the MDP approval process. Changes to the design will be necessary to achieve the most cost effective and efficient functioning of the proposed building and to meet tenant requirements. However, the final design will not exceed the number of storeys stated in section 4.1 below.

Refer to Appendix A for development plans and elevations of the proposed development.

4.1 Description of the proposal

EAPL seeks to construct a six (6) storey office development with associated car parking on Airport land.

The proposed office development comprises not more than 22,500 sqm Gross Floor Area which includes not more than 18,500 sqm Net Lettable Area (NLA) of office space and a café of not more than 260 sqm NLA.

Car spaces will be subject to tenant demand and provided based on the rate of approximately 3.0 car spaces per 100 sqm of Net Lettable Office Area. The basis for the car parking provision is detailed in Section 6.3.3 of this MDP.

4.2.1 Stage 1

Stage 1 comprises the construction of Building 1, the first stage of a single-level of basement car parking and the first stage of the central courtyard which will include a café.

Building 1 will total approximately 7800 sqm GFA and include:

- Ground floor of approximately 1200 sqm GFA.
- Level 1 of approximately 1240 sqm GFA.
- Levels 2 to 5 approximately 1340 sqm GFA each.
- Mechanical plant located at roof level.

Building 1 will comprise approximately 6700 sqm NLA.

The first stage of the basement will include:

- Approximately 70 car parking spaces.
- Approximately 50 bicycle spaces.
- Male and female shower/changing rooms.
- Water storage tanks.
- Waste and storage rooms.
4.2.2 Stage 2
Stage 2 comprises the construction of Building 2 and the construction of the remainder of the basement car park.

Building 2 will total approximately 6700 sqm GFA and include:
- Ground floor of approximately 780 sqm GFA.
- Levels 1 to 5 approximately 1190 sqm each.
- Mechanical plant located at roof level.

Building 2 will comprise approximately 6000 sqm NLA.
The second stage of the basement will include approximately 76 car parking spaces.

4.2.3 Stage 3
Stage 3 comprises the construction of Building 3 and completion of the central courtyard.

Building 3 will total approximately 6800 sqm GFA and include:
- Ground floor of approximately 870 sqm GFA.
- Levels 1 to 5 approximately 1200 sqm GFA each.
- Mechanical plant located at roof level.

Building 3 will comprise approximately 5,800 sqm NLA.

Figure 8: Building locations
4.4 Building height
The maximum height of the proposed ARC development (Buildings 1, 2 and 3) is 102.5 metres Australian Height Datum (AHD) including roof vents, lift over-runs and other building equipment. The proposed development will therefore not penetrate the prescribed airspace for Essendon Fields Airport. (Refer Chapter 6.4.1)

Any temporary obstacles (i.e. construction cranes) will be managed in accordance with the Airports (Protection of Airspace) Regulations 1996.

4.5 Operation and maintenance
The project will be owned and maintained by EAPL for the foreseeable future. The tenants will enter into leases with EAPL for the occupancy of the buildings.

EAPL will implement an Operational Environmental Management Plan for common areas and mechanical plant that it is responsible for managing.

4.6 Risk and hazard management
The proposal will be designed to adhere to the Building Code of Australia (BCA) and other relevant codes and standards.

Work health and safety requirements within and adjacent to the project will be managed in accordance with the Victorian Occupational Health and Safety Act 2004 and associated Regulations.

4.7 Equity of access
Provisions for equity of access will comply with the applicable codes, including the Premises Standards and equity of access provisions of the Building Code of Australia.

People with mobility issues will have suitable access to the buildings from the footpath and from the car park under the building.

4.8 Building services and facilities
The project will:

- Be connected to an electricity supply adequate to support the building and its services.
- Be connected to the Airport water supply provided by City West Water which is adequate and readily available.
- Be connected to the existing wastewater and sewerage reticulation systems in the Airport which have available capacity and discharge into the City West Water sewer system at the boundary of Essendon Fields.
- Be connected to at least one telecommunications network which includes fiber optic connection for telecommunications and internet services.
- Include the installation of energy efficient light fittings internally and externally, where appropriate. External light fittings will be installed to comply with air safety requirements outlined in Chapter 9 of the CASA Manual of Standards Part 139 – Aerodromes.
- Include heating, ventilation and air conditioning plant and equipment suitable for a development of this type.

4.9 Landscaping
Landscaping will be consistent with the high standards established on the Airport site for other completed projects.

The management of rubbish will be undertaken in a similar manner to that implemented in other buildings on the Airport.
4.10 Signage

Signage of the completed building will be generally consistent with other signage throughout the Airport and will include:

- Identification and branding signage. Signs will not be allowed to protrude or be placed above the roof of the building.
- Tenant signs.
- Ground transport and traffic signage.
- Safety and hazard signage.
- Any other signage as required.

In approving signage for the development, EAPL will consider the Decision Guidelines in Clause 52.05-2 of the Airport Land Use Plan.

4.11 External lighting

Lighting designs for the proposed office building will minimise light spill and meet the requirements of Section 9.21 Lighting in the Vicinity of Aerodromes in the Civil Aviation Safety Authority Manual of Standards Part 139 – Aerodromes. Lighting will be designed to meet the requirements for these zones as detailed in Section 6.4.3 of this MDP.
4.12 Construction

EAPL has experience in managing construction projects of a large scale and will oversee the principal construction contractor during the construction phase.

Earthworks to a depth of approximately 4.5 metres will be required to accommodate the building foundations and basement.

Sufficient laydown and lay-by areas for construction activities will be provided and access to and through the precinct will be maintained with minimal disturbance. During the construction period it is anticipated a peak construction workforce in the order of 200 personnel could be on-site.

The principal construction contractor will be required to develop and implement a site-specific Construction Environmental Management Plan (CEMP) based on EAPL’s Framework CEMP. Refer to Section 6.6 for further information. The principal contractor’s site supervisors will receive induction training from EAPL’s environmental consultant at the commencement of the project.

EAPL will monitor the construction process to ensure compliance with the CEMP and the Airport Environment Strategy. EAPL’s environmental consultant will undertake site inspections on a monthly basis to check compliance with the CEMP and share its findings with the Australian Government-appointed Airport Environment Officer (AEO) to manage any non-conformances.

4.13 Environmental rating systems

Green Star is an internationally recognised sustainability rating system developed by the Green Building Council of Australia.

The project has committed to achieving a 5 star Green Star Design and As-Built rating for the base building, which represents “Australian Excellence.” These initiatives provide consistency with and exceed the objectives of Section 11.2 of the Airport Environment Strategy.

The National Australian Built Environment Rating System (NABERS) is a system that measures the environmental performance of Australian buildings, tenancies and homes. NABERS measures energy efficiency, water usage, waste management and indoor environment quality of a building or tenancy and its impact on the environment.

The proposed development will be designed to an Office Base Building Energy Rating of at least 4.5 star NABERS, which demonstrates a high performance building. This rating is required for a Victorian Government office tenant. Predictive energy modelling undertaken during the design phase would provide confidence that the desired rating is capable of being achieved.
4.14 Car parking

The requirement of 555 car spaces for use by occupants of the development will be provided as follows:

- 145 car spaces within the basement level of the development; and
- 410 off-site car spaces to be provided within nearby at-grade car parks or future multi-deck carparks.

Initially, car spaces for Stage 1 of the development will be provided in the Stage 1 basement (70 spaces) and at-grade parking areas on the development site and/or the opposite side of Larkin Boulevard (122 spaces). (Refer Figure 9).

The development site is currently utilised as a temporary at-grade car park (the Nomad Road Car Park) which provides additional car parking for users of the nearby office buildings.

The Nomad Road Car Park currently has a capacity of 277 spaces, of which:

- 205 spaces are licensed under a permit scheme for use Monday to Friday;
- 48 spaces are available to the general public;
- 20 spaces are vacant; and
- 4 spaces are reserved for people with disabilities.

The car park is utilised by office workers on business days and usually vacant outside of normal business hours.

During the development, EAPL will replace up to 257 car spaces (including 4 disabled spaces) within nearby at-grade car parks or future multi-deck carparks. The location of the at-grade car parks is shown in Figure 10.

EAPL will review car parking adequacy after completion of the development. Should any additional car parking demand arise, EAPL is capable of providing these within additional at-grade or multi-deck car parks under the approved Master Plan.
Figure 9 – Stage 1 Off-site car parking provision (shaded yellow)

Figure 10 – Off-site car parking areas (shaded yellow)
5.0 Statutory Context

5.1 Commonwealth legislation
A 'major airport development', as defined under the Act, requires the preparation of a Major Development Plan (MDP) which must be approved by the Minister. The contents of an MDP are set out in section 91 of the Act.

EAPL holds a long term lease over the Airport site from the Commonwealth of Australia. All building and development activities are regulated by Commonwealth legislation consisting of, but not limited to:

- Airports Act 1996 (Cth).
- Airports Regulations 1997 (Cth).
- Airports (Building Control) Regulations 1996 (Cth).
- Airports (Environmental Protection) Regulations 1997 (Cth).
- Environment Protection and Biodiversity Conservation Act 1999 (Cth).
- Airports (Protection of Airspace) Regulations 1996 (Cth).
- Civil Aviation Safety Authority Manual of Standards – Part 139 Aerodromes.

5.2 Airports Act 1996
In accordance with the Act, an MDP must be prepared where a major development is proposed. The proposal is defined as a 'major airport development' according to Section 89(1)(e) as:

(e) constructing a new building, where:

(i) the building is not wholly or principally for use as a passenger terminal; and

(ii) the cost of construction exceeds the threshold amount.

As the construction cost of the office development will exceed $25 million, the proposal is therefore subject to the provisions of the Act.

The contents of an MDP are set out in Section 91 of the Act and include:

- Objectives of the development.
- Assessment of the extent to which the future needs of users of the airport (civil aviation and others) will be met by the development.
- Detailed outline of the development.
- Whether or not the development is consistent with the Airport lease.
- Whether or not the proposed development is consistent with the final master plan.
- If the development could affect noise exposure levels at the airport and the effect on those levels.
- If the development could affect flight paths at the airport and the effect on those flight paths.
- The airport-lessee company’s plans… for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels.
• Outline of the approvals that the airport-lessee company, or any other person, has sought, is seeking or proposes to seek under Division 5 or Part 12 in respect of elements of the development.

• The likely effect of the proposed developments that are set out in the major development plan, or the draft of the major development plan, on:
  
  (i) traffic flows at the airport and surrounding the airport.
  
  (ii) employment levels at the airport.
  
  (iii) the local and regional economy and community, including an analysis of how the proposed developments fit within the local planning schemes for commercial and retail development in the adjacent area.

• An assessment of the environmental impacts that might reasonably be expected to be associated with the development.

• Plans for dealing with the environmental impacts (including plans for ameliorating or preventing environmental impacts).

• If the plan relates to a sensitive development – the exceptional circumstances that the airport-lessee company claims will justify the development of the sensitive development at the airport.

• Such other matters (if any) as are specified in the regulations.

This MDP has been prepared in accordance with the requirements listed above.

The proposal is not considered to be a ‘sensitive development’ pursuant to Section 71A of the Act.

5.3 National Airports Safeguarding Framework

The National Airports Safeguarding Framework (NASF) Guidelines are a national land use planning framework which seeks to:

• Improve community amenity by minimising aircraft noise-sensitive developments near airports.

• 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 nine NASF guidelines are:


• Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports.

• Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports.

• Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms) / Wind Monitoring Towers.

• Guideline E: Managing the Risk of Distraction to Pilots from Lighting in the Vicinity of Airports.

• Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports.


• Guideline H: Protecting Strategically Important Helicopter Landing Sites.

• Guideline I: Managing the Risk in Public Safety Areas at the Ends of Runways.
The Aviation Assessment (Rehbein, March 2019) identifies that the project is consistent with the NASF guidelines for the following reasons:

- Part of the office development site lies between the current 2039 Australian Noise Exposure Forecast (ANEF) 25 and 30 noise contours. Pursuant to Australian Standard AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction, a commercial building is conditionally acceptable if located between the 25 to 35 ANEF contours. Noise attenuation will be provided as required. Figure 11 shows the development siting in relation to the 2039 ANEF. (Guideline A).

- The NASF Guideline B Assessment Trigger Area for the Airport is shown in Figure 12. The building's windshear assessment height at 102.5m AHD is within the 1:35 slope and requires further assessment. (Guideline B). Further assessment against Guideline B, including results of Wind Tunnel Tests are provided at Section 6.4 and Section 6.4.2 of this MDP.

- Landscaping around the building will be consistent with existing landscaping within the English Street Precinct and will not use bird attracting species (Guideline C).

- No wind turbine installations are proposed (Guideline D).

- The development site is within the light control zones for the two runways and the building will need to meet the restrictions associated with Zone B. Consideration of these restrictions will occur in detailed design for the office building (Guideline E).

- The building height of the proposed office development will not infringe the OLS Inner Horizontal Surface elevation or the PANS-OPS surface for the Airport. Thus it will not intrude on Prescribed Airspace. Construction activities will be considered to ensure any necessary temporary intrusions are approved (Guideline F).

- The proposed office development is outside the lateral limits of Runway 26 building restricted areas and thus will not interfere with the operation of the marker beacon system for the runway (Guideline G).

- Guideline H is not relevant to the proposed development.

- The proposed building is not in proximity to the landing thresholds or the Public Safety Areas. (Guideline I) (See Figure 13)

In summary, the proposed development will comply with the NASF Guidelines.
Figure 11: Development siting within 2039 ANEF
Figure 12: NASF Guideline B Assessment Trigger Area
Figure 13: NASF Guideline I Public Safety Areas (UK methodology)
5.4 Environmental Protection and Biodiversity Conservation Act 1999

The Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the Act as matters of national environmental significance. Given the Airport is located on Commonwealth land, the project is subject to the provisions of the EPBC Act.

A delegate for the Minister for the Environment has decided that impacts of the proposed action relevant to the EPBC Act are to be assessed by an accredited assessment of a Major Development Plan under the Airports Act 1996 (Cth).

5.5 Essendon Airport Master Plan 2013

The current Essendon Airport Master Plan 2013 (Master Plan) was approved on 28 April 2014 by the Minister for Infrastructure and Regional Development.

The Master Plan identifies opportunities for commercial development within the Airport’s non-aviation areas. The objectives for non-aviation development in the Master Plan are:

- Create an activity centre situated between Melbourne Airport and Melbourne CBD.
- Create a master planned business community which facilitates high quality developments.
- Complement the aviation activities.
- Encourage local employment for the north and west of Melbourne.

The office project is consistent with these objectives for the following reasons:

- The proposal will continue to develop Essendon Fields as a viable activity centre by providing additional office space. The employees accommodated will support existing businesses by spending in the centre and surrounding area.
- The proposed office building is designed to meet 4.5 star NABERS criteria and will provide a high quality development in a landscaped setting.
- The proposal will complement aviation activities by supporting the overall viability of the Airport.
- The proposal will provide for approximately 1000 employees in the north west of Melbourne. In addition it will provide for jobs during construction.
The English Street Precinct is envisaged to be further developed with high value commercial developments including offices. The Master Plan proposed establishing 10,000 sqm of new commercial floor space and associated car parking in the English Street Precinct in the first five years.

It is stated in the Master Plan that “proposed developments represent neither a maximum nor a minimum of development activity…” and “EAPL intends to make the most of development opportunities that present themselves.”

The proposed development will provide approximately 18,000 sqm NLA of office space. No upgrades to the external road connections of the Airport are necessary to accommodate the development. This is consistent with the Master Plan, including the Ground Transport Plan and the English Street Precinct. Traffic impacts are considered in further detail in Chapter 6.3.

Section 94 of the Act states that the Minister must not approve a Draft MDP unless it is consistent with the final (approved) Master Plan for the airport. For the reasons stated above, EAPL considers the proposal is consistent with the Master Plan and therefore should be approved.

5.5.1 Land Use Plan
The Master Plan includes a Land Use Plan (LUP). The LUP defines zones and sets out policies for identified precincts. The development site is located within the Business 2 Zone of the LUP.

The LUP provides direction on economic development and includes the following objectives and strategies:

- To achieve the vision by realising the full development potential of landside areas for commercial purposes.
- To actively promote the airport as a new place of business.
- To revitalise the airport through increased business activity.
- To create a campus-style business park providing a well landscaped and pleasant environment.
- To provide additional employment opportunities for the region.
- Promote English Street and Bulla Road precincts as the focus for commercial and retail development with a range of activities.

The proposed development will achieve these economic objectives by providing leasable floor space for employment opportunities. This will also increase activity and the range of services and facilities available at the Airport and the English Street Precinct in particular.

The LUP includes planning policy for the English Street Precinct at Clause 22.01 which includes the following objective:

- To ensure that development enhances the presentation of English Street as the main entrance to the airport through the establishment of the precinct with an office focus and through appropriate design, siting and landscaping.
Clause 22.01 of the LUP notes it is policy that:

- The precinct will be promoted and developed as the main location for office activities.
- Architectural expression promotes and reinforces the campus-style theme of the airport.
- Building frontage setbacks should complement and reinforce the boulevard character of English Street and Office [Larkin] Boulevard.
- View corridor opportunities into the site from Matthews Avenue and the commencement of English Street should be promoted and enhanced.
- Development on areas not directly fronting English Street or Office [Larkin] Boulevard also reinforce the campus-style character of the precinct.

The proposed development complies with the English Street Precinct policy by:

- Creating high quality built form within the gateway precinct of the Airport which makes an important visual statement.
- Providing a design consistent with the campus-style theme by providing medium rise (six storey) office buildings with modern features in a landscaped setting.
- Reinforcing the English Street Precinct’s status as the main location for office activities and higher-value commercial development on the Airport.
- Enhancing the scenic amenity and boulevard character of the English Street Precinct.

5.5.2 Airport Environmental Strategy

The Essendon Airport Environmental Strategy prepared under Part 6 of the Act was approved along with the 2013 Master Plan on 28 April 2014. Chapter 7 of this MDP indicates that the project is consistent with the Environmental Strategy. EAPL is responsible for ensuring the implementation of the identified environmental management procedures to mitigate environmental impacts associated with this MDP and maintain consistency with the Environmental Strategy.

5.6 Airport Lease

The Commonwealth of Australia retains ownership of the Airport site, which is leased to EAPL for 50 years with a further term of 49 years available. As Lessee, EAPL is required by the Commonwealth to provide for the use of the Airport site as an Airport and for access to the Airport by interstate and intrastate transport.

The lease also provides:

“Throughout the term the Lessee must develop the Airport Site at its own cost and expense having regard to:

a) the actual and anticipated future growth in, and pattern of, traffic demand for the Airport Site.
b) the quality standards reasonably expected of such an airport in Australia.

c) Good Business Practice.”

The office proposal is consistent with the Airport lease.

The proposed development is in response to the needs of Airport users and the current and anticipated future growth in activity at the Airport.

Refer to Chapter 1.7 – Need and Justification of Airport Users and Section 6.5 – Economic Impacts of this MDP for further information.
5.7 Pre-existing interests

In preparing this MDP, EAPL has considered all interests in the land existing at the time the Airport lease was created, including leases, sub-leases, licenses and easements. No pre-existing interests were identified, other than car parking licence agreements which may be relocated by the Licensor if the site is redeveloped. There are no conflicts or inconsistencies existing between interests and the proposals in this MDP.

No unregistered easements are applicable to the subject site and there is no infrastructure owned by other parties.

5.8 Development and building approvals

In addition to any MDP requirements, construction of the project is subject to:

- The submission of an application for a Building Permit to the Airport Building Controller (ABC) in accordance with the Airports (Building Control) Regulations 1996.
- The submission by the construction contractor of a site-specific Construction Environmental Management Plan (CEMP), for review and acceptance by the proponent and the AEO.

There is no requirement for any airspace approval under Part 12 of the Act for the completed buildings. An Application under Part 12 of the Act may be required for temporary obstacles (cranes) during the construction period.

The site-specific Construction Environmental Management Plan (CEMP) will be prepared by EAPL’s construction contractor following approval of the MDP. The CEMP will provide measures to ensure impacts from construction are minimal or avoided entirely. (Refer Chapter 6.6)
5.9 Consistency with State planning

Essendon Fields is Commonwealth land where state planning legislation, in particular, the Victorian Planning and Environment Act 1987 does not apply. However, pursuant to Section 91(1)(ga)(iii) of the Airports Act 1996, this MDP includes an analysis of 'how the proposed developments fit within the local planning schemes for commercial and retail development in the adjacent area.'

Figure 14 identifies commercial uses surrounding the development site on the Airport and within the adjacent Airport West activity centre.

An assessment of the proposed office development against State and Local planning, including Plan Melbourne and the adjacent planning scheme (Moonee Valley Planning Scheme) is provided below.

5.9.1 Plan Melbourne – Metropolitan Planning Strategy

The Plan Melbourne Metropolitan Planning Strategy (Plan Melbourne) was released in March 2017 and is The Victorian Government’s Vision for the City in 2050.

Plan Melbourne identifies the Airport as a major transport gateway of state significance. Policy 1.1.5 of Plan Melbourne includes a requirement to support major transport gateways as important locations for employment and economic activity.

It also notes that the Airport corridor (Melbourne Airport and Essendon Airport) has the potential to become one of Australia’s leading transport and logistics hubs. However, EAPL sees no evidence of demand to support a transport and logistics hub at Essendon Fields.

Plan Melbourne notes that designated airports and their surrounds will be protected from incompatible land uses to ensure they keep generating economic activity and new jobs and that adjacent complementary uses and employment-generating activities will be encouraged.

The proposed development is consistent with Plan Melbourne.
Figure 14: Surrounding commercial uses
5.9.2 Moonee Valley Planning Scheme
The Moonee Valley Planning Scheme (MVPS) applies to land adjacent to the Airport site and comprises both State (Clauses 9-19) and Local (Clauses 21 and 22) Planning Policy Frameworks.

The proposal is assessed against relevant aspects of the State and Local Planning Policy Frameworks of the MVPS below.

5.9.3 Planning Policy Framework
The Planning Policy Framework (PPF) within the MVPS provides a number of provisions which are relevant to Airport planning and this MDP. The PPF at Clause 18.05-1S includes the following strategy:

- Support major Transport Gateways as important locations for employment and economic activity by:
  - Protecting designated ports, airports, freight terminals and their environs from incompatible land uses.
  - Encouraging adjacent complementary uses and employment generating activities.

The PPF provides specific direction for Airports at Clause 18.04-1S Planning for airports and airfields. The objective of this is to strengthen the role of Victoria’s airports and airfields within the state’s economic and transport infrastructure, facilitate their siting and expansion and protect their ongoing operation. This is supported by strategies including:

- Protect airports from incompatible land-uses.
- Ensure that in the planning of airports, land-use decisions are integrated, appropriate land-use buffers are in place and provision is made for associated businesses that service airports.
- Ensuring the planning of airports identifies and encourages activities that complement the role of the airport and enables the operator to effectively develop the airport to be efficient and functional and contributes to the aviation needs of the state.
- Recognise Essendon Airport’s current role in providing specialised functions related to aviation, freight and logistics and its potential future role as a significant employment and residential precinct that builds on the current functions.

Clause 18.04-1S of the PPF references the National Airports Safeguarding Framework (NASF) as a policy document to consider as relevant.

The proposed development supports the PPF outlined above by providing for commercial office development which complements the Airport’s aviation role and generates employment within the precinct.

5.9.4 Local Planning Policy Framework
The Local Planning Policy Framework (LPPF) of the MVPS provides direction for land use and development in the areas surrounding the Airport.

The relevant policies of the LPPF are:

- Clause 21.03 which includes a strategic framework plan identifying the Airport as an employment node within the municipality. It also identifies the Airport’s proximity to the employment node and Principal Activity Centre at Airport West.
- Clause 21.08-1 which seeks to ensure that new commercial development maximises investment and employment opportunities in the City’s activity centres.
- Clause 21.08-3 which relates specifically to the Airport and notes: it generates significant economic benefits for the city and forms part of the broader Essendon Fields Business
Park; Essendon Fields offers significant economic growth and employment opportunities for the City due to its size and strategic location; and there is significant potential to create synergies between Airport West and Essendon Fields to facilitate the development of an employment and innovation cluster within the City.

- Clause 21.08-3 which states Council’s objective for the Airport is to ensure the continued growth and development of the Essendon Fields Business Park and its role as a key investment and employment centre within the City. Supporting strategies are:
  - Continue to work with Essendon Airport, airport-lessee company (pursuant to the Airports Act 1996 (Commonwealth)) to facilitate the development of an employment and innovation cluster with Airport West.
  - Advocate for improved public transport to Essendon Fields, Essendon Airport terminals and Airport West and between.
- Clause 21.06 which provides guidance on built form and in particular requires development to be contemporary and complement its surroundings.
- Clause 21.09-6 which recognises the role of the Airport for transport and as a significant generator of employment opportunities. Its objective is to encourage the safe and effective operation of the Essendon Airport for the community.

This MDP is consistent with the LPPF. It does this by:
- Providing increased employment opportunities at the Airport and in the Airport West area.
- Creating a contemporary development which will not impact on the aviation activities and role of the airport.
- Supporting the economic role of the Airport and the employment node by increasing available office floor space.

5.10 Prescribed airspace

The proposed development will not penetrate the Airport’s Prescribed Airspace. The maximum height of 102.5m AHD is below the Obstacle Limitation Surface (OLS) of 123.5m AHD.

Detailed design for the development will seek to ensure minimal impact on the Prescribed Airspace from plume rise from the development’s exhaust infrastructure.

Further details on the potential impact on Prescribed Airspace are provided in Chapter 6.4.1.

5.11 Noise exposure

The proposed office buildings have been designed to comply with AS 2021:2015 in relation to noise attenuation to ensure employees are not affected by aircraft noise exposure. The primary factors that affect aircraft noise intrusion are the roof structure and the façade. As per the specification of the recently constructed Hyatt Hotel at Essendon Fields, the design specification will meet the required standards. This may include design elements such as double glazing. (Refer Chapter 6.2.7).
6.0 Assessment of Impacts

6.1 Overview

This section provides an assessment of the potential impacts that might reasonably be expected to arise during the operational and construction phases of the development.

No significant adverse impacts are anticipated from the development.

6.2 Potential environmental impacts

Potential environmental impacts associated with the operation of the completed development are discussed below. Potential environmental impacts during construction are discussed in Chapter 6.6.

6.2.1 Biodiversity

The project development site is mostly concrete and partly grassed with exotic species and it is not expected that there will be any impact on native flora and fauna from construction of the office building.

A flora and fauna assessment of various sites within the English Street Precinct, including the subject site (Jacobs, May 2014) confirmed there are no patches of native vegetation communities, no threatened communities or species and no matters of National Environmental Significance within the subject site.

The assessment identified that the ARC development site (identified as Area Three in the Figure 15 at right) was covered partly by lawn dominated by Kikuyu (*Pennisetum clandestinum*), Rye grass (*Lolium sp.*) and Couch (*Cynodon dactylon*) and by weeds common to building sites in areas around the car park. Two native grasses, Windmill grass (*Chloris truncate*) and Wallaby Grass (*Rytidosperma sp.*) were present throughout the area, particularly in the south western corner of the site. However, exotic species still accounted for more than 75% of the vegetation cover and native grass was a minor component of the vegetation overall. The area is not a habitat for fauna other than as occasional visitors to the trees present. No threatened species or communities were observed within this area, nor are any likely to occur.

The assessment identified that the at-grade car park site (identifed as Area 2 in Figure 15 below) is also dominated by exotic lawn. The native Windmill Grass (*Chloris truncate*) was present but this grass was never dominant and exotic species accounted for more than 75% of the vegetation cover. The assessment found that the proposed car park area is not habitat for fauna, particularly listed species associated with native grasslands, and appears only used by occasional visitors to the trees present. No threatened species or communities were observed within this area, nor are any likely to occur.

The Stage 1 off-site car parking area (Refer Figure 9) previously included low quality Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVP). The Delegate for the Minister for the Environment decided that removal of this grassland was not a controlled action (EPBC Ref 2016/7655) and a Permit to clear the land was issued 8 July 2016 under Section 201 of the EPBC Act (Permit E2016-0110).

EAPL’s assessment is that the proposed development will have no impact to protected flora and fauna or matters of national environmental significance.

![Figure 15: Flora and Fauna Study Areas](image)
6.2.2 Geological characteristics and legacy soil contamination

A Phase 1 Desktop Environmental Site Assessment (Kleinfelder, December 2018) characterised the environmental setting, surrounding land use, historical land use of the site and related issues and evaluated current and past activities and related practices at the site to establish known or potential sources of soil, groundwater and/or surface water contamination.

The report found:

- The site and surrounding areas (including the areas proposed for development of multi-level or at-grade car parks) are expected to be underlain by the Newer Volcanics Formation, identified as fractured or fissured basalt. There are no surface water bodies in the vicinity of the site. The closest water body is Moonee Ponds Creek, more than 1km to the north east. Based on a relatively flat site topography, overland flow is expected to pool or flow towards the southern boundary.
- There is no evidence of gross contamination that would constrain future development and use of the land.
- The proposed development requires excavation of a single level basement. In-situ soil classification will be required to determine soil management options and can be undertaken concurrent with soil quality data assessment.

A PFAS Risks Phase 1 Environmental Site Assessment (Golder Associates, 2016) identified the project site as Low PFAS Risk. Low concentrations of PFAS were identified in soil nearby to the project site, which is consistent with the Low Risk assessment of the project site and nearby area.

A Baseline Environmental Site Assessment (Kleinfelder, September 2019) was undertaken to provide a baseline assessment of contaminants of potential concern in soils and determine the PFAS risk category of soils within the project area. Soil analytical results were screened against the following:

- Airports (Environment Protection) Regulations 1997 (AEPR): Schedule 3 – Soil pollution (Table 1 – areas of an airport generally);
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013); and
- Site-specific PFAS categories (known as Types 1 to 3) which respond to the PFAS National Environmental Management Plan.

Proposed office development site

Soil analytical results for the proposed office development site (See Figure 7) are summarised as follows:

- All BTEXN (Benzene, Toluene, Ethylbenzene, Xylenes and Napthalene), PAHs (Polyaromatic Hydrocarbons) and pesticide constituents analysed were reported at concentrations below the laboratory LORs.
- Metals including chromium, copper, nickel and zinc were reported at concentrations above the laboratory LORs in all or most soil samples analysed, but below AEPR criteria.
- Concentrations of chromium, copper, lead, nickel and zinc are considered to be representative of background or regional metal concentrations, consistent with previous assessments at Essendon Fields.
- Arsenic and mercury in shallow soil samples collected from the central portion of the site (within the footprint of a former building) were reported at concentrations above the laboratory Limit of Reporting (LOR) but below all adopted criteria. These detections were vertically delineated
PFAS were reported at concentrations above the laboratory LOR in one soil sample collected from the northern portion of the site. PFAS concentrations in the remaining four samples analysed were reported at concentrations below the laboratory LOR. Based on the one detection of PFAS, the near-surface soil of the site has a sum of PFHxS and PFOS concentrations of < 0.14 mg/kg. Soil of this kind is below the lowest concentration PFAS NEMP threshold, protective of ecosystems and can remain in-situ at the development site.

Proposed at-grade expansion car park – Nomad Road

Soil analytical results for the proposed at-grade expansion car park (See Figure 17) are summarised as follows:

- All BTEXN (Benzene, Toluene, Ethylbenzene, Xylenes and Napthalene), PAHs (Polyaromatic Hydrocarbons) and pesticide constituents analysed were reported at concentrations below the laboratory LORs. Heavy-end TRH (Total Recoverable Hydrocarbons) were detected at concentrations slightly above the laboratory LOR by the secondary laboratory for one soil sample.
- Metals including chromium, copper, lead, nickel and zinc were reported at concentrations above the laboratory LORS in all soil samples analysed, but below AEPR criteria.
- PFAS were reported at concentrations above the laboratory LOR in eight of the 12 soil samples analysed. The soil samples all had a sum of PFHxS and PFOS concentrations of < 0.14 mg/kg. Soil of this kind is below the lowest concentration PFAS NEMP threshold, protective of ecosystems and can remain in-situ at the development site.

Legacy soil contamination will be dealt with appropriately under the Airports (Environment Protection) Regulations 1997, the PFAS National Environmental Management Plan (NEMP) and other relevant legislation. Further information is contained in Chapter 6.6.3 regarding the management of contaminated soil required to be excavated during construction.

In summary, given the results of the Phase 1 and baseline environmental site assessments, no changes to the design of the development are proposed.
6.2.3 Visual impacts
A landscape plan will be prepared for the development consistent with the landscape setting of the English Street Precinct. Plant species will be selected having regard to their potential to attract birds, with a view to minimising the potential for bird strikes by aircraft.

The development’s medium rise form and contemporary design, including façade treatments, ensures it is complementary in scale and appearance to other buildings in the English Street Precinct. The building will also ensure the prominence of the English Street Precinct as a gateway to the Airport is reinforced.

The project will enhance the built environment and result in beneficial landscape impacts.

6.2.4 Heritage impacts
Heritage at Essendon Fields has previously been assessed and a Heritage Management Strategy prepared in relation to built form heritage by Godden Mackay Logan (2006). Cultural heritage has also been assessed. Key heritage considerations from these documents include:

- The Essendon Airport Environmental Strategy 2013-2018 includes the objective to protect and preserve all identified items with significant Commonwealth Heritage values at the airport. Items of heritage were identified in an assessment by Godden Mackay Logan Heritage (Heritage Management Strategy 2006).

- Aboriginal Affairs (Victoria) has previously confirmed there are no records of Aboriginal archaeological sites at the Airport. Given the highly modified nature of the site, no impact from development is likely to harm Aboriginal cultural material. Aboriginal Affairs has provided procedures should any such material be uncovered in future development.

The development site is not considered to be historically significant, nor does it adjoin any of the Airport’s historic assets or any site of potential Aboriginal cultural material. No changes to the design are required and the operation of the development will have no impact to heritage values at Essendon Fields Airport.
6.2.5 Hydrology and water quality

During operation of the development, the potential impacts to the stormwater network and receiving waters will be related to increasing runoff resulting from an increase in impervious areas. The ARC building site is mostly already impervious. New car parking areas have the potential to add hydrocarbons and other pollutants to surface water runoff if not managed effectively.

Stormwater at Essendon Fields is collected via a network of underground drains that collect surface runoff from the runways, buildings, roads and other impervious areas at the airport. As part of the on-going redevelopment of areas of the Airport, water sensitive urban design (WSUD) features have been, and continue to be, incorporated as part of the design and construction of buildings and infrastructure.

Stormwater from the office development site will be captured and directed into the existing piped Moonee Valley City Council main outfall system. Management of stormwater will occur in line with the Airport’s Environment Strategy to maintain quality and quantity.

The detailed design phase of the development will document WSUD features to minimise the discharge of sediment and pollutants into the off-Airport stormwater network as required under the Airport’s Environmental Strategy (EAPL, 2013). For example, WSUD measures can include rainwater harvesting and re-use, retention tanks to slow discharge to the stormwater network and the installation of bioswales to treat surface water runoff.

WSUD measures for the ARC office development site will be implemented to achieve pollutant load reductions listed in the Melbourne Water ‘Best Practice Environmental Management Guidelines for Urban Stormwater.’ It is stated in the Airport’s Environment Strategy (EAPL, 2013) that groundwater is located between 23 to 29 metres below the surface level within the Newer Volcanics basalts. This is consistent with recent groundwater sampling undertaken nearby at 260 Wirraway Road which identified the depth to groundwater at that site ranged from 26.123 metres to 27.892 metres (Kleinfelder, 2017).

Given the depth to groundwater, which will not be intercepted by the development, there is a very low likelihood of any impact on groundwater from the project.

6.2.6 Air quality

Sources of non-aviation, ground-based air pollution at Essendon Fields include ground traffic (private vehicles, taxis, buses and service vehicles) fuel storage and refueling operations, other mechanical equipment and dust generated during construction.

The nearest sensitive receptors are residences located approximately 500 metres east of the development site, on the opposite side of the Tullamarine Freeway.

Potential impacts on air quality from the operation of the proposed office development will be associated with the development’s mechanical systems and additional vehicle traffic. EAPL will ensure the development complies with relevant legislative requirements for emissions.

Green Star rating tools reward sustainability outcomes and encourage moving beyond standard practice. EAPL has committed to achieving a 5 star Green Star Design & As-Built rating for this
project, which will drive enhancements to energy consumption, as well as a range of other holistic environmental sustainability considerations.

Green Star Design & As-Built projects can achieve a Green Star certification of 4 to 6 Star Green Star, where 4 Star represents best practice, 5 Star represents Australian excellence and 6 Star represents world class.

There will be negligible impacts from the operation of the building on internal air quality and air quality at sensitive receptors.

6.2.7 Noise

Part of the site is located between the ANEF 25 and 30 noise contours, as contained in the Essendon Fields Airport 2039 Australian Noise Exposure Forecast (ANEF). The remainder of the site is located between the ANEF 25 and 20 noise contours. Accordingly, the noise environment is primarily dominated by aircraft noise. (Refer Figure 12)

The Australian Standard AS 2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction identifies a commercial building as conditionally acceptable between the ANEF 25 and ANEF 35 noise contours. A commercial building is acceptable under the standard if located in an ANEF zone less than 25 ANEF.

The detailed design phase will take account of AS 2021:2015. The primary factors that affect aircraft noise intrusion are the roof structure and the facade. The design specification will meet the required standards and can be achieved, for example, through sound insulation in the building envelope such as acoustic glazing. Therefore, operational noise impacts on internal receptors will be negligible.

The nearest residences are located approximately 500 metres east from the development site, on the opposite side of the Tullamarine Freeway. Plant and machinery noise from the operation of the development is expected to have no impact to local residents.
6.2.8 Waste management

The site is currently used for car parking. The main types of waste generated within the English Street Precinct are non-putrescible (general solid waste) from office and retail operations.

The development is designed to allow multi-tenancy commercial uses, with the flexibility to be single-tenant buildings. For single tenancies, the management of waste is the responsibility of the tenant.

If the buildings are multi-tenanted, the waste management will be under EAPL control. EAPL implements a waste segregation program to encourage recycling.

The operator of the café tenancy will likely require a Trade Waste agreement with City West Water for the discharge of waste into the sewer network. EAPL will require sub-lessees to implement Trade Waste agreements, as required. EAPL also undertakes inspections to check sub-lessees at Essendon Fields have current Trade Waste agreements.

The impact of the project on waste volumes would therefore be relatively low and acceptable during operation.

6.2.9 Dangerous goods and hazardous substances


Given the predominately office use of the proposed development, minimal dangerous goods or hazardous materials are likely to be stored at the site.

EAPL will require sub-lessees of the building to comply with relevant legislation regarding the storage and handling of dangerous goods or hazardous substances, including correct disposal. EAPL undertakes periodic inspections of tenancies to check compliance with these requirements.

The impact of dangerous goods or hazardous substances during operation is therefore assessed as negligible.

6.2.10 Resource use

Green Star rating tools reward sustainability outcomes and encourage moving beyond standard practice. EAPL has committed to achieving a 5 star Green Star Design & As-Built rating for this project, which will drive enhancements during the detailed design phase to energy consumption, as well as a range of other holistic environmental sustainability considerations.

Green Star Design & As-Built projects can achieve a Green Star certification of 4 to 6 Star Green Star, where 4 Star represents best practice, 5 Star represents Australian excellence and 6 Star represents world class.

Additionally, EAPL has committed to design the building to an Office Base Building Energy Rating of 4.5 Star NABERS. The National Australian Built Environment Rating System (NABERS) measures energy efficiency and environmental performance. The NABERS Energy and Water tools for offices, shopping centres and hotels measure performance on a rating scale from 0 to 6 stars.

Predictive energy modelling undertaken during the design stage will provide confidence that the desired rating of 4.5 Star NABERS is capable of being achieved for the Base Building (central services and common areas).

The environmental efficiency commitments will lead to low and acceptable impacts on resource use.
6.3 Traffic Impacts

The main conclusions from the Transport Impact Assessment (One Mile Grid, March 2019) are:

- An assessment of development-generated traffic impacts identified that traffic volumes at internal and external locations will be accommodated without need for additional works; and
- The proposed development does not raise any issues that have a significant impact on the local or regional community.

The traffic engineering advice is discussed in further detail below.

6.3.1 Public transport

The subject area is serviced by public transport with bus and tram services operating along Matthews Avenue on the western side of Tullamarine Freeway. The Public Transport Victoria (PTV) services in the area are detailed in the table over page.

There are a number of public transport services in the vicinity of Essendon Fields. However, with the exception of the Smart Bus connection to the DFO, PTV currently does not provide bus services into Essendon Fields (Refer Figure 16).

EAPL has recognised this issue and has contracted a bus operator to operate an independent bus service for workers at Essendon Fields. The service provides a link from English Street Essendon Fields to Essendon Railway Station and currently runs at 30 minute intervals between 7:15am to 9:30am and 4:15pm to 6:30pm Monday to Friday (excluding public holidays).

In October 2019, the State Government is hosting information sessions on proposed bus route changes, including a proposed change to the Route 477 Moonee Ponds to Broadmeadows service, which will enter Essendon Fields at English Street. The possible future bus services would utilise existing bus stops in English Street. The location of the existing bus stops is shown in Figure 16.

For employees of the site to alter travel modes from private vehicle to sustainable alternatives, these alternatives must be practical, cost-effective and timely to ensure that they can compete with the ease and convenience of the private car.

EAPL will implement a suite of initiatives and services for the ARC development to encourage travel mode behaviour change and to promote use of sustainable transport options such as walking, cycling, public transport and car-pooling in preference to single occupant car trips where practicable. These will include:

- Bicycle parking and end-of-trip facilities;
- Real-time public transport information displayed in the ground floor lobby; and
- A car-pool matching system and priority car parking.

In the long-term, it is expected that as access to the site via public transport and other sustainable transport modes improves, and organic traffic growth and congestion reduces the attraction of travelling to the site by private car, employees of the ARC building will alter their travel choices, reducing the demand for car parking and the associated traffic movements.
### Table 1: Nearby public transport routes

<table>
<thead>
<tr>
<th>Service</th>
<th>Route No.</th>
<th>Description</th>
<th>Nearest Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tram</td>
<td>59</td>
<td>Airport West – Flinders Street Station, City</td>
<td>Matthews Ave</td>
</tr>
<tr>
<td></td>
<td>477</td>
<td>Moonee Ponds – Broadmeadows Station via Essendon, Airport West, Gladstone Park</td>
<td>Matthews Ave</td>
</tr>
<tr>
<td></td>
<td>478</td>
<td>Airport West SC – Melbourne Airport via Melrose Drive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>479</td>
<td>Airport West SC – Sunbury Station via Melbourne Airport</td>
<td></td>
</tr>
<tr>
<td></td>
<td>482</td>
<td>Airport West SC – Melbourne Airport via South Centre Road</td>
<td>Airport West Shopping Centre</td>
</tr>
<tr>
<td></td>
<td>490</td>
<td>Airport West to Gowanbrae via Melrose Drive, Gowanbrae Drive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>501</td>
<td>Moonee Ponds – Niddrie via Strathmore</td>
<td></td>
</tr>
<tr>
<td></td>
<td>902</td>
<td>Chelsea – Airport West (SMARTBUS Service)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>952</td>
<td>Night Bus – City -Footscray – Maribyrnong – Airport West – Gladstone Park - Broadmeadows</td>
<td>Matthews Ave</td>
</tr>
</tbody>
</table>

Figure 16: Public Transport Accessibility
6.3.2 Existing intersection operations

Traffic and pedestrian surveys undertaken for Essendon Fields identified two distinct peak hour periods that have the greatest impact on the overall road network for the English Street Precinct:

- a morning peak hour from 7:45am to 8:45am; and
- an evening peak hour from 4:30pm to 5:30pm.

To assess the operation of the relevant intersections, surveyed 2018 traffic volumes were entered into SIDRA Intersection, a traffic modelling software program.

The SIDRA Intersection software package was developed to provide information on the capacity of an intersection with regard to a number of parameters. Those parameters considered relevant are, Degree of Saturation (DoS), 95th Percentile Queue and Average Delay as described below:

- **Degree of Saturation (DoS)** represents the ratio of the traffic volume making a particular movement compared to the maximum capacity for that particular movement. The value of the DoS has a corresponding rating depending on the ratio as shown below.

<table>
<thead>
<tr>
<th>Degree of Saturation (DoS)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 0.60</td>
<td>Excellent</td>
</tr>
<tr>
<td>0.61 to 0.70</td>
<td>Very Good</td>
</tr>
<tr>
<td>0.71 to 0.80</td>
<td>Good</td>
</tr>
<tr>
<td>0.81 to 0.90</td>
<td>Fair</td>
</tr>
<tr>
<td>0.91 to 1.00</td>
<td>Poor</td>
</tr>
<tr>
<td>Above 1.00</td>
<td>Very Poor</td>
</tr>
</tbody>
</table>

It is noted that whilst the range of 0.91 to 1.00 is rated as ‘poor’, it is acceptable for critical movements at an intersection to be operating within this range during high peak periods, reflecting actual conditions in a significant number of suburban signalised intersections.

- **Average Delay (seconds)** is the time delay that can be expected for all vehicles undertaking a particular movement in seconds.

- **95th Percentile Queue** represents the maximum queue length in metres that can be expected in 95% of observed queue lengths in the peak hour.

The following locations were used for analysis of intersection performance (Refer Figure 17):

1. English St / Tullamarine Fwy / Matthews Ave (west)
2. English St / Tullamarine Fwy / Matthews Ave (east)
3. English Street / Hammond Street
4. English Street / Larkin Boulevard
5. English Street / Nomad Road
6. Wirraway Road / Tullamarine Freeway
7. Vaughan Street / Larkin Boulevard
8. Vaughan Street / Nomad Road

The Matthews Avenue / English Street / Freeway Interchange intersection is operating under ‘fair’ conditions during the PM peak, with reasonable queues experienced on most approaches.

The Wirraway Road / Melrose Drive / Tullamarine Freeway intersection is operating under excellent conditions in both AM and PM peaks, with minimal queues on all approaches.

The English Street / Larkin Boulevard roundabout within Essendon Fields is operating under ‘excellent’ conditions with considerable capacity for additional traffic growth. SIDRA results for each intersection location are shown in Table 2.
### Table 2: SIDRA Results – 2018 Intersection Operating Conditions

<table>
<thead>
<tr>
<th>Intersection</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DoS</td>
<td>Delay (s)</td>
</tr>
<tr>
<td>English St / Tullamarine Fwy / Matthews Ave (west)</td>
<td>0.791</td>
<td>54.4</td>
</tr>
<tr>
<td>English St / Tullamarine Fwy / Matthews Ave (east)</td>
<td>0.302</td>
<td>22.1</td>
</tr>
<tr>
<td>English St / Hammond St</td>
<td>0.062</td>
<td>0.6</td>
</tr>
<tr>
<td>English St / Larkin Blvd</td>
<td>0.331</td>
<td>5.0</td>
</tr>
<tr>
<td>English St / Nomad Rd</td>
<td>0.164</td>
<td>3.0</td>
</tr>
<tr>
<td>Wirraway Rd / Tullamarine Fwy</td>
<td>0.290</td>
<td>9.4</td>
</tr>
<tr>
<td>Vaughan St / Larkin Blvd</td>
<td>0.042</td>
<td>3.4</td>
</tr>
<tr>
<td>Vaughan St / Nomad Rd</td>
<td>0.100</td>
<td>2.7</td>
</tr>
</tbody>
</table>

**AM Peak Hour**

**PM Peak Hour**

**Figure 17: Intersection Locations**
6.3.3 Recommended car parking provision

Planning and development on leased federal Airport sites is regulated under Commonwealth law and is not subject to state, territory or local government planning laws.

For office uses, clause 52.06 of the Essendon Airport Land Use Plan requires that car parking be provided at a rate of 3.5 spaces per 100 sqm of office floor area. Application of this rate to the proposed Net Lettable Area of 18,500 sqm gives a requirement of 648 spaces.

For the 250 sqm café use (most appropriately classified as "Restaurant"), the clause requires car parking to be provided at a rate of 0.6 car spaces to each seat available to the public. Based on an estimate of 100 seats, this equates to a requirement of 60 car spaces for the café.

Based on the above, a total of 708 car spaces are required under Clause 52.06 of the Essendon Airport Land Use Plan.

The café component is unlikely to attract parking demands in its own right, instead trading largely from employees of the office use above and other business uses in the area. This means the Land Use Plan requirements for the café are considerably inflated compared to the actual requirements of the use.

Clause 52.06 of the Essendon Airport Land Use Plan provides that approval may be given to reduce or to waive the number of car spaces required by the table. Before a requirement for car spaces is reduced or waived, the applicant must satisfy the Airport Operator that the reduced provision is justified due to:

- Any relevant parking precinct plan
- The availability of car parking in the locality
- The availability of public transport in the locality
- Any reduction in car parking demand due to the sharing of car spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared parking spaces.
- Any car parking deficiency or surplus associated with the existing use of the land.
- Any credit which should be allowed for a car parking demand deemed to have been provided in association with a use which existed before the change of parking requirement.
- Local traffic management.
- Local amenity including pedestrian amenity.
- An empirical assessment of car parking demand.
- Any other relevant consideration.

Notwithstanding the above, the Victorian Planning Scheme, upon which the Airport requirements are based, is considered to provide an appropriate baseline for assessing car parking provision for the new use.

The car parking provision requirements for most new developments within Victoria are currently outlined within Clause 52.06 of the Planning Scheme. The Clause outlines two rates for parking provision:

- **Column A** which are the standard rates; and
- **Column B** which are alternate (lower) rates which only apply where specified by a Parking Overlay, or where the site is located within the Principal Public transport Network.

The comparable parking provision rates for office and café uses under Victorian requirements are summarised below. As identified earlier, the café component is unlikely to attract additional parking demands in its own right, instead trading largely from employees within the precinct.
### Use | Rate | Car Spaces
---|---|---
Office | 3.5 spaces per 100 sqm NFA | 555 spaces (based on 18,500 sqm)
Café (Food & Drink) | 4 spaces per 100 sqm LFA | -

### 6.3.4 External traffic impacts

VicRoads traffic data suggests the Tullamarine Freeway at English Street carries approximately 113,000 vehicles per day (two-way), inclusive of approximately 11,000 vehicles during the peak hours.

The ARC development is anticipated to generate a maximum of 349 peak-hour vehicle movements, of which 110 during the AM peak and 129 during the PM peak will access the Tullamarine Freeway at the English Street interchange.

This represents slightly greater than a 1% increase in traffic volume. When distributed north and south and further distributed between inbound and outbound movements, the net impact on the freeway operation will be negligible.

The outcome of the analysis of external intersection performance post-development is summarised in Table 3 below.

As shown in the table, English Street / Tullamarine Freeway / Matthews Avenue intersection is expected to experience ‘slightly decreased performance’ following the introduction of the proposed development. However, capacity will remain to accommodate additional flows to and from the Airport.

The Wirraway Road / Tullamarine Freeway intersection will experience minimal increases to queues and delays and will remain operating under ‘excellent’ conditions.

As part of improvements to the Tullamarine Freeway operation, VicRoads recently completed construction of the English Street ‘Collector-Distributor’ project. The project provides an early freeway exit for northbound Tullamarine Freeway vehicles exiting to English Street and Matthews Avenue.

The English Street ‘Collector-Distributor’ project has reduced weaving and merging issues along
the freeway and created additional off-ramp capacity.

Regarding potential origin-destination data for employees at the proposed development, previous traffic studies undertaken for EAPL by Jacobs and GTA Consultants included employee location and origin-destination surveys. These studies allowed an assessment of likely road travel routes to and from Essendon Fields, with the following traffic distribution adopted:

- North (via Tullamarine Fwy)  18%
- North (via Melrose Drive)  12%
- West    15%
- South (via Keilor Rd or Bulla Rd) 15%
- South (via Tullamarine Fwy)  40%

Table 3: SIDRA Results – Post-Development Intersection Performance (External)

<table>
<thead>
<tr>
<th>Intersection</th>
<th>DoS</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ex.</td>
<td>Future</td>
<td>Ex.</td>
</tr>
<tr>
<td>English St / Tullamarine Fwy / Matthews Ave (west)</td>
<td>0.791</td>
<td>0.855</td>
<td>0.898</td>
</tr>
<tr>
<td>English St / Tullamarine Fwy / Matthews Ave (east)</td>
<td>0.302</td>
<td>0.332</td>
<td>0.348</td>
</tr>
<tr>
<td>Wirraway Rd / Tullamarine Fwy</td>
<td>0.290</td>
<td>0.368</td>
<td>0.258</td>
</tr>
</tbody>
</table>

In consideration of the above, the Transport Impact Assessment determined that the proposed development does not raise any issues that have a significant impact on the local or regional community.
6.3.5 Internal traffic impacts

Car parking for the development will ultimately be accommodated in the basement and nearby car parking areas.

Traffic volumes for relevant intersections within the Essendon Fields internal road network were analysed in SIDRA to determine post-development intersection performance (see table and Figure 18 below). The analysis shows that all internal intersections will continue operating under excellent conditions, with no significant reduction in performance.

Access to the car parks will be designed to avoid external queuing, with access control systems accommodating all peak-hour flows.

EAPL will establish appropriate pedestrian paths to provide safe and convenient access between the development site and car parking.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>DoS (Ex.)</th>
<th>DoS (Future)</th>
<th>Delay (s) Ex.</th>
<th>Delay (s) Future</th>
<th>Queue (m) Ex.</th>
<th>Queue (m) Future</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM Peak Hour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English St / Hammond Rd</td>
<td>0.062</td>
<td>0.063</td>
<td>0.6</td>
<td>0.6</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>English St / Larkin Blvd</td>
<td>0.331</td>
<td>0.382</td>
<td>5.0</td>
<td>4.8</td>
<td>14.7</td>
<td>18.3</td>
</tr>
<tr>
<td>English St / Nomad Rd</td>
<td>0.140</td>
<td>0.151</td>
<td>3.0</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Vaughan St / Larkin Blvd</td>
<td>0.042</td>
<td>0.146</td>
<td>3.4</td>
<td>4.5</td>
<td>1.2</td>
<td>4.7</td>
</tr>
<tr>
<td>Vaughan St / Nomad Rd</td>
<td>0.100</td>
<td>0.147</td>
<td>2.7</td>
<td>3.6</td>
<td>2.0</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>PM Peak Hour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English St / Hammond St</td>
<td>0.229</td>
<td>0.255</td>
<td>0.3</td>
<td>0.3</td>
<td>2.3</td>
<td>2.5</td>
</tr>
<tr>
<td>English St / Larkin Blvd</td>
<td>0.321</td>
<td>0.347</td>
<td>6.7</td>
<td>7.2</td>
<td>11.2</td>
<td>12.3</td>
</tr>
<tr>
<td>English St / Nomad Rd</td>
<td>0.087</td>
<td>0.087</td>
<td>2.8</td>
<td>2.8</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Vaughan St / Larkin Blvd</td>
<td>0.376</td>
<td>0.492</td>
<td>4.8</td>
<td>4.9</td>
<td>14.4</td>
<td>22.5</td>
</tr>
<tr>
<td>Vaughan St / Nomad Rd</td>
<td>0.202</td>
<td>0.319</td>
<td>5.2</td>
<td>5.4</td>
<td>5.9</td>
<td>10.3</td>
</tr>
</tbody>
</table>
Figure 18 - Internal Traffic Volumes – AM and PM Peaks
6.3.6 Pedestrian and Bicycle Access

Sealed footpaths will be provided on all four sides of the development.

The new footpaths will link with the existing footpath network within the English Street Precinct.

Figure 16 shows that pedestrian access will be available to the PTV tram network and the Airport’s English Street bus stop.

Figure 19 shows that pedestrian access by footpaths and pedestrian crossings will be available to the wider site, including relevant car parking areas, the Airport Terminal and the neighbourhood shopping centre, Essendon Fields Central.

Access to the site for cyclists will be available via the internal road network. The Victoria State Government has advised EAPL that Matthews Avenue is proposed to be included within a Strategic Cycling Corridor (SCC). The SCC aims to provide cycling connectivity to Melbourne Airport and other key precincts. EAPL will continue to coordinate with the State Department of Transport to align its plans for bicycle access with the State’s plans.

Figure 19: Existing and Proposed Pedestrian Pathways
6.4 Aviation assessment

The proposed development will not affect flight paths at the Airport.

The Aviation Assessment for the proposed development (Rehbein, March 2019) reviewed the impact of the proposed development on:

- Essendon Fields Airport Obstacle Limitation Surface (OLS).
- Air Traffic Control (ATC) Tower line of sight.
- Other relevant NASF Guidelines.
- Construction stage impacts.

Key findings of the assessment are:

- The proposed office development at a maximum elevation of 102.5m AHD will not infringe the OLS or the PANS-OPS Basic ILS. (The PANS-OPS height above the site was verified by Airservices, refer Chapter 6.4.1.)
- The proposed development does not obstruct lines of sight from Essendon ATC tower eye level to the Airport’s movement areas per CASA MOS Part 172 Section 3.1.2.1(d).
- The proposed development will not impact the line of sight from Essendon ATC tower to an aircraft on a standard 3 degree descent profile to Melbourne Runway 34.
- Airservices ATC has informally advised EAPL that a 2 per cent slope to the Melbourne Runway 34 threshold is relevant to maintain visual contact to aircraft departing Melbourne Runway 16 in an “engine out” event, although EAPL is not aware of any incidents of this. It is estimated that the view of an aircraft on a 2 per cent slope to Melbourne Runway 34 would be temporarily obstructed for approximately 960 metres.
- The proposed development is situated within light control Zone B for Runway 17/35. The lighting designer will need to ensure that the lights meet the requirements prescribed in the CASA Manual of Standards Part 139 Aerodromes for this zone. (Discussed further at Section 6.4.3)
- There is no impact on Communication, Navigation and Surveillance (CNS) facilities identified. CNS facilities which have been assessed for impact include: RWY 26 ILS / Localiser; RWY 26 ILS Glide Path; Outer and Middle Markers; and Melbourne Terminal Radar Terrain Clearance Chart (RTCC). The proposed building is outside the Runway 26 building restricted areas and thus will not interfere with this area or the associated marker beacon system. The Melbourne Terminal RTCC elevation of the protection surfaces is 274m AHD. This non-penetrable surface will be considered in final design and construction details.
- Construction sequencing and methodology should be considered in relation to the OLS and PANS-OPS. This will be provided for in the CEMP (Section 6.6).

Assessment of the proposal against NASF guidelines is summarised in Section 5.3 of the MDP.

Construction impacts will be considered and referred to Airservices Australia as necessary.
6.4.1 Prescribed airspace

Essendon Fields Airport includes a region of prescribed airspace which is protected by Part 12 of the Airports Act 1996 (Cth). Under the Airports (Protection of Airspace) Regulations 1996 (Cth), a person who intends to undertake controlled activities within prescribed airspace must obtain the consent of the Secretary.

“Controlled activities” include constructing a building or other structure that intrudes into the prescribed airspace and any other activity that causes a thing attached to, or in physical contact with, the ground (such as cranes or scaffolding) to intrude into prescribed airspace. Controlled activities also include other possible intrusions to airspace which may interfere with a pilot’s visibility from an aircraft, including lighting distractions, smoke and trees.

The Obstacle Limitation Surface (OLS) is the lowest airspace surface over the site and is designed to provide protection for aircraft flying into or out of the Airport when the pilot is flying the aircraft by sight. The proposed maximum building elevation of 102.5m AHD will not infringe the OLS inner Horizontal Surface elevation of 123.5m AHD. A plan of the OLS relevant to the development is shown in Figure 19.

Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) is a surface generally above the OLS and is designed to safeguard an aircraft from collision with obstacles when the aircraft’s flight may be guided solely by instruments (e.g. in conditions of poor visibility).

An assessment of an exposure draft of this MDP by Airservices Australia (March 2019) confirmed that “With respect to procedures designed by Airservices in accordance with ICAO PANS-OPS and Document 9905, at a maximum height of 102.46m (337ft) AHD, the development will not affect any sector or circling altitude, nor any instrument approach or departure procedure at Essendon Airport. The proposed office development will also not affect the Melbourne Radar Terrain Clearance Chart (RTCC). Note that procedures not designed by Airservices at Essendon Airport were not considered in this assessment.”

Airservices also advised that “The proposal for this office development, at a maximum height of 102.46m (337ft) AHD at the location provided will not adversely impact the performance of any Airservices Precision/Non-Precision Navigational Aids, HF/VHF/UHF Communications, A-SMGCS, Radar, PRM, ADS-B, WAM or Satellite/Links.”

If temporary penetrations of the Airport’s prescribed airspace are required during the construction phase, approval will be obtained in accordance with the process set out in the Airports (Protection of Airspace) Regulations 1996.
Figure 20 – Obstacle Limitation Surface
6.4.2 Building generated wind shear and turbulence

NASF Guideline B manages the risk of building generated windshear and turbulence at airports and may be relevant when a significant obstacle, such as a building, is located in the path of a cross-wind to an operational runway. The wind flow will be diverted around and over the buildings, causing the cross-wind speed to vary along the runway.

The proposed office building is located in the NASF Assessment Zones for Runway 08/26 and Runway 17/35. The distance from the centerline of Runway 08/26 is approximately 730 metres. The proposed building is approximately 570 metres from the centerline of Runway 17/35.

Wind Tunnel Tests for the proposed development were undertaken in accordance with the principles of NASF Guideline B (Cermak Peterka Petersen, December 2018). The Executive Summary stated:

“A wind tunnel study was conducted to determine the effect of the proposed Larkin Boulevard Office buildings including a multi-level carpark at Essendon Fields on wind conditions along the approach flight path to the existing Runways 08 and 17. The thresholds of the runways are close to the proposed buildings which are located within the assessment trigger areas for these runways and penetrate the 1:35 surface. Therefore, a detailed assessment with regard to the potential of the proposed buildings to generate wind shear and wake turbulence affecting approaching aircraft was required.

A model of the runway approach was fabricated to a length scale of 1:6000 with the runway approach approximately centred on the turntable in the wind tunnel. The runway was slightly offset further downstream to incorporate additional upstream structures of importance to the test. Replicas of the surrounding structures within an 850 m radius were constructed and placed on the turntable.

The wind tunnel testing was performed in the natural boundary layer wind tunnel of Cermak Peterka Peterson Pty. Ltd., St Peters. Appropriate approach boundary layer conditions representative of a suburban environment were established in the test section of the wind tunnel. The approach wind flow had appropriate turbulence as defined in Standards Australia (2011).

Measurements of wind conditions at various locations up to 60 m above ground level along the glide slope to the threshold of Runways 08 and 17 were made with hot-film anemometers at various heights and locations for critical wind directions. These measurements were used to predict the wind conditions caused by the proposed buildings, and to compare the level of wind shear and turbulence with design criteria. Measurements were also taken and assessed with the proposed buildings absent from the turntable to assess the specific impact of the buildings on the wind conditions.

This report finds that the wind conditions along the approach to Runways 08 and 17 meet the DIRDC (2018) requirements for wind shear and turbulence at all times during Essendon Fields standard operating procedures, as defined in the AIP en route documentation (Airservices Australia, 2016). The proposed buildings are not considered to have an impact on aircraft operations for Runways 08 and 17 from the tested wind directions.”
6.4.3 Lighting in the vicinity of aerodromes

Ground lights in the vicinity of aerodromes have the potential to cause confusion or distraction to pilots by reason of the lighting colour, pattern or intensity of light emission above the horizontal plane.

Pursuant to Regulation 94 of the Civil Aviation Regulations 1988, CASA has the power to require lights which may cause confusion, distraction or glare to pilots to be extinguished or modified.

Section 9.21 of the CASA Manual of Standards Part 139 – Aerodromes sets out four light control zones, A, B, C and D. These zones reflect the degree of interference ground lights can cause as a pilot approaches to land. A plan of the lighting zones relevant to the Airport is shown in Figure 21.

The proposed development is located within zones B and C for Runway 17/35. Lighting associated with the development should therefore not exceed 50 cd maximum intensity of light sources for zone B and 150 cd for Zone C, measured 3 degrees above the horizontal.

Detailed design for the development, including any illuminated signage, will be designed to meet the requirements prescribed in the CASA Manual of Standards Part 139 Aerodromes which are described above.

6.4.4 Public Safety Areas

A Public Safety Area (PSA) is an area of land at the end of an Airport runway within which development may be restricted in order to control the number of people on the ground at risk of injury or death in the event of an aircraft accident on take-off or landing.

PSAs have been applied in various forms internationally, including within the United Kingdom and the United States of America. In Australia, NASF Guideline I Managing the Risks in Public Safety Areas at the End of Runways was agreed by Ministers at the Transport and Infrastructure Council on 9 November 2018.

The development site is not in proximity to the end of a runway and is therefore outside the Public Safety Areas identified in NASF Guideline I. (See Figure 13)
Figure 21 – Maximum intensity of light sources
6.5 Economic impacts

An Economic Benefits Assessment (EBA) was prepared for the development (Urbis, December 2018).

The EBA identified that approximately 61% of Moonee Valley resident workers are employed in occupations which typically require office space (Managers, Professionals and Clerical / Administrative workers). This is well above the Greater metropolitan average of 53%. (Refer Figure 22)

The EBA also showed that there is not a sufficient number of jobs available locally (Refer Figure 23 and Table 5). This leads to the majority of local residents travelling out of the municipality for work (79%), mostly for jobs requiring office space. The proposed development is concluded to assist in supporting growth in office-based occupations.

![Figure 22: Resident Workers by Occupation Classification 2016 (Source: 2016 ABS Census, Urbis)](image1)

![Figure 23: Local Employment by Occupation 2016 (Source: 2016 ABS Census, Urbis)](image2)
The EBA identifies that significant economic benefits are likely to flow from the development including:

- During construction, the development is forecast to create 139 direct Full Time Equivalent (FTE) jobs for the equivalent of one year of employment.
- The ongoing operation of the development will support more than 1,000 direct jobs (FTE) and $146 million of gross value-add for the Victorian economy on an annualised basis.

The EBA concludes that the economic benefits will manifest themselves as follows (also discussed at Section 1.7.2):

- Meeting the needs of office tenants and workers in the region.
- Creating skilled employment opportunities locally.
- Providing a catalyst for further development.
- Supporting local business.

### Table 5: Job Containment by Occupation 2016 – Moonee Valley Local Government Area (Source: 2016 ABS Census, Urbis)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Resident Workers</th>
<th>Total No. of Jobs in Moonee Valley</th>
<th>Net Job Import / Export</th>
<th>Live &amp; Work in Moonee Valley</th>
<th>Job Containment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>8,640</td>
<td>4,020</td>
<td>-4,620</td>
<td>1,381</td>
<td>16%</td>
</tr>
<tr>
<td>Professionals</td>
<td>16,920</td>
<td>7,770</td>
<td>-9,150</td>
<td>2,930</td>
<td>17%</td>
</tr>
<tr>
<td>Technicians and Trades Workers</td>
<td>5,870</td>
<td>4,410</td>
<td>-1,460</td>
<td>1,203</td>
<td>20%</td>
</tr>
<tr>
<td>Community &amp; Personal Service Workers</td>
<td>5,510</td>
<td>5,080</td>
<td>-430</td>
<td>1,634</td>
<td>30%</td>
</tr>
<tr>
<td>Clerical &amp; Administrative Workers</td>
<td>8,890</td>
<td>5,540</td>
<td>-3,350</td>
<td>1,743</td>
<td>20%</td>
</tr>
<tr>
<td>Sales Workers</td>
<td>5,530</td>
<td>4,920</td>
<td>-610</td>
<td>1,770</td>
<td>32%</td>
</tr>
<tr>
<td>Machinery Operators &amp; Drivers</td>
<td>2,070</td>
<td>1,320</td>
<td>-750</td>
<td>289</td>
<td>14%</td>
</tr>
<tr>
<td>Labourers</td>
<td>3,320</td>
<td>2,390</td>
<td>-930</td>
<td>758</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>56,750</strong></td>
<td><strong>35,450</strong></td>
<td><strong>-21,300</strong></td>
<td><strong>11,708</strong></td>
<td><strong>21%</strong></td>
</tr>
<tr>
<td>Occupations requiring office space</td>
<td>35,450</td>
<td>17,330</td>
<td>-17,120</td>
<td>6,054</td>
<td>18%</td>
</tr>
<tr>
<td>Blue collar occupations</td>
<td>11,260</td>
<td>8,120</td>
<td>-3,140</td>
<td>2,250</td>
<td>20%</td>
</tr>
<tr>
<td>Other occupations</td>
<td>11,040</td>
<td>10,000</td>
<td>-1,040</td>
<td>3,404</td>
<td>31%</td>
</tr>
</tbody>
</table>
6.6 Construction impacts

If not managed appropriately, construction activities have the potential to create off-site impacts to the environment and surrounding uses, including aviation.

EAPL utilises a Framework – Construction Environmental Management Plan (CEMP) (Kleinfelder, 2017) to manage potential risks to the environment. The objective of the Framework CEMP is to outline practical and achievable management procedures to prevent or mitigate environmental impacts during construction projects at Essendon Fields. For each construction project, a project-specific CEMP must be prepared by the principal contractor to provide assurance to EAPL, the Commonwealth Airport Environment Officer (AEO) and other stakeholders that potential impacts from construction works are adequately addressed and are undertaken in accordance with relevant Commonwealth and State government legislation.

A site-specific CEMP that is consistent with EAPL’s Framework CEMP will be implemented. The site-specific CEMP will be prepared by the construction contractor and must be submitted for EAPL’s consent and will be reviewed for adequacy by EAPL’s environmental consultant and then reviewed by the AEO as part of the Airport Building Control process.

The site-specific CEMP will be required to address all potential environmental impacts likely due to construction of the project. These impacts/issues broadly concern:

- Air quality.
- Stormwater.
- Management of contaminated soil.
- Noise and vibration.
- Waste management.
- Storage of dangerous goods.
- Aboriginal cultural heritage.
- Airport operations.

EAPL will monitor the construction process to ensure compliance with the CEMP and the Airport Environment Strategy. EAPL’s environmental consultant will undertake site inspections on a monthly basis to check compliance with the CEMP and share its findings with the Australian Government-appointed Airport Environment Officer (AEO) to manage any non-conformances.

In addition, a Construction Traffic Management Plan will be prepared prior to works commencing to identify traffic management plans, laydown and layby areas for construction vehicles and plans to minimise impacts from construction vehicles on the internal and external road networks.

Further details of potential construction impacts and key management measures which EAPL will require are provided in the subchapters below.
6.6.1 Air quality

Construction works will involve excavation, placing and compacting of material, transport of excess soil away from the works area and resurfacing.

Potential impacts to air quality during the construction process are primarily related to dust emissions. As previously noted, there are no sensitive receptors in close proximity to the site. However, impacts will be managed to protect workers on site and avoid disruption or nuisance to surrounding business and aviation activities.

A range of plant and equipment will also be on site with potential to generate emissions during construction.

Measures in the site-specific CEMP to avoid or mitigate dust and air pollution during the construction phase will include:

- Exposed areas of soil should be minimised where possible.
- Dampening down of dusty surfaces with recycled water to the extent practical.
- Covering of stockpiles.
- Covering of loads.
- Directing vehicles away from sensitive receivers en route to the disposal area.
- Identification of ‘asbestos containing material’ (if any) during civil works and implementation of appropriate response.
- Machinery and equipment used at the site to be operated in accordance with the manufacturer’s guidelines and maintained to relevant standards to reduce emissions to as low as practical.
- Switching off construction vehicles when not in use.
- Revegetation of disturbed areas as soon as practical after the completion of earthworks.

Overall the potential construction impacts on air quality can be appropriately mitigated to be minimal.

6.6.2 Stormwater

If not managed appropriately, dirt and other contaminants can potentially enter the stormwater network during rainfall and/or storm events.

Measures in the site-specific CEMP to avoid or mitigate pollution entering the stormwater network will include:

- Control measures to prevent stormwater from adjacent sites entering the construction site (Refer EPA publications 275 and 981).
- Any stormwater discharged from the site must meet the Water pollution – accepted limits outlined in Schedule 2 of the Airports (Environment Protection) Regulations 1997.
- Sediments associated with the construction site to be contained, as well as runoff from any exposed contaminated soils (or stockpiles).
- Any stormwater that has come into contact with contaminated material must be treated as wastewater.
- While any erosion is expected to be minimal due to the site’s flat topography, the site-specific CEMP will include a sediment control plan, including housekeeping measures, protection of drains, training, management of contractors and regular monitoring.

Excavation can be a primary cause of PFAS mobilisation. In accordance with the PFAS National Environmental Management Plan (NEMP) (HEPA, 2018) the CEMP will include measures to minimise the likelihood of any leakage or spillage or release of PFAS to stormwater, surface water, land or air. (Refer Chapter 6.6.3)
Overall, the potential construction impacts to stormwater quality can be appropriately mitigated to be minimal.

6.6.3 Management of contaminated soil

The project will require excavation of soils in order to construct the basement and also re-level the site. As stated in Chapter 6.2.2, legacy soil contamination will be dealt with appropriately under the Airports (Environment Protection) Regulations 1997, the PFAS National Environmental Management Plan (NEMP) and other relevant legislation.

The presence of Per- and poly fluorinated alkyl substances (PFAS) is also discussed at Chapter 6.2.2. Where PFAS has been detected in soil within the project area, it is below the lowest concentration PFAS NEMP threshold, protective of ecosystems.

Assessment and management of any PFAS impacts at the subject site will comply with the PFAS NEMP (HEPA, 2018). If PFAS-impacted material requires relocation to another part of the airport site, a risk assessment will be undertaken in accordance with the PFAS NEMP (inclusive of leachability testing) to determine whether or not the change in site setting poses unacceptable risks to human health or the environment at the point of reuse.

As excavation is a primary source of PFAS mobilisation, a spoil management plan will be prepared prior to construction commencing. The plan will manage spoil to comply with the PFAS NEMP and EPA Victoria waste management legislation. For example, consistent with the PFAS NEMP, the spoil management plan will “take all reasonable and practicable measures to prevent or minimise potential environmental harm from PFAS-related activities and contamination, such as ensuring PFAS wastes, contaminated materials and products are effectively stored and/or remediated to prevent release, and having appropriate contingency plans to deal with leaks and spillage.”

Measures in the site-specific CEMP to manage contaminated soil during the construction phase will reflect the outcomes of the environmental site investigations and include:

- Measures consistent with the PFAS NEMP to monitor, manage and remediate (where necessary) PFAS contamination.
- Install and maintain erosion controls on unstable surfaces as per EPA publications 275 & 981.
- If contaminated soil is to be managed on-site, this must be assessed against the requirements of the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (NEPM).
- A detailed map and log of all soil movements is to be maintained.
- Excavations should be examined for signs of contamination. If contamination is suspected, then the material must be characterized and managed appropriately.
- Excavated material to be removed off-site is to be tested for potential contaminants. This will involve sampling and categorisation of excavated soils by suitably qualified and experienced personnel in accordance with EPA publication IWRG621 and IWRG702.
- Any imported fill material used onsite must be classified as fill material under EPA publication IWRG621.

Overall, the potential environmental impacts arising from the management of contaminated soil (if any) during construction can be appropriately mitigated to be minimal.
6.6.4 Noise and vibration

Noise emissions and vibration during construction will predominately be from earthworks and building equipment such as compressed air-driven tools, heavy vehicles working on site and the delivery of materials.

Under the  *Airports (Environment Protection) Regulations*  noise generated from construction activities should not exceed 75dB(A) at the site of a sensitive receptor. This limit applies to works conducted both day and night. As previously noted, the nearest sensitive receptor is located approximately 500 metres from the site.

The contractor will be required to assess potential noise and vibration emissions and identify mitigation measures if required within the site-specific CEMP. Such measures may include the preparation of a noise and vibration construction plan (if appropriate), limiting of construction times, the use of screening or noise barriers and the regular maintenance/servicing of equipment.

At present, neither Moonee Valley City Council nor EPA guidelines specify vibration criteria for normal working hours. Therefore EAPL will require that regard is given to City of Melbourne guidelines to mitigate off-site impacts.

Overall the potential impacts arising from construction noise and vibration can be appropriately mitigated to  **low**  for site workers and surrounding businesses and  **negligible**  for local residents.

6.6.5 Waste management

Construction wastes would generally consist of metals, synthetic materials, small quantities of oils and paints and general waste.

Hazardous materials will be stored, managed and disposed of in accordance with State and Federal legislation.

EAPL will require the following waste control measures will be included within the site-specific CEMP:

- Waste to be managed to prevent generation of litter, transmission of odours and control of vermin.
- Construction waste to be recycled where economically and commercially practical.
- Disposal of chemicals to be in accordance with EPA IWRG guidelines.
- All waste oils, fuels, chemicals, solvents, adhesives and hazardous wastes to be disposed of in separated controlled bins in accordance with regulatory requirements.
- Empty drums to be removed off-site in accordance with EPA Publication IWRG644.1 *Used Containers – Transport and Management*.

6.6.6 Storage of dangerous goods

Dangerous goods that may be present at the site during the construction phase include:

- Waste oils from machinery or plant equipment;
- Waste paint products; and
- Small quantities of fuel for plant and machinery.

If present on site, all dangerous goods will be handled, stored and disposed of in accordance with the  *Work Health and Safety Act 2011 (Vic)*. The impact of dangerous goods during construction has therefore been assessed as  **negligible**.

6.6.7 Aboriginal Cultural Heritage

Aboriginal Affairs (Victoria) has previously confirmed there are no records of Aboriginal archaeological sites at Essendon Fields Airport. Further, given the highly modified nature of the site no impact from development is likely to harm Aboriginal cultural material.
The site-specific CEMP will require that any cultural relics or Aboriginal sites uncovered during construction should be immediately reported to EAPL Management and Aboriginal Affairs Victoria. Should a suspected Aboriginal site be found, works must be stopped and the area cordoned off until the issue is resolved appropriately in accordance with procedures described under the Aboriginal Heritage Act 2006 and the Aboriginal Heritage Regulations 2007.

Given that there are no Aboriginal designations concerning the site, the impact during construction has been assessed as negligible when combined with the mitigation measures described above.

6.6.8 Airport Operations
Crane penetrations through the prescribed airspace, if required during construction, will be managed to ensure minimal impact on airport operations. A notice to airmen (NOTAM) will be issued if required. All construction and related works will be managed in accordance with the regulations set out in the CASA Manual of Standards Part 139 – Aerodromes.

EAPL will obtain approval under the Airports (Protection of Airspace) Regulations 1996 for any temporary penetrations into prescribed airspace required during construction.

6.7 Noise Exposure Levels
The proposed development is not considered to have any noise effects associated with the ongoing operation of the facility. The construction phase may have localised noise effects however measures will be taken to limit the impact of construction on existing operations in proximity to the subject site.

The proposed development does not involve any changes to aircraft flight paths nor any significant increase in traffic generation. Therefore, no discernible impact is expected in the current noise conditions experienced at the Airport or surrounding locations.

6.8 Summary of impacts
The proposed development is anticipated to have a positive impact on the future operations and economic viability of Essendon Fields Airport and for employment growth in Metropolitan Melbourne.

A site-specific CEMP will be implemented to manage potential impacts during construction which will reduce impacts to acceptable levels.

Overall, the assessment of potential impacts from the development does not raise any issues that will have a significant impact on the environment or the local or regional economy after mitigation measures are implemented.
7.0 Environmental Management

7.1 Environmental Strategy 2013-2018

The Essendon Airport Environmental Strategy (EAPL, 2013) outlines the environmental objectives and the environmental management framework for the Airport.

The Strategy was prepared in accordance with the requirements of the Airports Act 1996 and was approved as part of the Ministerial approval of the Airport’s Master Plan.

Objectives in the Environmental Strategy of relevance to this MDP are discussed in the table below.
### Table 6: Environment Strategy Objectives

<table>
<thead>
<tr>
<th>Topic</th>
<th>Key Objective</th>
<th>MDP Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air Quality</strong></td>
<td>To ensure Essendon Airport complies with legislative requirements for emissions.</td>
<td>Chapters 6.2.6 &amp; 6.6.1</td>
</tr>
<tr>
<td></td>
<td>To minimise local air quality impacts from ground-based activities.</td>
<td>Chapters 6.26 &amp; 6.61</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td>To minimise noise associated with ground operations.</td>
<td>Chapters 6.2.7 &amp; 6.6.4</td>
</tr>
<tr>
<td></td>
<td>To comply with legislative requirements.</td>
<td>Chapters 6.2.7 &amp; 6.6.4</td>
</tr>
<tr>
<td><strong>Stormwater</strong></td>
<td>To minimise the impact of airport operations on surface water quality in and adjacent to Essendon Airport.</td>
<td>Chapters 6.2.5 &amp; 6.6.2.</td>
</tr>
<tr>
<td></td>
<td>To control the impact of any spill on Airport.</td>
<td>Chapters 6.2.5, 6.2.9, 6.6.4 &amp; 6.6.5</td>
</tr>
<tr>
<td></td>
<td>No exceedances of Airports Regulations or SEPP (Waters of Victoria).</td>
<td>Chapters 6.2.5, 6.6.2 &amp; 6.6.3</td>
</tr>
<tr>
<td><strong>Groundwater</strong></td>
<td>To prevent groundwater contamination occurring from airport activities.</td>
<td>Chapters 6.2.5, 6.6.2, 6.6.3 &amp; 6.6.5</td>
</tr>
<tr>
<td><strong>Soil Quality</strong></td>
<td>To prevent the contamination of soil from airport activities.</td>
<td>Chapters 6.6.2, 6.2.8, 6.2.9, 6.6.3 &amp; 6.6.5</td>
</tr>
<tr>
<td></td>
<td>To manage areas of known or suspected contaminated sites according to regulatory requirements.</td>
<td>Chapters 6.2.2 &amp; 6.6.3</td>
</tr>
<tr>
<td><strong>Waste Management</strong></td>
<td>To implement the principles of reduce, re-use and recycle at the airport.</td>
<td>Chapters 6.2.8 &amp; 6.6.5</td>
</tr>
<tr>
<td></td>
<td>To minimise the volume of waste being transported to landfill.</td>
<td>Chapters 6.2.8 &amp; 6.6.5</td>
</tr>
<tr>
<td><strong>Dangerous Goods &amp; Hazardous Materials</strong></td>
<td>To comply with legislative requirements.</td>
<td>Chapters 6.2.9 &amp; 6.6.6</td>
</tr>
<tr>
<td></td>
<td>To ensure that proper storage, transport and handling of EAPL dangerous goods and hazardous materials is undertaken.</td>
<td>Chapters 6.2.9 &amp; 6.6.6</td>
</tr>
<tr>
<td></td>
<td>To minimise the environmental impact following a spill event.</td>
<td>Chapters 6.2.9 &amp; 6.6.6</td>
</tr>
<tr>
<td><strong>Resource Use</strong></td>
<td>To minimise the use of resources across the Airport. E.g. water use, energy consumption.</td>
<td>Chapter 6.2.10</td>
</tr>
<tr>
<td></td>
<td>To encourage tenants to minimise their use of resources.</td>
<td>Chapter 4.5</td>
</tr>
<tr>
<td><strong>Flora and Fauna</strong></td>
<td>To minimise impacts of airport activities on the surrounding environment.</td>
<td>Chapter 6.2.1</td>
</tr>
<tr>
<td><strong>Heritage</strong></td>
<td>To protect and preserve all identified items with significant Commonwealth Heritage values at the airport.</td>
<td>Chapters 6.2.4 &amp; 6.6.7</td>
</tr>
</tbody>
</table>
8.0 Consultation and Approval Process

8.1 Consultation objectives
EAPL’s objectives for consultation are to:

- Obtain community input into the proposed development.
- Maintain positive relationships with key stakeholders.
- Achieve early identification of issues, develop appropriate management strategies and reduce the risk of project delay or project refusal.
- Maintain and enhance community and industry perceptions.
- Provide stakeholders with accurate, consistent and up to date information about the proposal.

8.2 Consultation to date
In preparing this MDP, EAPL has consulted with the following key stakeholders to identify key issues and to develop the overall concept for this development:

- Australian Government Department of Infrastructure, Transport, Cities and Regional Development.
- Australian Government Department of the Environment and Energy.
- Airservices Australia.
- Civil Safety Aviation Safety Authority.

8.3 Advice to Government
In accordance with Section 92 (1A) of the Act the following authorities were advised of the proposed development:

- Victorian Minister for Planning.
- Victorian Department of Environment, Land, Water and Planning.
- Moonee Valley City Council.
- Moreland City Council.

The Preliminary Draft MDP was distributed to the organisations listed above for comment.

8.4 Public Comment
Pursuant to Section 92(1) of the Act, the Preliminary Draft MDP was subject to a formal period of consultation, which included a notice published in a newspaper circulated within Victoria stating that a Preliminary Draft MDP had been prepared, and that copies of the document were available for public view.

8.5 Submission to Minister
After public consultation was completed, the Draft MDP was submitted for a decision by the Commonwealth Minister for Infrastructure, Transport and Regional Development.

Written comments received were forwarded with the Draft MDP for consideration by the Minister, along with a response demonstrating how EAPL has had regard to the written comments.

The Draft MDP was approved by the Minister on 14 January 2020.

8.6 Consultation during construction
The proponent will advise relevant Airport operators, tenants and retailers within the vicinity of the works of the intended construction start date and the duration of construction.

The process of informing operators, tenants and retailers of particularly disruptive activities will be detailed in the site-specific CEMP prepared by the contractor prior to construction. Signs and notices will be used where appropriate to inform the general public of construction works.

On-going updates will be provided to the Community Aviation Consultation Group, Planning Coordination Group and relevant Government authorities throughout the project.
9.0 Conclusion

Essendon Fields is a major contributor to the growth of Victoria’s economy through tourism, aviation and business development, the benefits of which are recognised throughout national, state and local policy documents. The proposed development will make a significant contribution to the economic viability and future of Essendon Fields Airport.

The MDP demonstrates:

- The proposal is consistent with relevant provisions of the Airports Act 1996 and the EPBC Act 1999.
- The proposal is consistent with the Airport Lease.
- The proposal is consistent with National Airports Safeguarding Framework (NASF) guidelines.
- The proposal is consistent with the Essendon Airport Master Plan 2013 and the Essendon Airport Environmental Strategy contained within the Master Plan.
- The proposal is consistent with the State and Local Government planning provisions.
- The proposal will not have significant environmental or social impacts.
- The proposal will not adversely affect the aviation operations of the Airport.
- The proposal will have a wide range of economic benefits for the Airport and nearby businesses including generating approximately 1000 direct jobs during operation.
- The proposal will respond to the increasing demand at Essendon Fields and will enhance non-aviation development as outlined in the Essendon Airport Master Plan 2013.

An assessment of the potential impacts of the proposed development has been undertaken in accordance with the Act and Airports Regulations. This has included an assessment of potential effects on the environment, traffic, aviation, heritage and economic development of the Airport.

The proposed development is consistent with the final Master Plan and does not raise any issues that have a significant impact on the local or regional community.

It is therefore considered the proposed development will be beneficial for the Airport and local area and can be supported.
References

- Essendon Airport Pty Ltd (EAPL) (2019) Essendon Fields Airport preliminary draft Master Plan, 2019
APPENDIX A
APPENDIX A: Office Concept Plans
Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by the Architect before manufacture.

Any extra entailed in work shown on this drawing must be claimed and approved before proceeding.

NOTES:

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GENERAL NOTES

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION TO AND CONFORM WITH THE FOLLOWING RELEVANT DRAWINGS, SCHEDULES, SPECIFICATIONS, REPORTS, STANDARDS AND REGULATORY AUTHORITY REQUIREMENTS:

- PLANNING AND BUILDING PERMITS
- BCA AND RELEVANT AUTHORITY REQUIREMENTS
- BCA SECTION J - VERIFICATION METHOD JV3 REPORT
- FIRST RATE REPORT/ESD REPORT
- FIRE ENGINEERING REPORT
- ACOUSTIC REPORT
- DDA REPORT
- STORM WATER REPORT
- WASTE MANAGEMENT REPORT
- AS1428.1 - 2009
- ARCHITECTURAL DRAWINGS, SCHEDULES AND SPECIFICATIONS INCLUDING ENDORSED AND SUBMITTED TOWNPLANNING DRAWINGS AND APPROVED MARKETING DRAWINGS.
- STRUCTURAL DRAWINGS AND SPECIFICATIONS
- CIVIL DRAWINGS AND SPECIFICATIONS
- SERVICES DRAWINGS AND SPECIFICATIONS INCLUDING MECHANICAL, ELECTRICAL, HYDRAULIC AND FIRE.
- LANDSCAPE DRAWINGS, SPECIFICATIONS AND SCHEDULES
- FF&E SCHEDULES
- SIGNAGE SCHEDULES
- WINDOW AND GLAZING SCHEDULES
- DOOR SCHEDULES

ALL RELEVANT DDA REQUIREMENTS ARE TO BE COMPLIED WITH TO THE SATISFACTION OF THE BUILDING SURVEYOR AND BCA REQUIREMENTS RELEVANT CONSULTANTS PRIOR TO FABRICATION.

15. THE CONTRACTOR IS TO ALLOW FOR ALL REQUIRED STATUTORY SIGNAGE AND TO ALLOW FOR ALL OTHER ARCHITECTURAL AND BUILDING SIGNAGE.

16. WATERPROOFING IN WET AREAS IS TO BE DESIGNED IN ACCORDANCE WITH AS3740 AND MANUFACTURER’S SPECIFICATIONS.

17. REMOVABLE HINGES ARE REQUIRED TO THE TOILETS WHERE THE PAN IS LOCATED WITHIN 1.2M OF THE DOORWAY UNLESS THE DOOR IS A SLIDING DOOR.

19. CONTRACTOR TO ALLOW FOR THE INCLUSION OF OVERFLOWS TO GUTTERS, BALCONIES, ROOFS, PLANTER BOXES ETC TO RELEVANT STANDARDS AND REQUIREMENTS. ALL OVERFLOWS TO BE COLOURBOND - COLOUR TBA.

20. PENETRATIONS THROUGH ANY PARTY WALL, FIRE RATED WALL, FLOOR OR CEILING ARE TO BE FIRE RATED AND ACOUSTICALLY SEALED TO THE SATISFACTION OF THE BUILDING SURVEYOR AND RELEVANT CONSULTANT.

21. ALL DOWNPIPES, WASTE PIPES AND OTHER SERVICES PIPES IN GENERAL ARE TO BE FULLY CONCEALED WITHIN WALLS, DUCTS, CEILINGS AND SOFFITS. NO EXPOSED OR EXTERNALLY FIXED PIPES WILL BE ACCEPTED. ANY PROPOSED ADDITION OF A BULKHEAD BY THE CONTRACTOR IS TO BE APPROVED BY THE ARCHITECT.

22. ALL EXTERNAL GRILLES ARE TO BE INCORPORATED INTO WINDOWS FRAMES AND TO BE APPROVED (INCLUDING TYPE) BY THE ARCHITECT. ALL GRILLES ARE TO BE POWDERCOATED TO MATCH WINDOW FRAME COLOUR.

23. ALL BALUSTRADES AND FIXINGS ARE TO BE DESIGNED BY A SUITABLY QUALIFIED ENGINEER - 1507 CERTIFICATION IS TO BE PROVIDED AT COMPLETION PRIOR TO ISSUE OF OCCUPANCY PERMIT. ALL PROPOSED FIXINGS, HARDWARE ETC. ARE TO BE APPROVED BY THE ARCHITECT. GLASS BALUSTRADE TO COMPLY WITH AS1288-2006 & AS1170.1.

24. ALL FLOORING, THRESHOLDS, STAIR NOSING, FLOORING STRIPS AND TACTILE INDICATORS TO COMPLY WITH AS1428.1 -2009 TO PUBLIC ACCESS AREAS.

25. LANDINGS, SURFACE OF THE TREAD OR NOSING STRIPS MUST HAVE A SLIP RESISTANCE NOT LESS THAN THE TABLE BELOW WHEN TESTED TO THE REQUIREMENTS OF AS4586.

<table>
<thead>
<tr>
<th>Surface Conditions</th>
<th>Dry</th>
<th>Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P4</td>
<td>P5</td>
</tr>
<tr>
<td></td>
<td>R11</td>
<td>R12</td>
</tr>
<tr>
<td>Ramp Steeper than 1:20 but not steeper than 1:14</td>
<td>P3</td>
<td>P4</td>
</tr>
<tr>
<td>Ramp Steeper than 1:14</td>
<td>P3</td>
<td>P4</td>
</tr>
<tr>
<td>Tread or landing surface</td>
<td>P3</td>
<td>P4</td>
</tr>
<tr>
<td>No</td>
<td>1:14</td>
<td>1:20</td>
</tr>
</tbody>
</table>

Ramp Steeper than 1:14 | P3 | P4 |
| Tread or landing surface | P3 | P4 |

Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by the Architect before manufacture. Any extra entailed in work shown on this drawing must be claimed and approved before proceeding.

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APPLICATION

Surface Conditions

- Dry
- Wet

- P4 or R11
- P5 or R12

- P3 or R10
- P4 or R11

- P3 or R10
- P4 or R11

- P3
- P4

Ramp Steeper than 1:14

- P3
- P4

- Ramp Steeper than 1:20
- P3
- P4

- but not steeper than 1:14
- P3
- P4

Tread or landing surface

- P3
- P4

Nosing or Landing edge strip

- P3
- P4

- P3
- R11

- P3
- R10

- P3
- R10

- P3
- R12

- P3
- R11

- P3
- R11

- P3
- R11
Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by the Architect before manufacture.

Any extra entailed in work shown on this drawing must be claimed and approved before proceeding.

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STAGE 1

STAGE 2 & 3

TOWER 1

TOWER 2

TOWER 3

STAGE 2 & 3

PROJECT: ARC OFFICE TOWERS
DATE: 21/05/19
JOB N°: 38029
DRAWING TITLE: LEVEL 03 OUTLINE PLAN
DRAWING STATUS: preliminary
DRAWING N°: A20-05

ARC OFFICE TOWERS
LARKIN BOULEVARD, ESSENDON FIELDS

LEVEL 03 OUTLINE PLAN

POSSIBLE BRIDGE CONNECTION BETWEEN TOWERS 01 & 03.
Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by the Architect before manufacture.

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GOODS LIFT
2300w, 1700d
3200w, 2400d

PASSENGERS LIFT
1550w, 2020d
4800w, 2500d

FEMALE
MALE
UNISEX

DDA

refrigeration piping
400x200

base building toilet exhaust
690x750

toilet general exhaust
250x720

kitchen exhaust
1450x450

CO
MMS
(1000X600)

ELECT
RICA
L
(2000X600)

WATER RISER
(600X600)

SPRINKLER RISER
(600X600)

GAS RISER
(600X600)

Suppl. loop
400x200

CLEANERS

STAGE 1
TOWER 1
TOWER 2
TOWER 3

STAGE 2 & 3

LEVEL 05 OUTLINE PLAN
ARC OFFICE TOWERS
LARKIN BOULEVARD, ESSENDON FIELDS

PROJECT: DATE: JOB N
O
DRAWING STATUS: DRAWING N
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REV DATE VER NO I T P I R C S E D DATE DESCRIPTION

Do not scale.
Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by the Architect before manufacture.
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38029
A20-07
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Overall - West elevation

Overall - East elevation
Overall - South elevation

Overall - North Elevation
CAFE - preliminary perspective