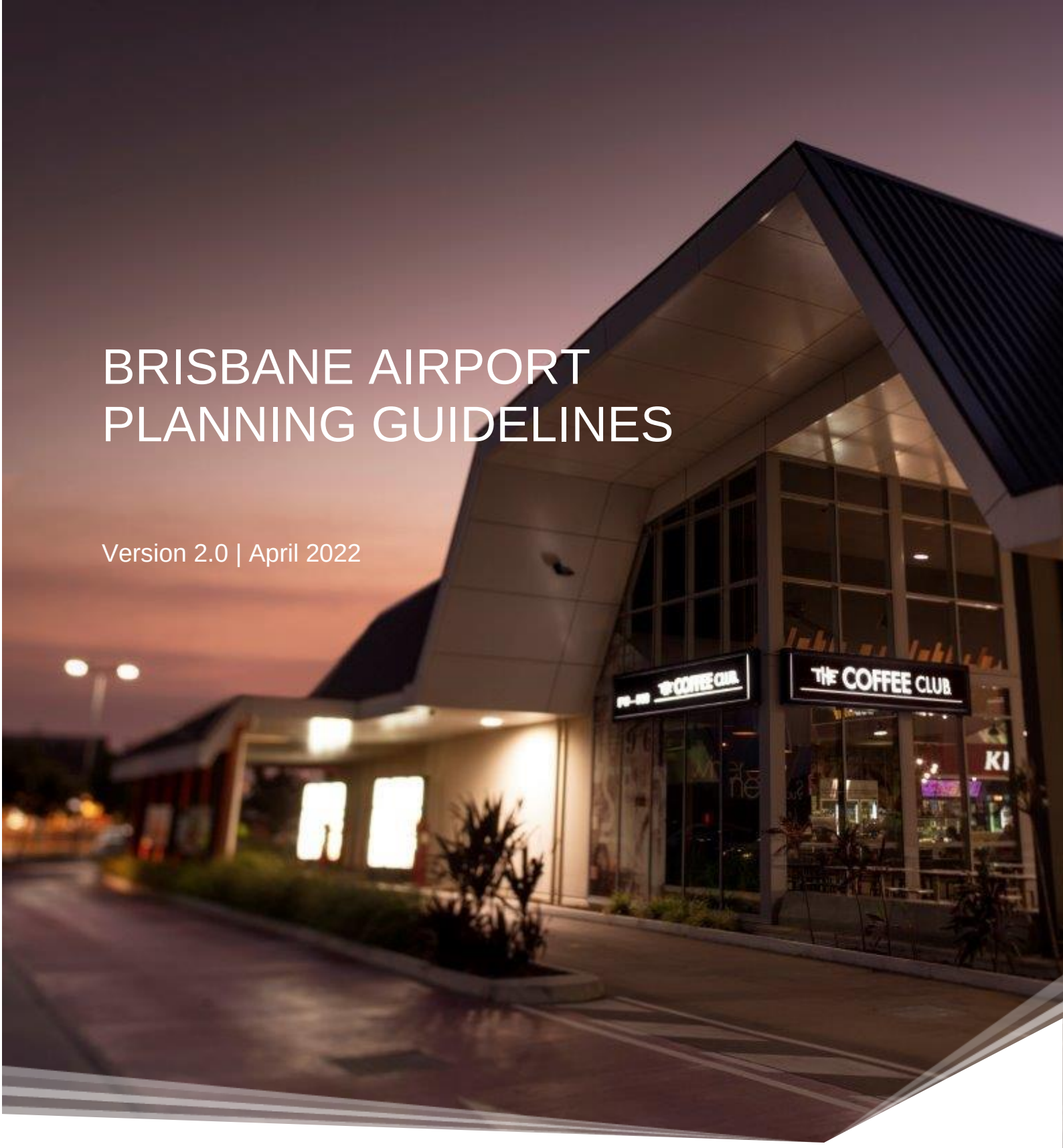

BRISBANE AIRPORT PLANNING GUIDELINES

Version 2.0 | April 2022

BRISBANE AIRPORT CORPORATION

IMPORTANT NOTICE:

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PURPOSE OF THE PLANNING GUIDELINES

The Brisbane Airport Planning Guidelines (this document) have been created as a high-level framework to assist in the planning and development of sites across Brisbane Airport. The framework is similar to the requirements of a Local Government Planning Scheme, intended to support the direction set by the Brisbane Airport 2020 Master Plan.

The 2020 Master Plan sets out Brisbane Airport Corporation's (BAC) aspiration to create a sustainable world-class airport, a distinctive place that visitors keep coming back to, and the best possible neighbour and business partner by building collaborative relationships, exploring opportunities for sustainable growth and acting with integrity in guiding the airport towards a brighter future for all.

The guideline has been designed with the intent of providing flexible and adaptable development parameters that understand the importance of achieving optimal site-specific solutions.

These Guidelines will be reviewed periodically to ensure they are achieving the desired planning outcomes across Brisbane Airport. These Planning Guidelines form part of a suite of development documents that set out the requirements for a development at Brisbane Airport. In preparing development documentation, the Airport Approvals Manager should be contacted to discuss the development application and how it meets the development documentation set out below.

BAC DEVELOPMENT DOCUMENTS

Document	Practitioners	Purpose
Airport Planning Guidelines	Useful for Town Planners and Architects	Sets our design objectives and considerations
Airport Approval Guidelines	Useful for Project Managers and Airport Tenants	Explains the steps in obtaining development approvals and the key organisations involved
Technical Guidelines	Useful for Design Engineers	Sets out engineering specifications

AIRPORT AND AVIATION GUIDELINES

SECURITY

Planning Objective	Design Considerations
All developments must provide security for airside areas. Developments must not encroach on areas of airside operations. Where adjacent to airside activities, advice must be sought in relation to requirements and guidelines relating to; Transport Security; Airside Fences; Barriers and Contractors working airside and in sterile area. Construction identified as vulnerable from aviation risks requires a Security Risk Assessment to Australian Standards. It must also meet the requirements of the Transport Security Plan Critical infrastructure includes but is not limited to terminals, runways, aprons, fuel pipelines, Enhanced Inspection Areas, landside road network and bridges, JUHI facility, and electrical and water networks. All landside buildings and structures are to be located a minimum of 3 metres from any airside security fences. For airside buildings, this is exclusion zone is reduced to 2 metres of any airside security fence. All airside buildings should comply with the applicable requirements of Airservices Australia, Civil Aviation Safety Authority (CASA), and BAC regulations, standards, and recommended practices.	All security fences (both temporary and permanent) must be constructed in accordance with the BAC standards. Design specifications to mitigate identified risks and maintain architectural integrity, (such as the use of blast protection measures on glazing and barriers to prevent vehicle penetration) should be included to protect critical infrastructure or any building that is identified as vulnerable from aviation risks. Building design should not adversely impact the safety and security of people or compromise the protection of critical infrastructure.

AIRSPACE

Planning Objective	Design Considerations
Developments must not create a hazard or permanent or temporary obstruction to airspace operations.	Building height in the vicinity of the Control Tower must maintain air traffic control sightlines to all Airside operational areas.
Developments must not penetrate or create any physical obstruction into the Obstacle Limitation Surface (OLS) or PANS-OPS or create an obstacle to an aircraft operating to or from the Brisbane Airport.	Developments must not impair the functioning of an aviation facility by creating a permanent or temporary structure or any other physical line-of-sight obstruction between transmitting or receiving devices that: • Transmits an electromagnetic field that will interfere with the functioning of the aviation facility; or • Contains a reflective surface that will interfere with the functioning of the aviation activities. Where development intrudes into an airport's OLS or PANS-OPS, advice from BAC will need to be sought. Written confirmation of the advice from CASA may also be required.

LIGHTING INTRUSION

Planning Objective	Design Considerations

Buildings and structures must not adversely impact airport operations or interfere with pilot vision.
 	
Developments must not involve:
• Coloured flashing or sodium lighting
• Glare or upward shining lights; or
• Flare plumes.
	Developments should ensure that outdoor lighting:
	• Does not imitate the format of approach or runway lighting by configuring lights in straight parallel lines greater than 500 metres in length.
	• Does not emit light that will exceed the maximum light intensity specified below:
	  • Zone A - 0 candela – 600 metres wide 1000 metres from runway strip
	  • Zone B - 50 candela – 900 metres wide 2000 metres from runway strip
	  • Zone C - 150 candela – 1200 metres wide 3000 metres from runway strip
	  • Zone D - 450 candela – 1500 metres wide 4500 metres from runway strip
	  • Other - Max intensity of light sources 3 degrees above horizon.
	
	Compliance may be demonstrated by complying with the standards specified in the CASA Guideline Chapter 12—Aerodrome lighting, 1.2 Lighting in the vicinity of an aerodrome and written confirmation from the airport operator.

EMISSIONS

Planning Objective	Design Considerations
Emissions must not significantly affect air turbulence, visibility or aircraft engine operation within the operational airspace of Brisbane Airport.	Development does not emit into the OLS: • A gaseous plume which exceeds the velocity as stated in the *Airports (Protection of Airspace) Regulations 1996*. • Smoke, dust, ash, steam or other airborne particulates which may affect Airport operations.

PUBLIC SAFETY AREA

Planning Objective	Design Considerations
Development does not expose or increase the risk to public safety in a Public Safety Area. Development must not increase the number of people living, working or congregating in the Public Safety Area.	Development does not materially increase the storage and handling of dangerous goods or combustible liquids within the PSA.

ENVIRONMENT AND HERITAGE GUIDELINES

HERITAGE

Planning Objective	Design Considerations
Development does not diminish the heritage significance of historic and Aboriginal cultural and spiritual sites	Development should aim to preserve the heritage setting of listed historic and cultural heritage sites and values and are to be sited in an appropriate manner. Section 11 of the 2020 Airport Environment Strategy outlines objectives for preserving and promoting heritage.

LANDSCAPING

Planning Objective	Design Considerations
The landscape setting must provide a functioning ecological system supporting the operational needs of Brisbane Airport.	Landscaping must be undertaken in accordance with the Brisbane Airport Landscape Setting Strategy. Landscaping should establish a natural green frame for development and creates memorable landscape experiences that are distinctive of Southeast Queensland.

SOILS AND GROUNDWATER

Planning Objective	Design Considerations
To minimise potential ecological and human health impacts, developments must adhere to industry standard soil and groundwater monitoring and management principles.	Appropriate investigations are to be undertaken in accordance with industry standards for potential and actual acid sulphate soils (PASS/AASS), soil and groundwater contamination, and asbestos. Water and soil are to be managed in accordance with Airports (Environment Protection) Regulations 1997, the 2020 PFAS National Environment Protection Measure and relevant guidance material. **Note:** Information on soil and groundwater management can be found in Section 3 of the 2020 Airport Environment Strategy along with locations of known contaminated sites (excluding PFAS contamination).

BIODIVERSITY

Planning Objective	Design Considerations
Development must maintain a healthy and sustainable ecosystem to support and foster existing fauna and flora.	Development must be undertaken in accordance with the provisions of the Landscape Setting Strategy. Development adjacent to or which has a potential impact on the Environmentally Significant Areas and Biodiversity Zones must ensure biodiversity values are maintained. **Note:** Environmentally Significant Areas and Biodiversity Zones are identified in the Airport Environment Strategy.

NOISE

Planning Objective	Design Considerations
Developments must adequately attenuate for noise in buildings to protect the health and wellbeing of occupants and to ensure no adverse impacts from noise affecting adjoining developments. Developments must comply with Schedule 4 of the Airports (Environment Protection) Regulations 1997. **Note:** Brisbane Airport operates 24 hours a day, 7 days a week. The Brisbane Airport Planning Guidelines does not restrict the hours of operation of future developments, providing compliance can be demonstrated with relevant laws and requirements.	Buildings are to be designed and attenuated to minimise the level of disturbance from external noise sources including Airport operations, surrounding land uses, roads and rail. Buildings incorporate appropriate insulation, noise attenuation and design measures where located within the noise exposure contour or potentially impacted by aircraft noise. **Note:** Refer to the Brisbane Airport Master Plan for the Ultimate Capacity Australian Noise Exposure Forecast (ANEF), and AS 2021 (Acoustics - Aircraft Noise Intrusion). **Note:** Refer to AS/NZS 2107:2016 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors.

AIR QUALITY

Planning Objective	Design Considerations
Developments must promote the health and wellbeing of building occupants through the achievement of healthy standards in air quality. Developments must not unduly impact on the air quality of sensitive uses. Emissions are required to be within the accepted limits of pollution specified in Schedule 1 of the *Airports (Environment Protection) Regulations 1997*.	In the case of a development or operation being likely to cause a release of odour, appropriate mitigation measures are to be incorporated into the design. (Odours are as defined in Section 2.01 of the *Airports (Environment Protection) Regulations 1997*.) Developments should ensure that if an odour is released, exhaust vent outlets are discharged vertically and directed away from any sensitive use or outdoor air intake (separated by a minimum of 6 metres). Exhaust vents from any car park or bus station should be separated from any sensitive use by a minimum of 15 metres.

STORMWATER

Planning Objective	Design Considerations
Reasonable and practicable measures must be undertaken to prohibit pollution and/or contamination directly or indirectly entering the storm water system. Stormwater drainage from the site should be of an acceptable quality and volume to prevent harmful impacts on receiving waters Water Sensitive Urban Design principles should be applied (refer to the Brisbane Airport Landscape Setting Strategy). Stormwater and other site run-off are to be treated and managed on-site to achieve best practice environmental protection. A wide variety of landscape measures should be used to manage stormwater flows, utilise stormwater within the site and minimise supplementary watering of landscaping. Stormwater harvesting opportunities must be designed to address wildlife strike risks (i.e., incorporation of large emergent macrophytes which provide limited habitat for high-risk species). Stormwater discharge points are to be located so that they do not adversely impact on areas of ecological value, or cause nuisance or damage to adjoining properties. **Note:** The Airports (Environment Protection) Regulations 1997, requires developers and operators to take all reasonable and practicable measures to avoid polluting	All stormwater leaving a site should achieve the following minimum reductions in total pollutant load, compared to untreated stormwater run-off: • 80% reduction in Total Suspended Solids • 60% reduction in Total Phosphorus • 45% reduction in Total Nitrogen • 90% reduction in Gross Pollutants/litter; and • Hydrocarbons – visible sheen or odour. The stormwater management strategy should provide for: • An acceptable level of flood immunity • Public safety and risk-management measures • Erosion and sediment control; and • Water Sensitive Urban Design alternatives in parallel with site landscaping. The careful design and placement of landscape measures should integrate the many benefits for the water cycle, including: • Reduced peak stormwater discharges • Increased groundwater recharge • Reduced erosion and sedimentation • Increased retention of soil moisture • Lower water costs; and • Enhanced scenic amenity and ecological benefits.

STORMWATER (CONTINUED)

Planning Objective	Design Considerations
	Where possible, landscape and stormwater measures should be integrated, including: • Vegetated filter strips • Vegetated swales • at-source bioretention systems • Tree pits • Constructed stormwater treatment wetlands • Vegetated soak/retention areas • Green roofs. BAC's accepted recommended modelling software to determine stormwater pollutant export and treatment measure efficiency is MUSIC (Model for Urban Stormwater Improvement Conceptualisation).

WASTE COLLECTION AND STORAGE

Planning Objective	Design Considerations
Developments must incorporate fit-for-purpose measures to manage, store, recycle and dispose of waste responsibility. Developments must incorporate a dedicated area for the collection of waste and recycling with appropriate access for all building occupants.	Where possible, waste collection, and associated vehicle movements, should be located behind or under buildings. Developments must incorporate designated areas allocated for the storage and collection of recyclable material and non-recyclable waste. Oily, regulated or biosecurity waste must be stored with appropriate bunding, segregation and covering. On-site waste collection areas must be provided with sufficient space for safe manoeuvring of a collection vehicle.

HAZARDOUS MATERIALS

Planning Objective	Design Considerations
Storage and disposal of hazardous or flammable materials must not endanger the site, building, neighbouring tenants or people.	Storage and disposal of hazardous materials should be undertaken in accordance with the relevant regulatory requirements and meets Workplace Health and Safety Standards. Any development storing hazardous or flammable materials in significant quantities must be supported by a hazard identification risk analysis that appropriately addresses potential impacts on people, operations and the environment, as well as a safety/hazard management plan prepared by an appropriately qualified professional. All storage areas are to be secured and signed appropriately in accordance with relevant Australian Standards.

BUILDING DESIGN GUIDELINES

ARCHITECTURAL DESIGN

Planning Objective	Design Considerations
Buildings must achieve a high standard of design. Developments must make a positive contribution to the desired precinct character and amenity. Architectural designs must make a positive contribution to a coherent and attractive streetscape	Building height, bulk scale and form should reflect the desired character for the neighbourhood and contribute to a high level of amenity. High levels of visual amenity and interest will be achieved through the use of: • Correct orientation and aesthetic contributions • Design, roofing form and building treatments • Building materials, colours and finishes • Façade treatments • Integrated landscape treatments and artwork; and • Recesses, overhangs, and shading. Main entrances should be clearly identified using design, colour, lighting, landscaping, and signage. Buildings fronting major pedestrian thoroughfares should incorporate active use areas on at the ground level. On corner sites, the building design should provide surveillance to both street frontages. Large expanses of blank walls without architectural variation or usual relief should be avoided. Supporting infrastructure and services in visible locations incorporate high quality urban design and landscaping treatment to make a positive contribute to the desired precinct character. External plant areas should be concealed from public view by screened enclosures with a safe means of access provided. Roof top plant is to be avoided where practical. Aerials, antennae, satellite dishes and overhead communication equipment should be in a visually unobtrusive area.

SUSTAINABILITY

Planning Objective	Design Considerations
Buildings must adopt and incorporate all practical sustainable design measures. Applicants are required to undertake a high-level sustainability assessment as part of the concept design. In these instances, the focus of the assessment should be: • Renewable energy • Materials and use and storage carbon emissions • Climate responsive design • Water efficiency and re-use • Whole of life costs; and • Indoor environment quality. At a minimum, buildings must conform to the energy efficiency requirements of *National Construction Code* and prepare a sustainability report at the approvals stage.	Energy demand for heating and cooling should be reduced through the use of: • Effective building orientation and design • Materials and insulation that minimise heat thermal transfer • Non-reflective surfaces and materials, particularly on roof tops, that minimise solar absorption and heat gain; and • Sun-shading of windows to minimise heat gain and energy losses from air-conditioned spaces. Where practical, buildings should utilise energy efficient ventilation, infrastructure, equipment and lighting. Building design should provide a high levels of daylight access for users by incorporating: • Glazed areas in the building façade and at least one window for each room with an external wall for office spaces; and • Opaque roof panels and/or skylights in the roof area to maximise natural light into the building. Buildings should incorporate water efficient fixtures and fittings, with options for water re-use and recycling where practical. Buildings should incorporate renewable energy capture and storage facilities where practical. Buildings should incorporate materials that can be recycled beyond the design life of the project. Provision for charging of electrical vehicles is provided for staff and visitors as appropriate.

LIGHTING

Planning Objective	Design Considerations
Lighting must add to the architectural character of the building and streetscape amenity whilst also having regard to occupant and visitor safety and energy efficiency. Light spill and any glare on adjoining properties must comply with the relevant Australian Standards. Light spill above the horizontal is not permitted in all outdoor areas.	External light fixtures should integrate with the architecture of the building. Where buildings are used at night or where light is required to increase safety, lighting to entries, car parking, paths and shared areas, external security lighting to service driveways, loading docks and escape doors should be included. Lighting systems should adopt energy efficiency measures. Publicly accessible outdoor areas and night-time working environments should be well lit and provide appropriate safety and surveillance. Emergency lighting should comply with the relevant National Construction Code and Australian Standards. Lighting for roads and public spaces (including car parks) comply with the relevant Australian Standards.

FLOODING

Planning Objective	Design Considerations
Developments must achieve an acceptable level of flood immunity for the proposed use. Developments must be designed and located to minimise the risk to people from flood hazard and minimise flood damage to buildings and property. Developments must not have an adverse impact on upstream or downstream properties.	Developments should achieve a Minimum Development Level (based on consideration of flood height, flow rates, the proposed use, design life and risks to people, property and the receiving environment). Appropriate vehicular access to and from the development site should be maintained during a flood event. Developments should not result in an adverse flood impact on neighbouring lots or public areas. Advice on a site-specific Minimum Development Level should be sought from BAC before an application is lodged. For some projects BAC may require the preparation of a dedicated flood study demonstrating that any flood impacts can be appropriately mitigated or managed.

VEHICLE ACCESS

Planning Objective	Design Considerations
All driveways for vehicular access must be fit-for purpose and contribute to the safe and efficient movement of traffic. Significant developments will require a Traffic Impact Assessment in accordance with the Department of Transport and Main Roads Guide to Traffic Impact Assessment. Where the guideline is silent, alternative reference sources should be sought in the following order: • Austroads Guide to Traffic Engineering Practice • Austroads Guide to Traffic Management • Austroads Guide to Road Design, or • Australian Standards. Road access will be in line with BAC's road hierarchy.	The design and location of an access driveway should be responsive to: • The characteristics of frontage road (type, traffic volumes, speed environment, and vertical and horizontal geometry) • Sight distance requirements • The location of intersections, median openings, other driveways, interruption to pedestrian movement on the walkway or bikeway • The queue and turn lane lengths at intersection with or without signals • The location of existing above- and below-ground services, bus stops, taxi ranks, loading zones, traffic control devices and significant trees • Emergency response vehicles, including but not limited to, police, ambulance and the fire response vehicles used by the Aviation Rescue Fire Fighting Service; and • Pedestrian and cyclist requirements • Reference Appendix 3 of this guideline Driveways must be designed for the largest vehicle that needs to be accommodated within the site and located as far as possible from intersections. Developments should accommodate emergency access around buildings, minimises the number of crossings and the proportion of the site frontage dedicated to driveways. Provision must be made for the efficient access, loading and egress of point-to-point transport systems, including taxis and share platforms. Provision is made for public transport modes to access or service the site where required.

PEDESTRIAN MOVEMENT

Planning Objective	Design Considerations
Developments must provide for the equitable, efficient, and safe movement of all persons, including those with a disability. Developments should also contribute to the establishment of pedestrian friendly streets and accessible meeting areas.	Pedestrian site access and internal pathways should: • Connect to public pedestrian areas where appropriate • Be safe and well lit • Be clearly defined and visible • Provide clear sight lines and surveillance of surroundings • Be separated from car parking and vehicle manoeuvring areas • Provide direct access to buildings from areas likely to be used at night • Not be obstructed by solid walls, fencing or landscaping; and • Comply with relevant legislative requirements to ensure useability by a person with a disability.

ACTIVE TRANSPORT

Planning Objective	Design Considerations
The development is serviced by an adequate number of bicycle parking spaces that encourage active transport.	Bicycle parking spaces are provided at a rate generally in accordance with Appendix 2. Where bicycle parking facilities are to be provided, they are to be designed and constructed in accordance with AS2890.3 – Parking Facilities Part 3: Bicycle Parking Facilities. End-of-trip facilities such as secure bicycle parking, shower cubicles, change rooms and lockers are co-located and provided to meet the needs of users and to encourage bicycle use. Pedestrian and cyclist paths meet the requirements set in the Austroads Guide to Road Design.

PUBLIC TRANSPORT

Planning Objective	Design Considerations
Public transport facilities are provided and designed to encourage safe and convenient public transport use.	Development integrates with existing and proposed public transport networks and provides supporting facilities where suitable. Public transport facilities provide: • Passenger access to the public transport network and inter-modal transfers • Sheltered public waiting areas • Passenger information to assist travel decision-making • Clear image and identity that accords with Brisbane Airport Corporation's Wayfinding Guidelines • A pedestrian zone around the facility; and • Equitable access, including connections, waiting and security areas.

CAR PARKING

Planning Objective	Design Considerations
The development is serviced by an adequate number of on-site vehicle parking spaces that contribute to a safe, attractive, and functional environment for vehicles and pedestrians. Parking areas must be designed in accordance with the relevant Australian Standards. Car parking spaces for people with a disability are to be designed and located in accordance with relevant Australian Standards and the National Construction Code. On-site vehicle parking spaces should be provided in accordance with Appendix 1. Alternative car parking ratios can be contemplated if supported by an assessment of anticipated operations. Approval of alternative car parking ratios are at the discretion of BAC.	Visitor car parking should be easily located and provide clear sight lines to the building entrance. Car park design minimises potential conflict between pedestrians and vehicles by providing dedicated pathways or line marking. Car parking areas to incorporate queues for vehicles so that queues do not disrupt traffic operations on a road frontage and are contained within the property boundary If there is entrance control, the security check, boom gate or card reader is to be set back within the site to prevent queuing on the road. Car parking areas incorporate appropriate lighting if used at night. Where possible car parking areas should be located behind or underneath buildings. Development for an open-air car park is to incorporate landscape elements to: • Soften built form and contribute to the landscape setting of the Airport; • Provide a safe and comfortable environment for pedestrians; • Reduce glare, heat and establish shade cover; and • Reduce impervious areas. Car park landscaping should be in accordance with the Brisbane Airport Landscape Setting Strategy. Where practical, provision for charging of electrical vehicles for staff and visitors should be provided.

MANOEUVRING

Planning Objective	Design Considerations
Manoeuvring areas provided on site are clearly defined, safe, easily accessible and meet the requirements of the development activity.	Adequate space for all on-site manoeuvring for all relevant design vehicles including reversing, docking, loading as well as entering and exiting in forward gear. All design requirements for loading/unloading facilities and associated vehicle manoeuvring areas on site are designed in accordance with relevant AUSTROAD or Department of Transport and Main Roads standards. On-site waste collection areas must be provided with sufficient space for safe manoeuvring of a collection vehicle. In addition to the queuing area, sufficient provision of space is required for a car to manoeuvre to turn around in a forward direction to enter the road.

FENCING

Planning Objective	Design Considerations
Fencing is fit for purpose and integrates with site design and streetscape quality.	Fencing is avoided where a site faces a public space. Perimeter fencing is limited to operational areas (not office and ancillary car parks) where possible. Where fencing is required black PVC, chain wire mesh is encouraged.

SIGNAGE

Planning Objective	Design Considerations
All building and site signage is integrated with the character and amenity of the precinct and overall architectural design.	Signage for developments is to be in accordance with BAC's Site Signage Manual, which is available on the Brisbane Airport website. Signs must be specified, built and maintained to a high standard. Building signage shall be integrated to the overall building design.

SETBACKS

Planning Objective	Design Considerations
Buildings and ancillary structures must not impact on the amenity of adjoining properties or create functional spaces.	Building setbacks, measured from the outermost wall: • Should contribute positively to the desired character, urban form and function of the precinct • Be consistent with surrounding development and streetscape • Must not compromise existing or future service corridors or infrastructure delivery • Will consider and incorporate emergency services access requirements and specific building requirements, particularly fire protection; and • Will not adversely impact the amenity of public spaces. The following setbacks to the building face are generally acceptable for industrial developments: • 6 metres from the front boundary (main street frontage); and • For a corner site, setbacks maintain sightlines for all road users.

FIRE SAFETY

Planning Objective	Design Considerations
Fire protection measures that ensure appropriate protection of persons and property must be incorporated into all developments.	New buildings must include fire safety systems that are compliant with the relevant Australian or International Standards and Regulations. Water infrastructure should meet fire suppression supply requirements. Firefighting foams containing PFAS (such as AFFF) are not permitted.

SHIPPING CONTAINERS

Planning Objective	Design Considerations
Shipping containers must not impact the safe and efficient operation of Brisbane Airport including: • Any airport operations • The protection of operational airspace • The protection of infrastructure, or • The preservation of amenity and aesthetics.	Shipping containers at Brisbane Airport will: • Be used for transporting goods and materials to and from Brisbane Airport • Be appropriately secured to address airport wind loads and unexpected weather events • Not be used as office/business facilities • Not be modified for accommodation or bathroom purposes • Not be used for advertising / display signage • Not be used as storage units unless specific approval has been sought from the Brisbane Airport Approvals Manager. Approval will be dependent on purpose, duration, and Airport planning/zoning • Not be used as workshops • Not be covered with graffiti • Not be connected to services (other than by proprietary plug and socket connections) • Not be in designated parking areas • Not be located within or on road reserves • Not be located within or on drainage corridors or easements • Not be located on services (water, sewer, communications, electricity) or on any other infrastructure (pipes, irrigation) • Not to be located within Airside Fence Security clearance zones, or adjacent to fences and/or other security barriers • Not be located within fire access roads Shipping container stacking heights will be assessed for each site and will require approval from BAC.

UTILITIES – NEW SERVICES

Planning Objective	Design Considerations
Building design must provide infrastructure to cater for the service requirements of existing and future users. Utility placement is to be provided for the proposed development site and constructed to relevant standards and in accordance with Brisbane Airport Corporation's Technical Guidelines.	Building design should allow for infrastructure and services to be provided for the proposed use, including (where relevant): • Connections to the water supply network • Water storage tanks and water harvesting • Recycled and reticulated water • Connections to the sewer network • Wastewater pre-treatment devices • Trade waste connections • Power supply including renewable generation and storage • Connections to gas storage tanks • Telecommunications and data • Stormwater treatment, conveyance and discharge • Roads and pedestrian paths; and • Other infrastructure and services.

UTILITIES – EXISTING SERVICES

Planning Objective	Design Considerations
Developments must prevent impacts on existing utilities and services. Where it is proposed that a development be built over existing utilities, a management plan must be agreed with the Airport Approvals Manager before an application is submitted.	Site and building design should avoid building over any underground services.

UTILITIES - METERING

Planning Objective	Design Considerations
Electrical metering is the responsibility of the developer which as a minimum adheres to the requirements set out in the Brisbane Airport Corporation Metering Manual. Developments must encourage the reduction of energy, potable water and gas consumption by tracking consumption through a sub metering programme for base building use.	Development should make provision for adequate metering, including where relevant: • Electrical meters • Gas meters (where needed) • Recycled water meters • Potable water meters; and • Chilled water meters. All metering complies with BAC's Technical Guidelines. Note: the programming and monitoring of electrical meters will be provided by BAC.

APPENDIX 1 – CAR PARKING RATIOS FOR DEVELOPMENT TYPES

USE	CAR PARKING STANDARD
Air Services – Educational establishment	1 space per staff plus 0.1 space per staff for visitors 1 space per 10 students
Agricultural supplies store	3 spaces per 100m^2 gross floor area and outdoor display area
Bulk landscape supplies	1 space per 100m^2 gross floor area and outdoor display area
Childcare centre	1 space per 5 children
	60% of these spaces are for staff and can be provided in tandem
Club, if licensed and less than 1,500m^2 gross floor area	6 spaces per 100m^2 gross floor area
Club, if licensed and equal to or greater than 1,500m^2 gross floor area	40 spaces plus 4 spaces per 100m^2 gross floor area
Club, if not licensed	3 spaces per 100m^2 gross floor area
Community use if a community centre or community hall	10 spaces per 100 m^2 gross floor area
Entertainment facility	2 spaces per 100m^2 gross floor area
Environment facility	1 space per staff plus 0.1 space per staff for visitors where no parking is provided already in that zone or within 200m walking distance of the facility
Food and drink outlet, if less than 400m^2 gross floor area, where not in the Open space zone, Sport and recreation zone or Conservation zone	12 spaces per 100m^2 gross floor area and outdoor dining area
Food and drink outlet, where in the Open space zone, Sport and recreation zone or Conservation zone	6 spaces per 100m^2 gross floor area where no parking is provided already in that zone or within 200m walking distance of the outlet
Food and drink outlet, if 400m^2 or greater gross floor area	30 spaces plus 5 spaces per 100m^2 gross floor area and outdoor dining area
Function facility	10 spaces per 100m^2 gross floor area
Garden centre	5 spaces per 100m^2 gross floor area and outdoor display area
Hardware and trade supplies	5 spaces per 100m^2 gross floor area
Health care services, if less than 200m^2 gross floor area	6 spaces per 100m^2 gross floor area
Health care services, if 200m^2 or greater gross floor area	14 spaces plus 5 spaces per 100m^2 gross floor area
Hotel	6 spaces per 100m^2 gross floor area plus 1 space per short term accommodation room
Indoor sport and recreation, if a gymnasium	10 spaces per 100m^2 gross floor area

Indoor sport and recreation, if squash courts or enclosed tennis courts	6 spaces per court
Indoor sport and recreation, if indoor cricket or other court game	20 spaces per court
Indoor sport and recreation, if swimming pool	15 spaces plus 1 space per 100m^2 gross floor area
Indoor sport and recreation, in all other cases	3 spaces per court or similar or 5 spaces per 100m^2 gross floor area
Industrial retail outlet	5 spaces per 100m^2 gross floor area
Industry	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Major sport, recreation and entertainment facility	1 space per 5 persons to be seated plus 20 spaces per 100m^2 other area
Market	
Nightclub entertainment facility	6 spaces per 100m^2 gross floor area
Office	3 spaces per 100m^2 gross floor area
Outdoor sales	2 spaces per 100m^2 gross floor area and outdoor display area
Park	10 – 20 spaces for picnic nodes and off-leash areas 20 – 30 spaces plus 2 spaces for minibuses for a district park 30 – 50 spaces plus 2 spaces for buses/coaches for a metropolitan park
Place of worship, if fronting a declared public road or including a hall	10 spaces per 100m^2 auditorium and seating area
Place of worship in all other cases	8 spaces per 100m^2 auditorium and seating area
Public transport facility	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Research and technology industry	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Service station	6 spaces per 100m^2 gross floor area
Shop	5 spaces per 100m^2 gross floor area
Shopping centre	5 spaces per 100m^2 gross floor area
Short-term accommodation, if dormitory type accommodation	1 space per 100m^2 gross floor area plus 1 space for a minibus
e.g., a backpacker	
Short term accommodation, in all other cases	0.5 spaces per room, unit or cabin plus 0.5 spaces per staff
Showroom	3 spaces per 100m^2 gross floor area
Sport and recreation facility, if a swimming pool or other aquatic sport and recreation	15 spaces plus 1 space per 100m^2 site area

Sport and recreation facility, if a tennis court	6 spaces per court
Sport and recreation facility, if a ground, such as football, cricket or hockey	50 spaces per field
Sport and recreation facility, if a lawn bowls	30 spaces per green
Sport and recreation facility, if a court game other than tennis	20 spaces per court
Storage premises	1 space per 100m^2 gross floor area
Telecommunications facility	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Transport depot	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Utility installation	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Veterinary services	4 spaces per 100m^2 gross floor area
Warehouse	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area
Works depots	2 spaces per tenancy or lot plus 1 space per 100m^2 gross floor area

Where a use or activity is not described in the above table, car parking rates are to be discussed with BAC.

Alternative car parking ratios can be contemplated if supported by an assessment of anticipated operations. Approval of alternative car parking ratios are at the discretion of BAC.

APPENDIX 2 – BICYCLE PARKING RATIOS FOR DEVELOPMENT TYPES

USE AND USER	STANDARD PROVISION FOR CYCLIST AND PEDESTRIAN FACILITIES
Office or shop with gross floor area exceeding 2,500m2 – for employees	• 1 lockable bicycle space per 200m2 gross floor area in an area that is secured or has a high level of casual surveillance • 2 lockers per 1 bicycle parking space (to accommodate pedestrian and cyclist demand) • A minimum of 2 shower cubicles with provision for both females and males and an additional 1 shower cubicle with ancillary change rooms per 10 bicycle parking spaces
Office with gross floor area exceeding 2,500m2 – for visitors	• 1 lockable bicycle parking space per 500m2 of which is situated close to building entrance in a location that is obvious from the street frontage and has a high level of casual surveillance
Shop with a gross floor area exceeding 2,500m2 – for visitors	• 1 lockable bicycle parking space per 200m2 of gross floor area which is situated close to building entrance in a location that is obvious from the street frontage and has a high level of casual surveillance
Office or shop with gross floor area exceeding 1,000m2 (but less than 2,500m2) – for employees	• 1 lockable bicycle parking space per 200m2 in an area that is either secure or has a high level of casual surveillance, and minimum of 1 shower cubicle with provision for both females and males • 2 lockers per 1 bicycle parking space
Office with gross floor area exceeding 1,000m2 (but less than 2,500 m2) – for visitors	• 1 lockable bicycle parking space per 750m2 of gross floor area, or part thereof, which is situated close to the building entrance in a location that is obvious from the street frontage in an area of high casual surveillance
Shop with gross floor area exceeding 1,000m2 (but less than 2,500m2) – for visitors	• 1 lockable bicycle parking space per 500m2 of gross floor area of part thereof, which is situated close to the building entrance in a location that is obvious from the street frontage in an area of high casual surveillance
Industry with gross floor area exceeding 5,000m2 – for employees	• 1 lockable bicycle parking space per 500m2 gross floor area or 5% of the total vehicle parking spaces (whichever is greater) in an area that is either secure or has a high level of casual surveillance • 2 lockers per 1 bicycle parking space • A minimum of 2 shower cubicles with provision for both females and males and an additional 1 shower cubicle with ancillary change rooms per 10 bicycle parking spaces
Educational establishment	• 1 lockable bicycle parking space per 5 pupils over year 4 • 1 lockable bicycle parking space per 100 full-time students for universities • 1 lockable bicycle parking space per 50 full-time students for other educational facilities

APPENDIX 3 – ROAD FRONTAGE PLANNING PARAMETERS

TYPE OF ROAD FRONTAGE	ADJACENT FEATURE	MINIMUM SEPARATION OF MINOR DRIVEWAY
Collector streets **(i.e., Pandanus Avenue, Qantas Drive)**	Minor road intersection	20m from property boundary of the intersecting road
	Major road intersection	30m from the property boundary of the intersecting road
	Median break	15m from the median nose
	Adjacent driveway	15m along the kerb
	Traffic signals	Clear of queue areas and turning lanes
Local streets **(i.e., all roads apart from Moreton Drive, Airport Drive, Lomandra Drive, Pandanus Avenue, Nancy Bird Way, Qantas Drive, Dryandra Road)**	Minor road intersection	10 m from the property boundary of an intersecting road
	Major road intersection	20m from the property boundary of an intersecting road
	Median break	10m from the median nose
	Adjacent driveway	3m along the kerb to the edge of driveway
	Traffic signals	Clear of the queue areas and turning lanes