

Chapter 24 Mitigation and management

This chapter provides an overview of the environmental management framework for the project including an overview of how environmental, social and sustainability issues will be managed for the project. A consolidated summary of the environmental mitigation measures proposed for the project is also provided, summarising the relevant chapters and technical papers informing the EIS.

24.1 Environmental management framework

This Environmental Management Framework (EMF) provides an overview of how environmental, social and sustainability issues will be managed for the project. The EMF outlines the policies, legislation, commitments and activities which will guide improved environmental outcomes associated with implementation and operation of airspace and ground based operations for WSI.

The project's EMF consists of:

- relevant legislation that regulates the Australian airspace
- Condition 16 of the Airport Plan and the future airspace design principles set out in 2.2.5 of the Airport Plan and developed as part of the preliminary design phase
- regulatory oversight by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA)
- Airservices Australia's existing Environmental Management System
- the EIS management measures
- existing policies, procedures and plans developed for WSI.

The implementation of environmental management measures during further design development, implementation and operation of the project would minimise any potential adverse impacts arising from the proposed work on the surrounding environment.

The EMF for the project is presented as Figure 24.1.

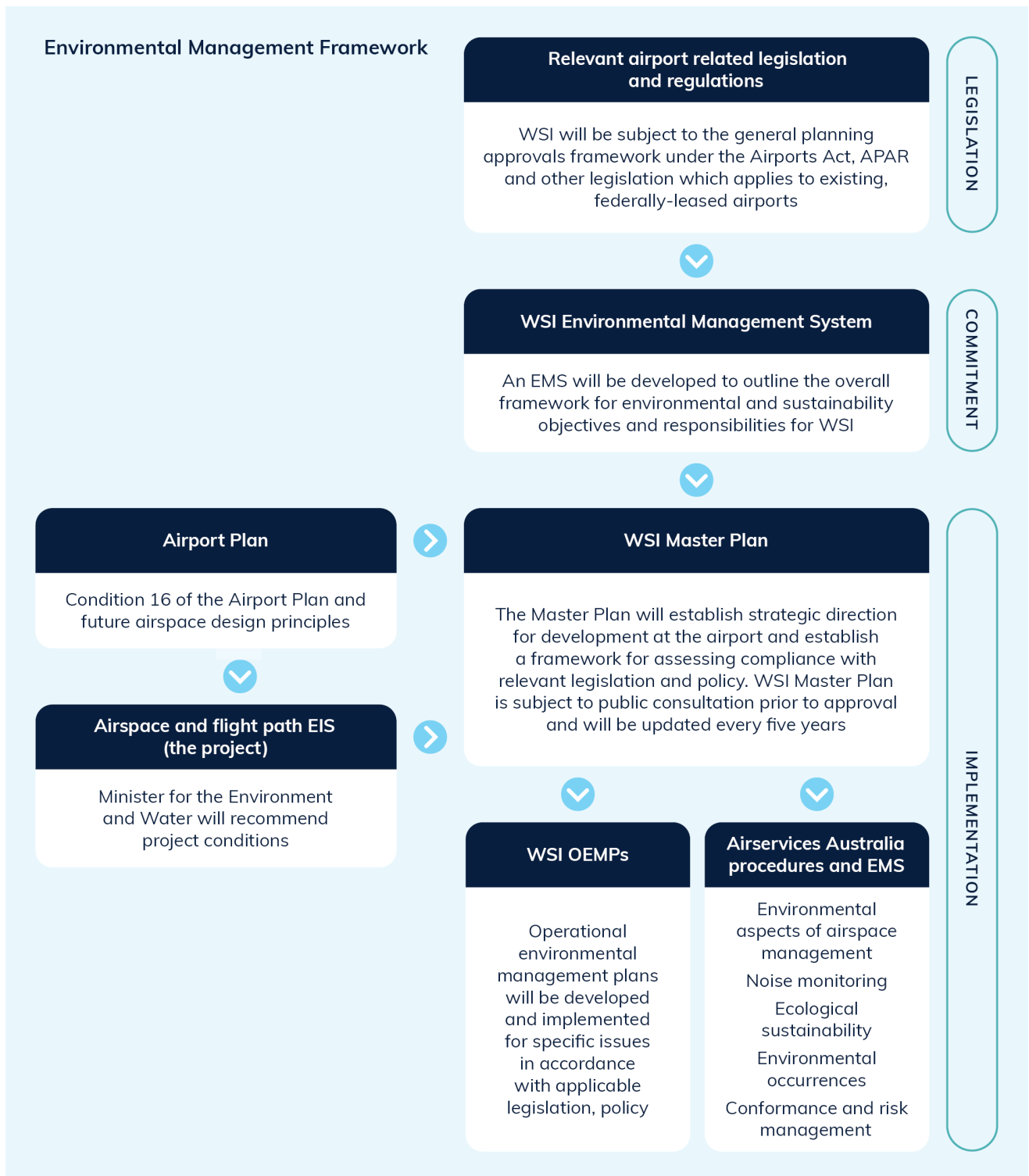


Figure 24.1 Project Environmental Management Framework

24.1.1 Stage 1 Development environmental management framework

The Airport Plan set out the Australian Government's intent for the operation of WSI and provided authorisation for the construction and operation of Stage 1 of the development. Part 3 of the Airport Plan outlines the conditions for the design, construction and operation of the Stage 1 Development, which include environmental standards and implementation of mitigation measures identified in the 2016 EIS. Under these conditions, a suite of construction plans, a Community and Stakeholder Engagement Plan and a Sustainability Plan were developed and approved.

The Airport Plan forms a transitional planning instrument under the Airports Act. WSA Co are required (under the Act) to submit for approval a Master Plan for WSI which is subject to public consultation. The WSI Master Plan will include a 20 year strategic vision for WSI which is renewed every 5 years. The Master Plan includes future land uses, types of permitted development, and noise and environmental impacts. The Master Plan will also include an environment strategy which sets out WSI's strategy to manage environmental issues within a 5 year period and beyond. It is the basis on which environmental performance will be measured.

To date, a range of management plans, policies and procedures have been developed and implemented for the Stage 1 Development.

Future stages of development for WSI (including this project) are subject to the general planning approvals framework under the Airports Act, which applies to existing, federally-leased airports.

24.1.2 Environmental management objectives

The objective of the EMF is to ensure the project minimises impacts to the 'whole of the environment' in a manner consistent with the applicable environmental approvals and regulatory context.

The environmental management objectives for the project are:

- to deliver sound environmental and social outcomes for the Australian community
- to ensure operation of the project is consistent with the future airspace design principles outlined in the Airport Plan
- to identify the regulatory and governance framework for environmental management during operation of the project
- to ensure the project is operated in accordance with the environmental management measures outlined within this EIS and any conditions of approval
- to build on the environmental management objectives and commitments outlined in the Airport Plan
- to provide a robust framework for the development of management plans for the project
- to promote improvement in environmental performance through continuous monitoring, auditing and update of environmental management plans
- to provide a framework for community and stakeholder engagement with the goal of providing a mechanism for managing and responding to complaints within a suitable timeframe
- to ensure that operation of the project is consistent with the principles of ecologically sustainable development.

24.1.3 Relevant legislation and statutory requirements

The Australian airspace is governed by Commonwealth legislation, specifically the *Airspace Act 2007* (the Airspace Act) the *Civil Aviation Act 1988* (the Civil Aviation Act), and their associated regulations, whereas the on-ground development of certain airports and protection of the airspace is primarily governed by the *Airports Act 1996* (the Airports Act) (and its regulations).

Chapter 5 (Statutory context), provides an overview of the relevant planning and legislative framework that applies to the project. It explains the relationship of the legislation that regulates the Australian airspace, the Airport Plan and the environmental assessment process for the project.

24.2 Proposed safeguards and mitigation measures

Table 24.1 provides a compilation of the measures to minimise and mitigate the potential impacts of the project as identified for each environmental aspect assessed in Chapters 11 to 22. The mitigation measures are supported by proposed monitoring/research programs outlined in Table 24.2.

The project does not include any physical infrastructure or construction work, and so the mitigation measures apply to proposed flight paths and a new controlled airspace volume for single runway operations at WSI.

The mitigation measures may be revised in response to submissions raised during public exhibition. A revised list of mitigation measures would be provided in the Final EIS for the project. The mitigation measures and monitoring programs should also be considered in the context of supporting the range of mitigation and management measures described for operation of WSI in the Western Sydney Airport – Environmental Impact Statement (2016 EIS).

24.2.1 Timing and responsibilities

The timing for implementation of mitigation measures outlined in Table 24.1 is referred to as either pre-operation or operation. Pre-operation refers to project phases prior to operation of WSI and flight paths. Operation refers to the implementation of flight paths and the ongoing operation of WSI. The indicative timing of the project's pre-operation and operational phases as well as the project's key delivery agencies is shown on Figure 24.2.

The detailed design phase will include further evaluation and refinement of the proposed selected airspace design for implementation based on feedback received from the community and other technical stakeholders such as airlines and industry bodies on this EIS. Once finalised, the Australian Minister for the Environment and Water will then provide advice to the DITRDCA, Airservices Australia and CASA, including any recommended conditions, before any approval is given for the airspace design. Airservices Australia will be responsible for submitting the Airspace Change Proposal that will be submitted to CASA for approval. This would need to consider the advice provided by the Australian Minister for the Environment and Water.

Key responsibilities within the EMF for the project can be summarised as:

- DITRDCA is leading the design of the WSI airspace arrangements for single runway operations at WSI, as well as having regulatory oversight of the project to ensure compliance with the conditions of the Airport Plan
- Airservices Australia, as the relevant Air Navigation Service Provider (ANSP), will ultimately be responsible for the detailed design, implementation and management of the proposed airspace and flight paths
- CASA, as the regulator responsible for the administration of airspace under the Airspace Act, will be responsible for the approval of the proposed airspace management arrangements through the approval of an Airspace Change Proposal (in its role as the Office of Airspace Regulation)
- WSA Co is responsible for building, operating and managing WSI.

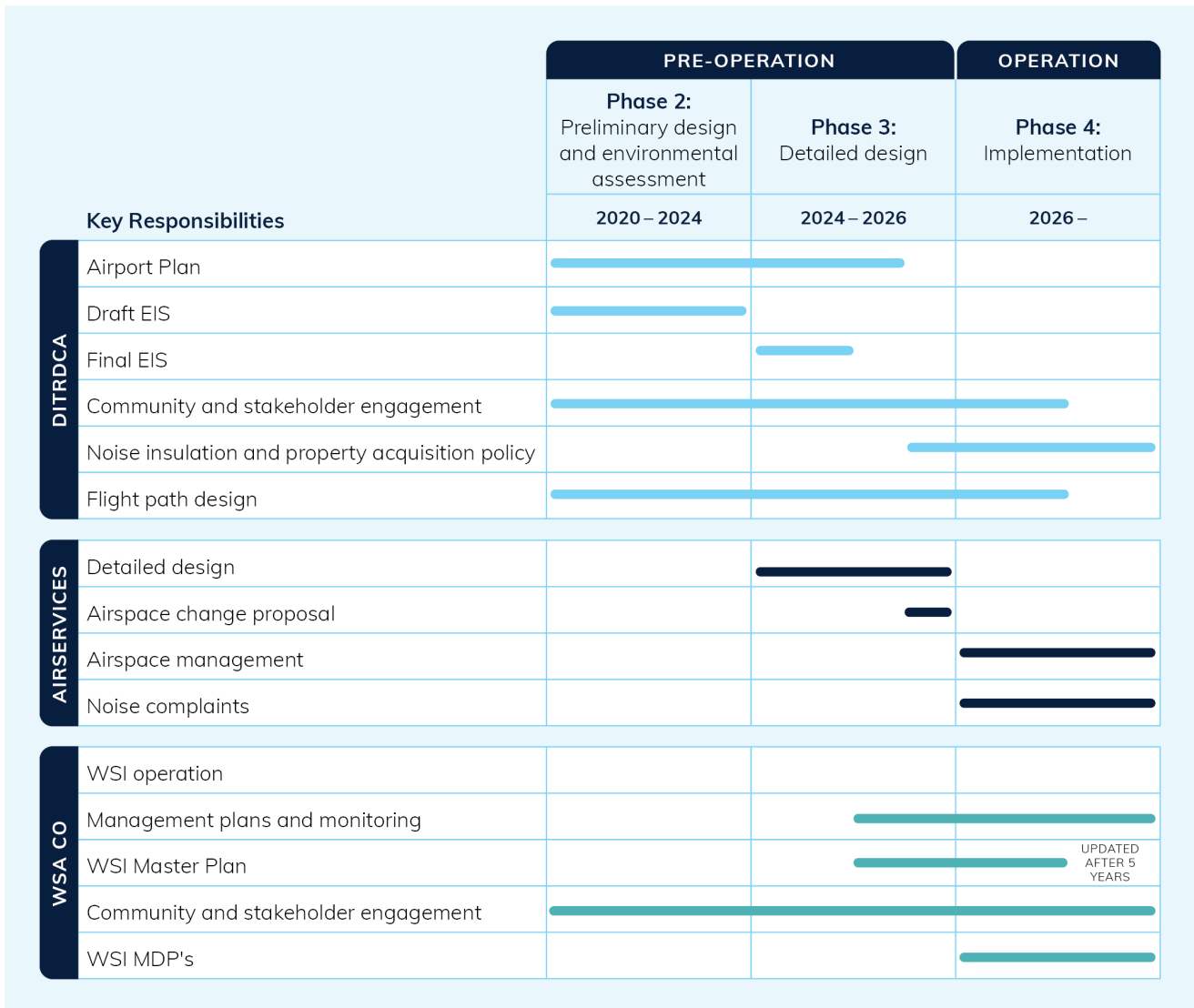


Figure 24.2 Agency responsibilities and indicative timing

24.2.2 Western Sydney International (Nancy-Bird Walton) Airport Stage 1 mitigation measures

In 2016 the then Australian Minister for Urban Infrastructure approved development of WSI under the *Airports Act 1996* (Commonwealth). Following the finalisation of the Western Sydney Airport – Environmental Impact Statement (2016 EIS), the Western Sydney Airport – Airport Plan (Airport Plan) (DITRDC, 2021) was approved. The Airport Plan authorised the construction and operation of the Stage 1 Development of WSI and set the requirements for the further development and assessment of the preliminary airspace design for WSI.

In accordance with subsection 96C(5) of the Act, the Airport Plan sets out the conditions to be complied with in relation to the Airport Stage 1 Development and the Rail Development and contains operational conditions that govern the operational phase of the Stage 1 Development, including the requirement of a series of Operational Environment Management Plans (OEMPs) and a Community and Stakeholder Engagement Plan.

Part 2 of the Airport Plan provides the planning framework for WSI until the first master plan is in place. Within 5 years of the Airport Lease being granted, or such longer period as allowed by the Minister for Infrastructure, Transport, Regional Development and Local Government, the ALC will be required to submit for approval a full master plan, which will replace Part 2. Master plans are subject to community consultation. Many of the project conditions outlined in the Airport Plan ceases to have effect once there is a Master plan for the Airport.

The mitigation measures in this EIS have been developed in consideration of the 2016 EIS and conditions outlined in the Airport Plan, specifically:

- 3.11.2 Construction conditions
 - the Infrastructure Department must consult with relevant Aboriginal stakeholders and relevant government agencies with the aim of establishing, with the support and collaborative action of governments and other stakeholders, an Aboriginal cultural heritage ‘keeping place’ that would provide secure, above ground storage of artefacts and enable future access for cultural purposes, interpretation, education or research.
- 3.11.4 Operational conditions
 - the preparation of Operational Environmental Management Plans (OEMPs) for noise and air quality management
 - the establishment of community aviation consultation group and preparation of Community and Stakeholder Engagement Plans
 - development of wildlife hazard management plans and programs.
- 3.11.5 General conditions
 - preparation of a Biodiversity Offset Delivery Plan (BODP) in relation to the carrying out of the Airport Stage 1 Development, which takes into account specific species (such as the Southern Myotis (*Myotis macropus*)).

24.2.3 Summary of mitigation measures

Table 24.1 provides a compilation of the measures to minimise and mitigate the potential impacts of the project as identified for each environmental aspect assessed in Chapters 11 to 22. The mitigation measures are supported by proposed monitoring/research programs outlined in Table 24.2.

Table 24.1 Summary of proposed mitigation measures

ID No.	Issue	Mitigation measure	Owner	Timing
Aircraft noise				
N1	Noise insulation and property acquisition	DITRDCA will implement the Noise Insulation and Property Acquisition Policy (NIPA) which will apply to eligible properties that are significantly impacted by aircraft overflight noise from WSI.	DITRDCA	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – conclusion of program)
N2	Noise abatement	Airservices Australia will develop and review noise abatement procedures in consultation with stakeholders, including aircraft operators, airlines, WSA and FOWSA/WSI Community Aviation Consultation Group (CACG) following a draft proposal developed by the Expert Steering Group in response to feedback on the draft EIS.	Airservices Australia/ DITRDCA	Pre-operation (Initial proposal as part of the final EIS, with any further refinements in detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)

ID No.	Issue	Mitigation measure	Owner	Timing
N3	Communication	WSA Co will establish a CACG to ensure appropriate community engagement on airport planning and operations. This will ensure community and industry have a forum for the groups best positioned to identify, share and test solutions or measures including relevant national or international best practice initiatives.	WSA Co	Pre-operation (At the conclusion of detailed design, 2024–2026)
N4	Noise complaints	The Airservices Australia Noise Complaints and Information Service will handle complaints and enquiries about aircraft noise and operations associated with the project to help identify issues of community concern and provide opportunities for improvement.	Airservices Australia	Operation (Implementation, 2026 – ongoing)
N5	Aircraft noise	The Aircraft Noise Ombudsman (ANO) provides independent reviews of aircraft noise-related activities to ensure appropriate governance and oversight of operations. The ANO is also available to make targeted reviews on specific issues as they are identified or arise.	Airservices Australia	Operation (Implementation, 2026 – ongoing)
N6	Flight path design	Airservices Australia will undertake a post-implementation review (PIR) of the flight path design and implementation.	Airservices Australia	Operation (2026 – within 2 years of implementation)

Air quality and greenhouse gas

No project specific air quality or greenhouse gas emissions mitigations are proposed.

As this assessment did not identify any significant change in the approved ground level impacts per the 2016 EIS, no additional monitoring for aircraft emissions is required.

Aircraft hazard and risk

HR1	Airspace conflicts	Airservices Australia will continue to address hazard identification and risk mitigation during the remainder of the design process and prioritise on-going safety performance monitoring.	Airservices Australia	Pre-operation (Detailed design, 2024–2026)
HR2	Contingency planning	WSA Co will implement contingency planning to respond to the impacts of crash events as per Part 139 Aerodromes Manual of Standards 2019.	WSA Co	Operation (Implementation, 2026 – ongoing)
HR3	Aircraft fuel jettisoning	Airservices Australia will apply existing procedures to deal with aircraft fuel jettisoning occurrences as per the Aeronautical Information Publication Australia, Part 2 – En Route (AIP ENR) (Airservices Australia, 2022a)	Airservices Australia	Operation (Implementation, 2026 – ongoing)

ID No.	Issue	Mitigation measure	Owner	Timing
HR4	Local meteorological hazards	Automated Thunderstorm Alert Service (ATSAS) will be implemented by the Bureau of Meteorology (BoM) to provide improved thunderstorm forecasting. Implementation of a Doppler LIDAR, if required, will support the identification of turbulence and wind shear (subject to the conclusions of an appropriate cost-benefit study).	WSA Co (in coordination with BoM)	Operation (Implementation, 2026 – ongoing)
HR5	Wildlife strike	WSA Co will monitor and control the presence of birds and other wildlife on or in the vicinity of WSI in accordance with Civil Aviation Safety Regulations (CASR) Part 139 MOS requirements and National Airports Safeguarding Framework (NASF) Guideline C (See Table 24.2).	WSA Co	Operation (Implementation, 2026 – ongoing)
HR6	Wildlife strike	WSA Co will liaise with planning authorities on matters related to the development of, or modifications to, off-airport land uses that have the potential to attract hazardous numbers or types of wildlife.	WSA Co	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)
HR7	Wildlife strike	WSA Co will establish a WSI Wildlife Hazard Management Committee (WHMC) that will likely comprise Western Sydney local government representatives, NSW Department of Planning and Environment and other relevant aviation stakeholders.	WSA Co	Operation (within 6 months of Implementation, 2026 – ongoing)
HR8	Wildlife strike	The WHMC will contribute to the preparation of regional species management programs (including Australian White Ibis) as required. Regional species management plans will build on any existing management programs (e.g. the Canterbury-Bankstown Council Australian White Ibis Management Program). The regional programs will aim to: <ul style="list-style-type: none"> • reduce species impacts on aviation and the community in general • provide advice to landowners on how they can contribute to species management programs on non-council land • establish measurable targets for species management • maintain the long-term sustainability of the local species populations. 	WSA Co	Operation (Implementation, 2026 – ongoing)

ID No.	Issue	Mitigation measure	Owner	Timing
Land use				
LUP1	Aircraft noise	DITRDCA and WSA Co will liaise with State and local government agencies to ensure applicable environmental planning instruments have regard to ANEC forecasts produced for the project.	DITRDCA and WSA Co	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)
LUP2	Protected airspace	DITRDCA will coordinate with relevant State and local government agencies to implement appropriate PANS-OPS requirements in applicable planning instruments to ensure future development does not impeded safe aircraft operations in accordance with the National Safeguarding Framework.	DITRDCA	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)
LUP3	Wildlife buffers	WSA Co will liaise with State and local government agencies to establish mechanisms that will identify land uses and prevent the creation of land uses that would cause hazardous wildlife attraction within the wildlife buffers.	WSA Co	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)
LUP4	Wildlife buffers	WSA Co will negotiate with State and local government agencies and land owners if required on agreed action plans for monitoring and, where necessary, reducing wildlife attraction to areas in the vicinity of WSI.	WSA Co	Operation (Implementation, 2026 – ongoing)

Landscape and visual amenity

Based on the nature of the potential impacts, no reasonable or feasible project specific mitigations are considered to be available that would reduce the potential landscape and visual impacts that have been identified as a result of the project.

Biodiversity

Project specific mitigation measures related to wildlife strike are presented as HR5 to HR8 and those related to wildlife buffers are presented in LUP3 and LUP4. There are no other project specific mitigations related to biodiversity.

ID No.	Issue	Mitigation measure	Owner	Timing
Heritage				
H1	Aboriginal heritage	DITRDCA will ensure that the detailed design phase considers Aboriginal cultural places and values, noting that safety is not negotiable and that capacity, environment and efficiency factors must also be considered in the flight path design.	DITRDCA	Pre-operation (Detailed design, 2024–2026)
H2	Heritage	A research program will be undertaken to investigate the potential impact of aircraft emissions on historic and Aboriginal heritage sites (including rock art sites), with a particular focus on sites within the Greater Blue Mountains Area. The research program will be designed and implemented in consultation with Heritage NSW and include participation of local First Nations stakeholders.	DITRDCA/ Airservices Australia/ WSA Co	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)
H3	Heritage consultation	WSA Co will establish a CACG for WSI which will facilitate consultation with stakeholders and community on a range of matters including heritage issues.	WSA Co	Pre-operation (Detailed design, 2024–2026)
Social				
S1	Social impacts	The WSI CACG will undertake consultation with stakeholders and community, including social organisations, to seek feedback on social issues and to promote social and economic welfare of the community.	WSA Co	Pre-operation (Detailed design, 2024–2026)
S2	First Nations employment	WSA Co will implement a program to ensure opportunities for First Nations employment.	WSA Co	Operation (Implementation, 2026 – ongoing)
Economic				
E1	Existing airspace users	DITRDCA will continue to consult with aerodrome operators and airspace users at Bankstown and Camden Airports regarding airspace requirements in order to minimise risks and associated economic costs.	DITRDCA	Pre-operation (Detailed design, 2024–2026)
E2	Emergency services	DITRDCA and Airservices Australia will continue to consult with emergency services operators regarding priorities of airspace in order to minimise risks and associated economic costs.	DITRDCA and Airservices Australia	Pre-operation (Detailed design, 2024–2026) and Operation (Implementation, 2026 – ongoing)
Human health				
Mitigation measures related to Aircraft noise are presented as N1 to N7 and mitigations related to aircraft hazard and risk are presented as HR1 to HR8. There are no other project specific mitigations related to human health.				

Table 24.2 Proposed monitoring programs

ID No.	Issue	Monitoring measure	Owner	Timing
M1	Aircraft noise	<p>Airservices Australia will install a system of permanent and temporary noise monitoring terminals at suitable locations and incorporated into the Airservices Australia Noise and Flight Path Monitoring System (NFPMS) network and reporting systems. The interface will allow community and other stakeholders to see where aircraft fly and explore historical trends and patterns.</p> <p>The system will provide accurate noise monitoring data for reporting, validation and noise model calibration. With an established baseline it could give an evidence base for any future flight path modification or noise abatement initiatives.</p> <p>This system will operate 24-hours-a-day, 7-days-a-week, collecting data from every aircraft operating to and from WSI.</p> <p>Noise monitoring will consider the requirements of the WSI Stage 1 Development Noise OEMP.</p>	Airservices Australia	Operation (Implementation, 2026 – ongoing)
M2	Wildlife strike	<p>A bird and bat strike monitoring program will be conducted to monitor for the presence of wildlife on the WSI site and in vicinity of WSI. The monitoring program will:</p> <ul style="list-style-type: none"> • identify wildlife hazards which must be assessed to reduce potential risk to aircraft operations • be conducted in accordance with relevant Commonwealth and State guidelines and standards including any recovery plans for threatened species • carried out under the direction of a suitably qualified person • be carried out in liaison with local government in relation to plans for proposed developments within 13 km of WSI that are likely to increase bird and bat strike • identify locations where reasonable and feasible mitigation measures to manage wildlife strike risk are required • be reviewed annually to determine its effectiveness. 	WSA Co	Operation (Implementation, 2026 – ongoing)

24.2.4 Effectiveness of mitigation measures

The management of potential impacts associated with the future development of WSI and the operation of flight paths has been incorporated into strategic planning and legislation over the last decade. Land-use planning in particular has also been an effective means to ensure that land use near WSI is compatible with noisy aviation activities, with a primary goal of minimising the population affected by aircraft noise.

Aircraft noise is an unavoidable consequence of an operating major airport in proximity to heavily populated areas. Appropriate noise management controls referencing International and Australian guidelines (such as the National Airport Safeguarding Framework (NASF)) have also been included in applicable planning instruments in advance of WSI's operations.

In addition to land use planning, there is a well-established range of mechanisms supporting the WSI operational framework and these include:

- the Airservices Australia Noise Complaints and Information Service – to handle complaints and enquiries about aircraft noise and operations associated with WSI to help identify issues of community concern and provide opportunities for improvement
- the Aircraft Noise Ombudsman (ANO) (an independent administrative office) – to conduct reviews of Airservices Australia’s and Defence’s management of aircraft noise-related activities. The ANO would also monitor and report on the effectiveness of the community consultation processes related to aircraft noise for WSI and the presentation and distribution of aircraft noise-related information.

Airservices Australia’s Noise and Flight Path Monitoring System (NFPMS) currently collects noise and flight path data from airports across Australia and it is anticipated that WSI will be incorporated into this network. Data collected from NFPMS is used to reduce uncertainty around aviation noise impacts on the community and to determine potential environmental (noise) impacts from existing and proposed new flight paths and noise abatement trials, including post-implementation reviews.

The detailed planning of flight paths, the implementation of air traffic control procedures, noise abatement procedures and airport operating strategies are also effective measures in achieving lower impact over noise sensitive areas without impacting safety and significantly reducing airport capacity.

The adoption of WSI’s flight path design principles are the result of national consultation with community, industry and government stakeholders, and are consistent with international global practices. This guidance will assist in minimising the impact of aircraft noise on the surrounding community by directing aircraft away from overflying populated areas where possible.

Airservices Australia will ultimately be responsible for the implementation and management of the proposed airspace and flight paths and are experienced in managing a range of environmental aspects associated with airspace operations. This is partly achieved through a maintained Environmental Management System (EMS) which assures compliance with legal obligations, appropriate risk management of activities and continual improvement. The Airservices Australia EMS aligns with ISO 14001:2015, which provides an internationally recognised framework for effective organisational environmental management and to achieve improved environmental performance.

The range of existing management measures, already built into legislative, environmental and operational framework for WSI are effective in the management and minimising of impacts associated with aircraft noise.

The project specific mitigation measures outlined within Table 24.1 have been developed to add to the range of existing measures discussed above. Where possible, the measures have been developed to consider the “S.M.A.R.T’ principle. The effectiveness of the mitigation measures will be reviewed during operation of the project and through ongoing stakeholder consultation and oversight through relevant community forums and community engagement as required by the Australian Government at major airports in Australia.

24.2.5 Cost of environmental management measures

Costing of proposed mitigation measures will be considered by DITRDCA, Airservices Australia, CASA, WSA Co, and the Australian Government as part of the delivery of Western Sydney International Airport.

The costing of mitigation measures will have particular regard to the key mitigations outlined in this EIS including, but not limited to, implementation of the NIPA policy in relation to aircraft overflight noise for buildings outside the Airport Site. The detailed cost associated with the NIPA policy will be provided once finalised.