

**AUCKLAND AIRPORT**

**ENVIRONMENTAL MANAGEMENT PLAN**

**(EMP)**

**JUNE 2014**

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# Sustainability Company Policy

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### Purpose

***To ensure the Company operates and develops in a manner that finds the right balance between economic performance, environmental protection and social contribution, for the benefit of current, as well as, future generations.***

As an expanding international airport, and business district, Auckland Airport has a positive impact on local, regional and national economies. Sound economic performance enables Auckland Airport to contribute to society through e.g. employment opportunities and sponsorship programmes.

Auckland Airport is also located on the very edge of the Manukau Harbour, a unique site that includes sensitive natural environments, important native species and a rich local heritage and culture.

Sustainability, therefore, needs to be integrated into the management of our business. It is an essential element in creating and realising the long term vision for Auckland Airport.

Auckland Airport will:

- Implement a pro-active sustainability programme for its business, ensuring environmental legislative compliance and promoting continual improvement in performance;
- Produce sustainability metrics, set specific, achievable sustainability goals and/or targets for the following material areas:
  1. Economic contribution
  2. Community and Iwi engagement
  3. Supply chain engagement
  4. Environmental protection
  5. Energy and fuel efficiency
  6. Waste minimization
  7. Water conservation
  8. Aircraft noise
  9. Sustainable transport
  10. Culture and heritage
  11. Airport development and urban design
- Establish a sustainability forum that will regularly monitor and review goals, targets and performance and regularly report on this.

Successful implementation of this policy will enhance Auckland Airport's reputation, customer loyalty and passenger experience. It will also play a crucial role in the delivery of long term value for our owners, as well as our other stakeholders.

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Approved for distribution to staff by the Leadership Team on 25/02/2014



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## ABBREVIATIONS & DEFINITIONS

AANC	Annual Aircraft Noise Contours
ANCCG	Aircraft Noise Community Consultative Group
ARP:C	Auckland Regional Plan: Coastal
ARP:ALW	Auckland Regional Plan: Air, Land and Water
Auckland Airport	Auckland International Airport Ltd (AIAL)
CPA	Coastal Protection Area
EMP	Environmental Management Plan
HSNO	Hazardous substances and new organisms
Ldn	day–night equivalent level (a measure for noise exposure)
RMA 1991	Resource Management Act 1991
SWMP	Auckland Airport Stormwater Management Plan

## SECTION 1 – ENVIRONMENTAL MANAGEMENT PLAN OVERVIEW

### 1.1 INTRODUCTION

1.1.1 Auckland International Airport Limited (Auckland Airport) recognizes the importance of the sustainable management of natural and physical resources for the benefit of present and future generations of New Zealanders. In 2010 Auckland Airport achieved Silver certification under the global sustainable tourism standard Earthcheck. The basis for environmental performance at Auckland Airport is not only to ensure that the company complies with local, regional and national requirements, but that the company also strives to exceed these standards and to continually improve its environmental performance. Given the airport's location on the shores of the Manukau Harbour, proximity to major residential and business areas and the ongoing growth of the airport area, environmental management is a key focus.

### 1.2 PLAN ESTABLISHMENT

1.2.1 The following Environmental Management Plan (EMP) provides an umbrella document that supports a framework of operational documents (Fig 2.) that ensure effective environmental management of the Auckland Airport. The EMP is the central controlling document for all environmental aspects at the Auckland Airport site.

### 1.3 PLAN IMPROVEMENT

1.3.1 Auckland Airport's commitment to the environment is based on the concept that it will annually audit and review parts of the documentation framework, and evaluate the EMP in order to identify opportunities for improvement in environmental risk management and regulatory compliance.

### 1.4 PURPOSE OF EMP

1.4.1 The purpose of the EMP is to manage Auckland Airport's environmental sustainability performance by:

- Communicating how changing environmental legal obligations are monitored and managed
- Identifying environmental impacts and, using a risk based approach, prioritizing their management.
- Communicating environmental responsibilities.
- Setting out the documentation framework that exists to ensure regulatory compliance.

Setting out, high level, annual objectives and targets to improve the documentation framework.

### 1.5 STRUCTURE OF EMP

1.5.1 The EMP provides:

- Auckland Airport 's Environmental Policy (Figure 1);
- Environmental setting for the site (Section 2);

- An overview of the regulatory framework (Section 3);
- A comprehensive risk assessment, prioritization of risks, an indication of how they are managed and the setting of objectives and targets for the documentation framework (Section 4);
- Identifies operational and management plans that form the documentation framework (Figure 2), and the business owners (Section 5);
- Monitoring and Review (Section 6);

## SECTION 2 - ENVIRONMENTAL SETTING

### 2.1 BACKGROUND

- 2.1.1 The coastal environment in the vicinity of the Airport is both natural and modified in character. All of the coastal environment in the Airport vicinity has significant cultural and spiritual values and some parts have significant geological, ecological, recreational and landscape values. The Auckland Regional Council's 'Regional Plan: Coastal' identifies the conservation values of the Manukau Harbour maritime area in the vicinity of the Airport. The coast to the south, although modified by past reclamation, has high conservation values. The Pukaki Creek area of the Manukau Harbour is a tangata whenua management area in recognition of the significance of that area to tangata whenua, and its spiritual and cultural significance. This area also has important ecological values.
- 2.1.2 The area occupied by Auckland Airport has a long history of occupation by both Maori and early European settlers to New Zealand. Cultural heritage issues on this site include archaeology and built heritage. Whilst some heritage features have already been identified, others are discovered as airport development occurs. These sites are to be managed appropriately, and consultation undertaken with appropriate parties i.e. culture and historic heritage stakeholders.
- 2.1.3 The land associated with an airport requires management for a range of different purposes, many being associated with the safety of aircraft, passengers and the local population. Notably, aircraft are at risk from collision with birds (bird strike) due to the close proximity to the Manukau Harbour and bird roosting habitats, and therefore appropriate management is required to deter the presence of certain bird species or minimizing the risk of certain behaviour. Although rare, bird strike is a real threat to aircraft safety, and there are comprehensive guidelines on bird control such as habitat management and airfield grass management.
- 2.1.4 The management of biodiversity at an airport is about achieving a balance between optimizing the opportunities for a diverse range of habitats and species, whilst minimizing the risk to people, aircraft and wildlife.
- 2.1.5 Auckland Airport has a commitment to the long term environment of the site and its sustainable management. The ongoing management and maintenance of the external environment will enhance the customer experience, and assist in selling the airport as a welcoming and attractive arrival and departure point. Auckland has over 100 tenants which occupy a land area of approximately 1500 hectares which is leased from Auckland Airport. The tenants undertake activities that are related to the airport i.e. providing services to the airport or its customers. Key tenants include Air New Zealand which runs its engineering base (which services aircraft) from the airport, and JUHI who supplies fuels to planes at both the domestic and international aprons.

## **2.2 KEY REGULATORY ENVIRONMENTAL ASPECTS**

2.2.1 The key regulatory environmental aspects at the Auckland Airport site are identified below, and further evaluated in section 4.

- Aircraft noise;
- Releases to water;
- Contamination of land;
- Waste management;
- Mangrove management;

2.2.2 To a large extent, the Resource Management Act (RMA) has already prompted Auckland Airport to identify the environmental aspects of its operations (refer section 4). Auckland Airport has applied for Resource Consents as required by the Act for various activities, and on an ongoing basis assesses whether further Resource Consents are required in relation to each new or revised activity in which Auckland Airport is involved.

## **2.3 ENVIRONMENTAL POLICY**

2.3.1 Auckland Airport has put in place a Sustainability Policy which outlines its overall commitment to environmental protection. This EMP reflects the desire to turn this commitment into practical management of environmental risks. The Sustainability Policy is reviewed annually and updated every two years.

## **2.4 ENVIRONMENTAL GOALS AND TARGETS**

2.4.1 The Auckland Airport vision is to manage Auckland Airport in an environmentally sustainable manner. The environmental risk matrix included in this EMP will be reviewed annually and goals and targets set to ensure the documentary framework continues to support and maintain environmental compliance.

## SECTION 3 – REGULATORY FRAMEWORK

### 3.1 OVERVIEW OF ENVIRONMENTAL LEGISLATION

- 3.1.1 The basic legal framework for managing Auckland Airport's environmental impact is provided by the Resource Management Act 1991. As part of its legal responsibilities, the company is committed to avoiding, remedying or mitigating the adverse effects its operations may have on the environment.
- 3.1.2 The Sustainability and Environmental Manager at the Auckland Airport is responsible for ensuring that Auckland Airport is in compliance with the Resource Management Act, and the environmental risks governed by other relevant environmental legislation such as HSNO. They do this by holding copies of various Plans under the RMA and resource consents which impact on airport operations. Auckland Airport has also installed a consent database management system. This system is called CS-VUE and is managed by the Sustainability and Environmental Manager. The computerized system records every condition, of each resource consent, translating them into operational requirements. CS-VUE increases assurance of compliance, and streamlines the reporting process.
- 3.1.3 The company's Master-planning Unit is responsible for keeping Auckland Airport up to date with environmental legislation and other requirements which also include:
- Industry Codes of Practice or guidelines;
  - Agreements with public authorities; and
  - Non-regulatory guidelines.

### 3.2 NETWORK UTILITY OPERATOR AND MANUKAU DISTRICT OPERATIVE PLAN 2002

- 3.2.1 The Auckland International Airport (Auckland Airport) is situated in Mangere on the shores of the Manukau Harbour. The Airport was officially opened in 1965 as a joint venture between the Government and the Auckland territorial local authorities. Since 1988 the Airport has been operated by Auckland International Airport Limited (Auckland Airport). Auckland Airport is a network utility operator in terms of the Resource Management Act, and has the 'Auckland International Airport: Land Use' and 'Auckland International Airport: Specification for Approach and Land Use Controls' designations. These designations extend over some 1200 hectares of land (Designation 231). They enable Auckland Airport to carry out activities and developments at the Airport provided these activities come within the terms of the designations. The designations are shown on the Planning Maps and are described in the appendices to the Planning Maps and Chapter 5 — General Procedures and Rules of the Manukau District Operative Plan 2002. The provisions of this District Plan apply to the designated land only to the extent that the land is used for a purpose other than the designated purpose. Current development at the Airport consists of a single runway, taxiways, aircraft manoeuvring areas, freight and passenger terminals, and facilities for aircraft maintenance and support facilities, administration, business and recreation. The designation provides for further development of the Airport, including the development of a Northern Runway to the north of the existing runway.

- 3.2.2 The Auckland Airport site operates within the area covered by the Airport Zone under the Manukau Operative District Plan 2002 (refer Chapter 17). Within the Airport Zone any activity which is associated with the operation of the Airport (not including aircraft operations, runways and the testing of in situ aircraft engines) including but not limited to taxiways and other aircraft movement areas, aprons, terminals, rescue facilities, navigation and safety aids, maintenance and servicing facilities, catering facilities, freight facilities, quarantine and incineration facilities, fuelling facilities, stormwater facilities, roads, monitoring activities, site investigation activities, landscaping, flags and signs\*, are permitted activities (refer to rule 17.6.10.2.1 of Chapter 17 of Manukau Operative District Plan 2002 or rule 17.13.9.2 of Proposed Plan Change 14 June 2011 version). Note that a requirement of Chapter 5 General Procedures and Rules Schedule 5A Conditions of Auckland International Airport Designation 231 is that the Auckland Airport prepares a Noise Management Plan (refer section 5) .
- 3.2.3 The provisions of the Airport zone of the Manukau Operative District Plan apply principally to activities undertaken by organizations other than Auckland Airport in this zone. The Airport zone is the underlying zone to the designation. As required by section 176 of the RMA 1991 if any tenants of Auckland Airport need to make any changes to the scale or nature of the operations at the site they must obtain approval from Auckland Airport as the requiring authority for use of land covered by Designation 231 for the proposed purpose and consult with other potentially affected parties.

### **3.3 AUCKLAND REGIONAL POLICY STATEMENT**

- 3.3.1 The regional significance of the Airport is noted in the Auckland Council's Auckland Regional Policy Statement. The Council recognizes the functional significance of the Airport in the City and the region; however, the benefits need to be reconciled with the potential adverse effects of current and future airport operations on the environment. The adverse effects of the Airport need to be managed in the District Plan, while enabling it to operate so that people and the community can provide for their economic and social wellbeing.
- 3.3.2. A Proposed Private Change 13 to the Auckland Regional Policy Statement has been requested by Manukau City Council (now part of Auckland Council) and relates to the extension of the Metropolitan Urban Limits (MUL) in the Mangere Gateway Heritage Area. The proposed extension to the MUL is sought to provide additional urban capacity for business related development in the Mangere Gateway Heritage Area, and seeks to bring within the MUL the majority of land designated by Auckland International Airport Limited (AIAL) for Airport uses. The MUL extension is in two separate areas: Kirkbride Area and the Airport Area and land to the north of the Airport. The Airport area and land to the north of the Airport includes the majority of land (west of Pukaki Creek) that is subject to the existing AIAL designation, and land abutting Oruarangi Creek adjacent to the existing MUL. The MUL sets the boundary line between Auckland's urban and rural areas. It is used to minimize the adverse effects of urban development on regionally valued resources and to distinguish urban from rural uses. The movement of the MUL does not in itself allow urbanization to occur – this requires a change to the Manukau City District Plan. In conjunction with Proposed Private Plan Change 13 to the Auckland

Regional Policy Statement, Manukau City Council has notified Proposed Plan Change 14 to the Manukau Operative District Plan 2002. The proposed change to the District Plan seeks to rezone the land in the Mangere Gateway Heritage Area for business related purposes. The decision on the Proposed Private Plan Change 13 was released on 23 November 2009, and it was concluded that the Metropolitan Urban Limit is extended to the extent shown on Map 1 – Sheets 14,15 and 16 to include land owned by Auckland International Airport Limited that is subject to Designation 231 in the Operative Manukau District Plan 2002 (and, for reference purposes, as shown as Area 1 on Map 2: Proposed Private Plan Change 13). The Proposed District Plan Change 14 to the Operative Manukau City District Plan 2002) became operative on 19 July 2011, with all outstanding appeals being settled in March 2011 at the Environment Court.

### **3.4 AUCKLAND COUNCIL'S AIR, LAND AND WATER PLAN**

3.4.1. The Auckland Regional Plan: Air, Land and Water (ARP: ALW) has been prepared by the Auckland Regional Council (now Auckland Council) to assist it to carry out its functions in order to achieve the purpose of the Resource Management Act 1991. The ARP: ALW applies to all of the area within the Auckland Region, which is under the jurisdiction of the Auckland Regional Council up until 31 October 2010 and the Auckland Council from 1 November 2010. The Plan provides for the management of air, land and water resources in the region including: air, soil, rivers and streams, lakes, groundwater, wetlands and geothermal water. The ARP: ALW was notified for public submissions in October 2001 and significant part of the Plan has been resolved through the appeals process. The Plan was made operative in part on the 21st October 2010. There have been a number of Variations and Proposed Variations to the Proposed Auckland Regional Plan: Air, Land and Water.

### **3.5 AUCKLAND REGIONAL PLAN: COASTAL**

3.5.1. The Auckland Airport site is identified as the Airport Management area in the Auckland Regional Plan: Coastal, Map series 1 sheet 12. The Manukau Harbour is identified as an area of significant conservation value in schedule 4 of the ARP: C. The coastal environment of the airport is described in Chapter 32 of the Auckland Airport Management Area of the ARP:C and notes that it is highly modified and that noise, the presence of aircraft, the restrictions on other uses of the harbour, stormwater discharge from the airport and various structures impact on the coastal values in the area.

3.5.2 The ARP:C describes the Auckland Airport as a facility of strategic importance to the Auckland Region and New Zealand. It is the principal point of entry for international and domestic passenger flights, a major terminal in the domestic airline network and a significant maintenance and servicing based. It is also strategically important for air freight or export and import cargo, including fresh produce. The continued operation and development of the Airport contributes to the social, economic and cultural wellbeing of the region and the nation.

3.5.3 The objective and policies contained in Chapter 32 seek to ensure the efficient operation of Auckland International Airport, to ensure that adverse effects associated with the use and development of the Airport on identified values of any Coastal Protection Area (CPA) 1 are avoided, remedied, or

mitigated, and to avoid, remedy, or mitigate adverse effects from the airport Management area on the adjoining Tangata Whenua Management Area. While the Airport Management Area recognizes the need to ensure the safe and efficient operation of the airport, it also recognizes the important ecological and geological values within the CPA. In particular Policy 32.4.3 seeks to ensure any future use and development of the airport has regard to the values of the CPA within the Auckland Airport management Area and the Tangata Whenua Management Area.

### **3.6 HSNO ACT 1996**

3.6.1 The site has appropriate location certificates for storage of hazardous substances and these are reviewed annually by the QA and Compliance Manager. The site also has several approved handlers. Note that the bulk fuel storage facility at the airport is ran by JUHI (a joint venture owned by four petroleum companies, namely BP Oil New Zealand Limited (BP), Mobil New Zealand Limited (Mobil), Chevron Texaco Global Aviation (Caltex/Chevron) and Greenstone Energy. On behalf of the joint venture, the site is operated and managed by Air BP (a division of BP Oil New Zealand Ltd). The site is used to store and supply Jet A-1 fuel to the domestic and international terminals JUHI is responsible for obtaining, and holding its own HSNO licenses.

3.6.2 There are environmental risks associated with hazardous substances stored and/or used by airport tenants and contractors. These locations are identified on the company's GIS system and high risk locations will be subject to audit.

## SECTION 4 ENVIRONMENTAL RISKS, OBJECTIVES AND TARGETS

### 4.1 KEY ENVIRONMENTAL RISK IDENTIFICATION

4.1.1 The environmental risks of the activities undertaken at the airport either by Auckland Airport, its contractors or its tenants, have been evaluated for the purpose of prioritization and action.

### 4.2 ENVIRONMENTAL RISK ASSESSMENT

4.2.1 Annual review of environmental risks will be undertaken using the following risk matrix:

Consequence	Likelihood					Severity
	Highly unlikely to occur	Unlikely to occur	Likely to occur	Very likely to occur	Almost certain to occur	
Nil damage but very localised impacts that can be easily remedied and no impact on company reputation	1	2	4	7	11	Minor
Small scale damage with short term management of impacts required local impact on company reputation	3	5	8	12	16	Significant
Localised damage requiring medium to long term management of impacts with regional impacts on company reputation	6	9	13	17	20	Serious
Extensive damage requiring large scale action but short term remedial action, national and international impact on reputation	10	14	18	21	23	Critical
Extensive damage requiring large scale and long term remedial action, significant national and international impact on reputation	15	19	22	24	25	Disastrous

4.2.2 The following assessment considers the significant risks to the environment from the main activities undertaken at the Auckland Airport site. Further details of the documentary framework in place to manage environmental risks are given in section 5.

Environmental Aspect	Description	Potential Risk	Facilities and Operational controls	Person Responsible	Risk Rating (normal operating conditions)
<b>Noise</b>					
Take-off and landing of aircraft, including freight operations	Potential for annoyance of surrounding residential area from noise levels.	Noise levels exceed that permitted in Designation 231 (a potential non-compliance) local residents complain.	Noise monitoring Annual Aircraft Noise Contours Noise complaint procedure Air Noise Consultative Community Group Aircraft noise management plan Annual Noise Report	Auckland Airport Airlines Airways New Zealand	<b>20</b>
Engine runs and noise from maintenance of aircraft	Potential for annoyance of surrounding residential areas from noise levels.	Noise levels exceed that permitted in Designation 231 (a potential non-compliance) local residents complain.	Monitoring of Noise Engine run logs Noise complaint procedures	Auckland Airport Air New Zealand Technical Operations Airlines	<b>11</b>
<b>Stormwater/Groundwater/Land</b>					
Contamination of stormwater runoff from earthworks (property and aeronautical developments).	Possible surface water contamination from sediments, oil, fuel, heavy metals from parked and moving vehicles. Incorrect storage and/or disposal of waste materials generated during construction.	Contamination of stormwater entering stormwater drains. Potential contamination of soils and groundwater.	Erosion and Sediment Control plans Consent approvals Up-flow filters Stormwater Ponds Oil/Water interceptors Emergency Response/Spill procedures	Auckland Airport Construction contractors Waste management contractors	<b>17</b>
Contamination of stormwater runoff from apron operations	Spills (fuel/water/waste water) on international or domestic apron during aircraft servicing. Possible surface water contamination from oil, fuel sewage from GSE and aircraft on stand. Incorrect storage, and disposal of waste materials generated on apron.	Contamination of stormwater entering stormwater drains. Potential contamination of soils and groundwater.	Apron Interceptors Fox valves Stormwater Ponds Oil/Water interceptors Apron Safety Procedures Emergency Response/Spill procedures	Auckland Airport Airlines Ground Handling Agents Caterers Refuellers Cleaning contractors Waste management contractors	<b>16</b>
Contamination of stormwater runoff from airside aeronautical operations	Possible surface water contamination from: Oil, fuel, heavy metals from parked and moving aircraft and vehicles. Waste water and chemicals from aircraft and vehicle wash down. Incorrect storage, and disposal of waste materials	Contamination of stormwater entering stormwater drains. Potential contamination of soils and groundwater.	Interceptors Fox valves Stormwater Ponds Oil/Water interceptors Emergency Response/Spill procedures	Auckland Airport Airlines Ground Handling Agents Caterers Refuellers Cleaning	<b>16</b>

<b>Environmental Aspect</b>	<b>Description</b>	<b>Potential Risk</b>	<b>Facilities and Operational controls</b>	<b>Person Responsible</b>	<b>Risk Rating (normal operating conditions)</b>
	generated during operations.		Tenant Audit	contractors Waste management contractors	
Contamination of stormwater runoff from landside aeronautical operations	Possible surface water contamination from oil, fuel, heavy metals from parked and moving vehicles. Waste water and chemicals from vehicle wash down.  Incorrect storage and disposal of waste materials generated during operations.	Contamination of stormwater entering stormwater drains. Potential contamination of soils and groundwater.	Interceptors Fox valves Stormwater Ponds Oil/Water interceptors Emergency Response/Spill procedures Tenant Audit	Auckland Airport Airlines Ground Handling Agents Caterers Refuellers Cleaning contractors Waste management contractors	<b>16</b>
Contamination of stormwater runoff from property tenants.	Possible surface water contamination from oil, fuel, heavy metals from parked and moving vehicles. Possible surface water contamination from site operations (vehicle washing/refuelling). Incorrect storage and/or disposal of waste materials generated during operations.	Contamination of stormwater entering stormwater drains. Potential contamination of soils and groundwater.	Interceptors Fox valves Stormwater Ponds Oil/Water interceptors Tenant Audit Emergency Response/Spill procedures	Auckland Airport Property Tenants Cleaning contractors Waste management contractors	<b>16</b>
Stormwater runoff from exposed (un-vegetated) areas	Areas under development are stripped of grass and no sediment controls adopted.	Possible contamination of surface water runoff from sediments from exposed areas	Erosion and Sediment Control plans Consent approvals Stormwater Ponds	Auckland Airport Construction contractors	<b>16</b>
Contamination of stormwater from site buildings in particular roofs	Stormwater from all site building roofs discharges to stormwater system, prior to discharging to the stormwater ponds	Negligible impacts on stormwater quality but roofing materials subject to resource consent conditions.	Consent approvals	Auckland Airport Construction contractors	<b>11</b>
<b>Fuel/chemical storage and distribution (large scale)</b>					
Incoming fuel pipelines and general underground piping	There is a pipeline carrying Jet A-1 fuel from the Wiri Oil terminal to JUHI and then from JUHI to the international apron. The underground pipelines have cathodic protection, which gives early warning of a potential leak. These pipes are in continuous use and so under pressure and monitored. Wiri Oil Services Ltd (WOSL) and JUHI as tenants of Auckland Airport are responsible for these pipelines.	Potential spills from pipe rupture and poor pipeline connections leading to contaminated stormwater, soil and/or groundwater.	Fuel Leak detection (cathodic protection) along pipeline Wiri Oil Services Ltd maintains pressure along line and monitors pipeline continuously Apron Interceptors	Auckland Airport JUHI	<b>14</b>
Fuel Storage Tanks At JUHI	Fuel tanks storing a total of up to 5,800,000 litres (5800 m3) Jet A-1 fuel (Tanks 51, 52 and 53), are located in the north and west of the	Potential spills from poor pipeline connection, rupture or accidental damage of tanks resulting in	Fuel Leak detection for pipelines and tanks Tanks are in	Auckland Airport JUHI	<b>14</b>

<b>Environmental Aspect</b>	<b>Description</b>	<b>Potential Risk</b>	<b>Facilities and Operational controls</b>	<b>Person Responsible</b>	<b>Risk Rating (normal operating conditions)</b>
	<p>site, within a lined bund. In addition storage of 97,700 litres of Avgas in one above ground tank (Tank 56);</p> <p>Other storage tanks for slops, methmix, and diesel.</p> <p>Activities on site include storage of fuel and transfer of fuel by pipeline to apron, loading of trucks with fuel and transfer to domestic terminal, parking of fuel dispensers which are used to transfer fuel from hydrant pits to plane.</p>	<p>contaminated stormwater, and/or soil/groundwater. Potential spills from overfill and accidental pipeline damage leading to contaminated stormwater.</p>	<p>lined bund Oil/water Interceptors in SE corner of site. Stormwater discharges to Pond L and Pond K (from bulk product bunds provided no hydrocarbon sheen present, if present stormwater is pumped to interceptor in SE corner of site.</p>		
Fire Foam Storage on Tenant's property	Fire foam is stored by Air New Zealand for use in Hangar 2 and 3.	Accidental release of fire foam leading to stormwater contamination in pond L.	Emergency Response Procedures (stormwater ponds spill procedures)	Auckland Airport Air New Zealand Technical Operations	<b>14</b>
Fire Water Tank and Foam Storage Area	Fire foam is stored at Auckland Airport in several 1,000L IBC containers located at x distributed in various locations around Auckland Airport . Fire foam is required to be stored in banded area out of direct sunlight.	Potential accidental spills leading to contaminated stormwater and/or underlying soil/groundwater at the Auckland Airport.	Live Fire Training Procedures Emergency procedures	Auckland Airport Air New Zealand Technical Operations	<b>9</b>
<b>Waste Management</b>					
Creation, management and disposal of waste	Production of waste in terminals, properties operations. Inappropriate and/or ineffective disposal/recovery and/or recycling.	Ineffective waste reduction, recovery and recycling. Contamination of waste streams. Increasing waste to landfill	Waste Management Working Group	Auckland Airport Tenants Waste and Cleaning contractors	<b>16</b>
Historical Quarantine Landfill	Potential contamination of groundwater or surface water from leachate generation.	Possible contamination of groundwater or surface water from leachate generated from historical landfilling activities	Monitoring and Contingency Plan in place	Auckland Airport Construction contractors Waste contractors	<b>11</b>
<b>Hazardous substances</b>					
Chemical storage	Chemicals, particularly those classed as hazardous substances with the potential to cause harm to the environment or people and contaminate ground, groundwater and stormwater.	Potential for spills through leaking equipment and through rupture of containers. Leaching of chemicals where rainwater ingress into containers or equipment.	Tenants and/or contractors responsibility Tenant/contract or audits	Auckland Airport Contractors Tenants	<b>17</b>

<b>Environmental Aspect</b>	<b>Description</b>	<b>Potential Risk</b>	<b>Facilities and Operational controls</b>	<b>Person Responsible</b>	<b>Risk Rating (normal operating conditions)</b>
Grounds maintenance activities	Pesticides, herbicides and fertiliser booth in storage and in use create risk to both the environment and health.	Possible stormwater contamination with pesticides, herbicides and fertiliser. Potential exposure to staff and/or public	Tenants and/or contractors responsibility Tenant/contract or audits	Auckland Airport Contractors Tenants	<b>9</b>
<b>Emissions to air</b>					
Aircraft emissions form engine start-up to idling on aprons	Discharge of exhaust fumes during idling or taxiing on apron.	Increases of ground level pollutant levels and greenhouse gases	Aircraft Pushbacks GPU units	Auckland Airport Tenants Airlines	<b>16</b>
Open Air burning as part of fire training	Increased levels of Greenhouse gases, smoke and visible plume	Cause nuisance and effect visibility on runway	Live Fire training procedures Notifications	Auckland Airport	<b>11</b>
Dust and nuisance from construction/development sites	Potential nuisance impacts from dust being created as part of construction operations.	Nuisance complaints from public and/or existing tenants.	Erosion and Sediment Control plans Consent approvals	Auckland Airport Construction contractors	<b>5</b>
<b>Resource Use</b>					
Use of finite resources such as water, fuels, materials etc.	There will be an increasing need to understand the implications of finite resource use and how best to manage these. In particular water.	Shortages occur of finite resources that have a negative impact on airport operations.	Use of ground water bore for potable water, rainwater harvesting, water conservation measures.	Auckland Airport	<b>19</b>
<b>Biodiversity</b>					
Positive impacts on fauna and flora	Positive impact on wildlife due to creation of habitats and protection of native species	Missing the opportunity to increase bio-diversity and ecological value of airport land.	Grounds maintenance practices support and enhance wildlife	Auckland Airport Contractors	<b>1</b>
Negative impacts on fauna and flora	Negative impact on wildlife due to wildlife hazard management practices	Reduction of numbers of some high risk species	Wildlife hazard management practices minimize impacts	Auckland Airport Contractors	<b>11</b>

### 4.3 OBJECTIVES AND TARGETS

4.3.1 Based on the outcome of the comprehensive risk assessment, a risk ranking of environmental aspects can be produced against which are listed the relevant parts of the documentary framework that manage that risk. Objectives and targets for the next financial year (to June 30th 2015) for the documentation framework are:

	<b>Environmental Aspect</b>	<b>Risk Rating (normal operating conditions)</b>	<b>Management Plan</b>	<b>Objective and Target Date</b>
1	Take-off and landing of aircraft, including freight operations	20	Noise	Review 31 <sup>st</sup> Dec
2	Use of finite resources such as water, fuels, materials etc.	19	Sustainability	Review 20 <sup>th</sup> June
3	Contamination of stormwater runoff from earthworks (property and aeronautical developments).	17	SEMP	Managed through consenting processes
4	Chemical storage	17	SEMP	Review 20 <sup>th</sup> June
5	Contamination of stormwater runoff from apron operations	16	SEMP	Review 20 <sup>th</sup> June
6	Contamination of stormwater runoff from airside aeronautical operations	16	SEMP	Review 20 <sup>th</sup> June
7	Contamination of stormwater runoff from landside aeronautical operations	16	SEMP	Review 20 <sup>th</sup> June
8	Contamination of stormwater runoff from property tenants.	16	SEMP	Review 20 <sup>th</sup> June
9	Stormwater runoff from exposed (un-vegetated) areas	16	SEMP	Review 20 <sup>th</sup> June
10	Creation, management and disposal of waste	16	Waste	Review 20 <sup>th</sup> June
11	Aircraft emissions form engine start-up to idling on aprons	16	Sustainability	Review 20 <sup>th</sup> June
12	Incoming fuel pipelines and general underground piping	14	SEMP	Review 20 <sup>th</sup> June
13	Fuel Storage Tanks At JUHI	14	SEMP	Audit with regulator
14	Fire Foam Storage on Tenant's property	14	SEMP	Review 20 <sup>th</sup> June
15	Historical Quarantine Landfill	11	Waste	Review 20 <sup>th</sup> June
16	Contamination of stormwater from site buildings in particular roofs	11	SEMP	Review 20 <sup>th</sup> June
17	Engine runs and noise from maintenance of aircraft	11	Noise	Review 31 <sup>st</sup> Dec
18	Open Air burning as part of fire training	11	Live Fire Training	Review 20 <sup>th</sup> June
19	Negative impacts on fauna and flora	11	Wildlife Hazard	Review 20 <sup>th</sup> June
20	Grounds maintenance activities	9	Tenant Audit	Review 20 <sup>th</sup> June
21	Fire Water Tank and Foam Storage Area	9	Tenant Audit	Review 20 <sup>th</sup>

			June
22	Dust and nuisance from construction/development sites	5	Tenant Audit Review 20 <sup>th</sup> June
23	Positive impacts on fauna and flora	1	Biodiversity Review 20 <sup>th</sup> June

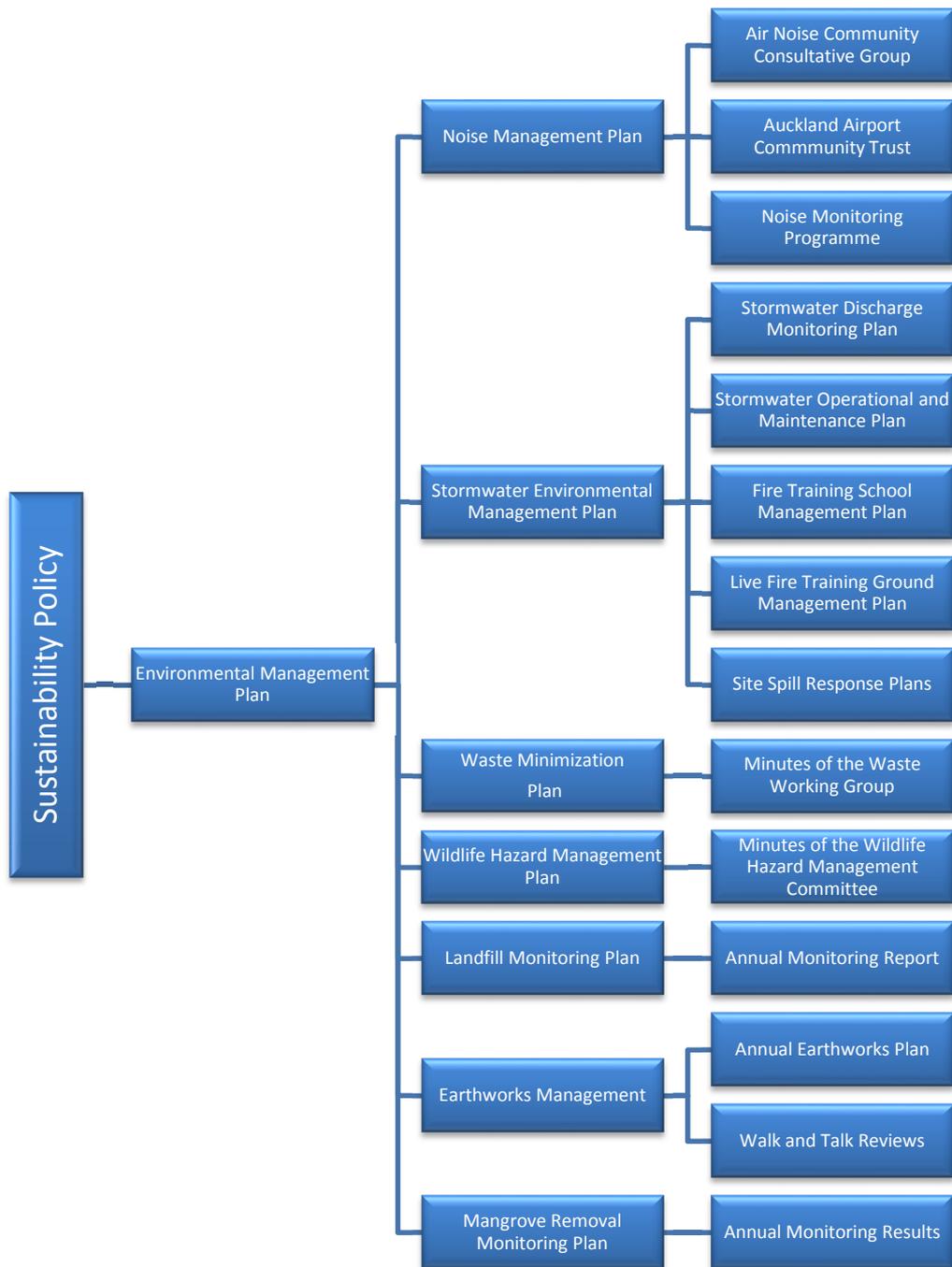
Noise		Fuel/chemical storage and distribution (large scale)	
Resource Use		Emissions to air	
Stormwater/Groundwater/Land		Biodiversity	
Hazardous substances		Waste Management	

# SECTION 5 DOCUMENTARY FRAMEWORK

## 5.1 INTRODUCTION

5.1.1 For the main environmental risks, which are directly under Auckland Airport’s control, there are management and operational plans in place to ensure that effects on the environment are minimized. These form the documentation framework outlined in Figure 1.

Figure 1



5.1.2 A summary of the focus of these operational plans is provided below.

## 5.2 NOISE MANAGEMENT PLAN

5.2.1 Aircraft noise management is an important challenge for airport and aircraft operators worldwide. Auckland Airport works with aircraft operators and air traffic control to manage noise levels at and around the airport so that impacts on the community are minimized. Noise associated with an airport can be attributed to a number of sources or activities such as:

- aircraft take-offs and landings.
- aircraft flying over residential areas.
- engine runs - these are created by engine testing while the engine is still attached to the aircraft.
- reverse thrust - used to slow an aircraft when landing on the runway
- general noise from ground operations.

5.2.2 The Manager Master-planning – Statutory Planning and Aeronautical, is responsible for the Noise Management Plan and all aspects of its implementation including:

Noise monitoring programme (contracted to Marshall Day Acoustics)

Noise complaints

The Air Noise Consultative Community Group

## 5.3 STORMWATER MANAGEMENT PLAN (SWMP)

5.3.1 The company has a SWMP which outlines the implementation of programs and actions to address potential airport stormwater pollutants as, ultimately, all stormwater discharges into the Manukau harbour. The SWMP provides details of the operational and maintenance procedures that are adopted for different areas of the airport. The Auckland Airport catchment is also served by a series of stormwater ponds which are installed as the airport develops.

5.3.2 Tenant education is an important aspect of stormwater protection and there are spill and stormwater management handbooks in place.

5.3.6 Documentation and systems for maintenance and checking of Stormwater Ponds, Interceptors /Cesspits are managed and held by EES.

## 5.4 EARTHWORKS MANAGEMENT PLAN

5.4.1. During developments where earthworks are undertaken at Auckland Airport erosion and sediment control measures are adopted in accordance with Auckland Regional Council TP90 Sediment Control Guideline (ref). Also an annual earthworks management plan is prepared (as required by the resource consent no 16339 for this activity) which includes details of site specific erosion and sediment control guidelines. The objective being to minimise sediment loading to stormwater runoff and ultimately discharges to the harbour.

5.4.2 Similarly the TP 90 Auckland Council sediment control guidelines are followed during the clean filling operations (as required for the consent 36365 for this activity). There is also a chemical management plan in place in case chemical dosing has to be undertaken to assist removal of sediment from stormwater runoff.

5.4.3 During all earthworks or clean filling operations areas are re-vegetated as soon as possible to reduce sediment loading to stormwater, and the exposed area is kept to a minimum.

## 5.5 (FORMER) LANDFILL MONITORING PLAN

5.5.1 A former quarantine landfill is located to the south of the main runway at Auckland Airport next to the Manukau Harbour.

5.5.2 The site was monitored on a six monthly basis until May 2002 whereby the Auckland Council approved monitoring to be continued on an annual basis.

5.5.3 This monitoring is conducted by external consultants with review by the Sustainability and Environmental Manager prior to submission to Auckland Council.

## 5.6 WASTE MINIMIZATION PLAN

5.6.1 Auckland Airport does not produce most of the waste generated on its site but it is responsible for coordinating the main waste disposal contract. Airports produce a large quantity of waste, from a wide variety of sources including, only some of which is under their direct control:

- domestic and office waste, including paper;
- catering waste, including food and vegetable oils;
- oils and solvents, components/parts from aircraft maintenance;
- scrap metal;
- construction waste; and,
- in flight waste.

5.6.2 Auckland Airport can control its own waste and works with tenants to help minimize other waste generated at the airport. Auckland Airport has adopted the waste hierarchy approach to address waste issues i.e. waste prevention, re-use, recycle/compost and disposal.

5.6.3 Public recycling stations have been installed at Auckland Airport since 2008, there are ten in the international terminal and five in the domestic terminal for plastic, cans and glass. Facilities are also provided for Auckland Airport's retail and airline tenants to recycle their waste and all together over 400 tonnes per annum is recycled from the terminals, giving an overall recycling rate of around 20%.

5.6.4 Other recycling programmes include:

- office waste paper;
- electrical equipment and metal items recycled by the company;
- concrete removed from runway and apron areas during upgrading (recycled as sub-base for new runway and apron areas);
- top soil from new build property developments.

## 5.7 MANGROVE REMOVAL MANAGEMENT PLAN

- 5.7.1 Auckland Airport identified in 2010 a potential air safety hazard associated with a large number of black swans (no 1500-2000) which currently visit and rest in an area of mangroves immediately to the north of the western end of the runway. To remove the hazard associated with these birds flying directly over the runway, Auckland Airport has removed approximately 13ha of mangroves from the Coastal Marine Area (CMA) adjacent to the runway, under resource consent.
- 5.7.2 The management of the mangrove removal and monitoring programme is the responsibility of the Wildlife and Grounds Overseer.

## SECTION 6 – MONITORING AND REPORTING

### 6.1 MONITORING AND REPORTING FOR REGULATORY COMPLIANCE

- 6.1.1 An overview of monitoring and reporting requirements for regulatory compliance is given in the table below.
- 6.1.2 More specific detail on monitoring programmes, and reporting of outcomes, can be found in the relevant management and operational plans contained in the documentation framework.

**Table 1 Summary of Monitoring and Reporting Requirements**

<b>Consent No</b>	<b>Routine Monitoring or reporting</b>	<b>Key parameters monitored (if relevant)</b>	<b>Annual Reporting</b>	<b>Responsibility</b>
Consent Conditions or Permitted activities	CS-VUE	Consent and condition sign off Follow up action as required.		Sustainability and Environmental Manager
Consent No 21351 to authorise catchment wide programme of works to manage the discharge of stormwater from existing and future development of the Auckland Airport	All stormwater ponds are visually inspected once per week to check the state of the ponds and pick up any pollution incidents.  Inspection of hydrant pits and oil/water interceptors are undertaken once per month.  Sediment depth in the stormwater ponds is measured once per year and removed once it reaches the maximum height.	Action required if there are abnormal smells or visual pollution, or reported incidents that result in a discharge to ponds.	Referring condition 14 Auckland Airport shall monitor all grassed areas of the airport on a yearly basis for the purposes of reseeding where required at earliest opportunity. Referring condition 16 Auckland Airport shall monitor the condition of stormwater devices once per year and carry out maintenance as required to ensure their ongoing efficiency.	EES and Sustainability and Environmental Manager
Consent no 26986 to authorise 624 ha of earthworks associated with developing the Auckland Airport.	Prior to bulk earthworks for each stage of the works commencing the consent holder shall submit to Auckland Council a certificate signed by an appropriately qualified and experienced engineer to certify that the erosion and sediment controls have been constructed in accordance with the erosion and sediment control plan (refer condition 15).	Maintain records of inspections and resowing of exposed surfaces and made available to Auckland Council as required.  A record of monitoring of the condition of stormwater devices shall be kept and made available to Auckland Council for inspection.	An annual Earthworks Management Plan for the Auckland Airport shall be submitted to the council (refer condition 3) Report due no later than 10 days after 30 May in any given year. Annual Archaeological survey shall be submitted no later than 10 working days after 30 May of each year prior to earthworks commencing.	EES Manager
Consent no 36365 10 ha earthworks associated with Clean fill operation	Monitor in accordance condition 15 maximum area of open earthworks, and status of revegetation/stabilisation.  As required by consent no 36365 condition 10 sediment control measures shall be inspected to ensure effective operation on a daily basis or after a significant storm event during construction by the contractor.  Auckland Airport Engineering staff inspect the sediment control measures as part of their regular site inspections which are recorded on checksheets for this purpose.	Maximum area of open earthworks at any one time (not allowed to exceed 1 ha), and current status of revegetation/stabilisation.	Records are maintained of area of open earthworks on weekly checksheets	EES Manager

Consent No	Routine Monitoring or reporting	Key parameters monitored (if relevant)	Annual Reporting	Responsibility
<p>Consent No 38862 removal of 13 ha of Mangrove swamps and disturbance of foreshore and seabed, and deposition of mulch for the purpose of removing habitat for black swans.</p>	<p>Monitoring falls into four stages and is described in detail in Auckland Airport Monitoring Plan 2011 Prepared by Pattle Delamore and Partners (A02173800). In summary monitoring is required to be undertaken:</p> <ol style="list-style-type: none"> <li>1) Prior to works commencing – Baseline Monitoring</li> <li>2) Monitoring during Trial to be carried out over a period of at least 7 days</li> <li>3) Works Monitoring to be carried out during the remainder of the removal works</li> <li>4) Post Works Monitoring to be carried out following the removal works</li> </ol> <p>At a minimum upon completion of the trial, following removal of remaining mangroves, and after completion of three years of monitoring, it is proposed that Auckland Airport will review the monitoring plan and update as appropriate, and resubmit the updated version to Auckland Council.</p> <p>Condition 19 of Consent 38862 requires that if any changes are made to the monitoring plan that they are approved by Auckland Council.</p>	<p>1-2 Monitoring completed as of 22 April 2011.</p> <p>3. During works monitoring of Tides and Wind and Mulch Mobility Assessment</p> <p>4. Post works Mangrove Recolonisation (inspections conducted weekly and removal of seedlings undertaken as required), Bird Monitoring – daily survey to monitor black swan populations between May and August 2011 and Benthic Recovery Monitoring (including depth of mulch, analysis of sediment samples for TOC to establish rate of decay, examination of quadrants along a transect for animals and record of oxic layer, and field measurements of Dissolved oxygen in water column, and sediment shift.</p>	<ol style="list-style-type: none"> <li>1) Baseline Monitoring – within four weeks of the trial a tabular report will be provided to Auckland Council.</li> <li>2) Trial Monitoring the results will be provided to Auckland Council as soon as possible after the trial and recommendations put forward to any modifications to remaining removal works.</li> <li>3) Works Monitoring the results will be summarised and provided to the Auckland Council as soon as is practicable following the works period, along with the feasibility investigation of mulch removal (if undertaken) and any recommendations regarding the management of the remaining mulch.</li> <li>4) Post works monitoring, following each monitoring round, the results will be summarised as soon as practicable in a Monitoring Report which will be supplied to Auckland Council. Following three years of monitoring, the need for ongoing monitoring will be reassessed in conjunction with the Auckland Council. Monitoring is being undertaken by Pattle Delamore and Partners.</li> </ol> <p>If any of the results for DO in the water column exceed the ANZECC guideline (80% oxygen saturation), the Auckland Council will be notified and the need for re-sampling will be discussed. If results of re-sampling are indicative of potential adverse effects, a strategy to deal with this will be agreed in conjunction with the Council and immediately implemented (e.g.</p>	<p>Wildlife and Grounds Overseer (Auckland Airport), PDP (Consultants).</p>

Consent No	Routine Monitoring or reporting	Key parameters monitored (if relevant)	Annual Reporting	Responsibility
			mechanical removal of mulch).	
Resource consent no 949640 issued by the Auckland Regional Council (ARC), and to determine the possible effects on groundwater at the site from the Historical Quarantine Waste Landfill.	Annual groundwater monitoring  An inspection once per annum takes place along the bund walls for leachate breakout at low tide and a sample taken if it is occurring.	For pH, conductivity, chloride, ammoniacal-N, dissolved sodium, dissolved boron and nitrate-N in three boreholes (BHG, BHP and BHQ) sited in the vicinity of the form Quarantine Landfill. Note in April 2009 the ARC undertook a review of the conditions of Resource Consent #949640. As part of this review, the number of analytes required to be analysed was reduced under consent condition 10 to that stated above.	Annual groundwater monitoring is undertaken of the former quarantine landfill, in June/July of each year, and reported to Auckland Council.	Sustainability and Environmental Manager
Noise Designation 231	Daily Noise Monitoring continuous using ANOMS which consists of three permanent monitors and one portable noise monitor. The ANOMS data is used to produce a 365 day rolling average aircraft Ldn (in DBA).  Designated engine testing stands around the Apron are used by Airline to do engine testing. The Airlines apply to the Apron Tower to do this and have to provide details of how long they will be and what power they will use. This data then generates how much noise the engine testing generates.  Log of Noise complaints presented to ANCCG meeting  Public register of various exceptions and contraventions of noise limits	Ldn at each Monitor. Calculation of AANC from aircraft movement records as required  Monitoring of engine testing activity (and the calculation and reporting of resulting noise levels).	Reporting of contraventions and exceptions to the conditions of Designation 231 to ANCCG. Noting Action required if test results are outside of normal parameters.  An annual report is provided to ANCCG on the AANC and made available to the public, and a six monthly report on the results of the monitoring using the portable monitor.	Marshall Day Acoustics Ltd Manager Masterplanning – Statutory Planning and Aeronautical