

# appendices

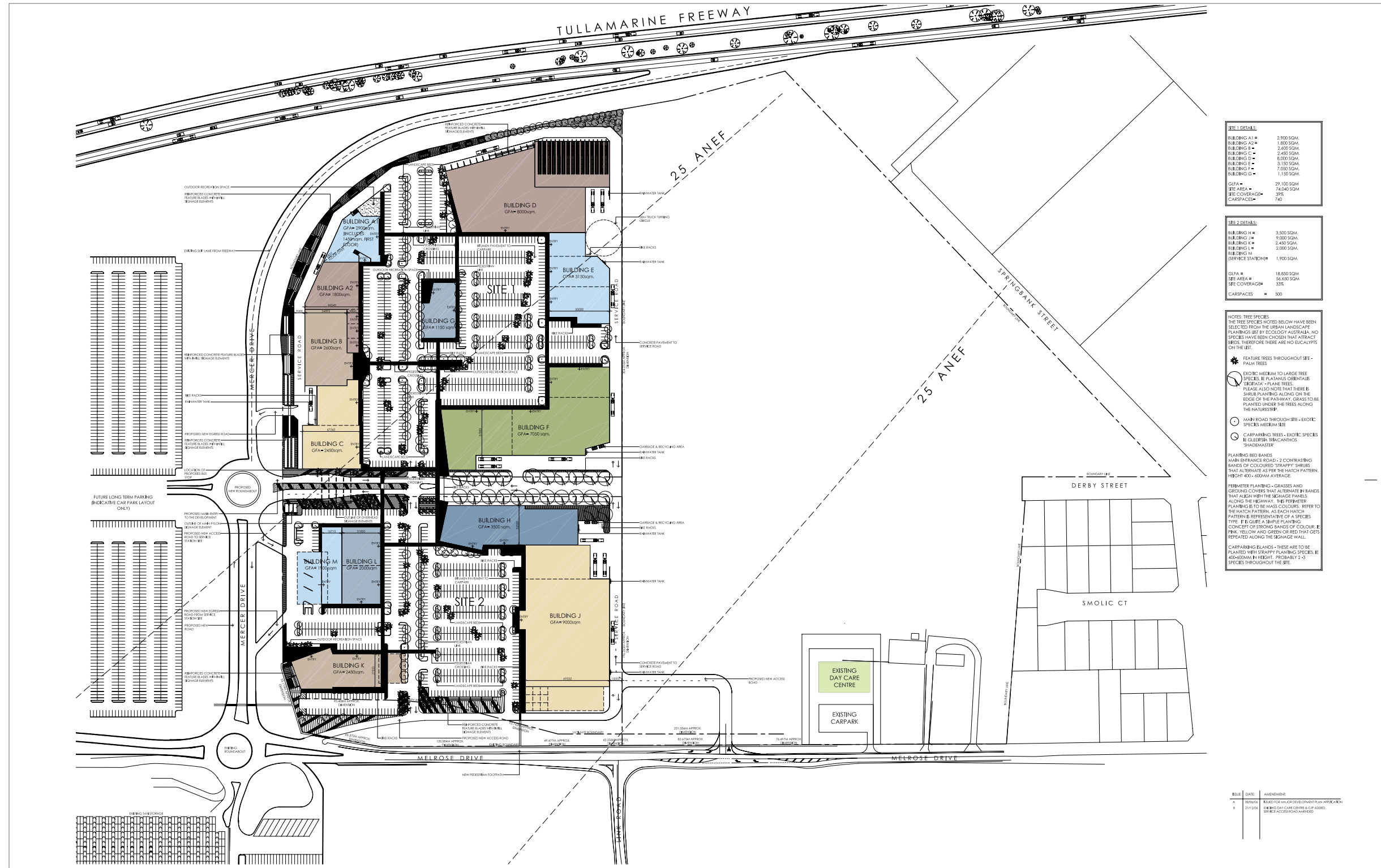
## Appendix 1 Consistency of the MDP with S91 requirements

This appendix indicates the relevant requirements under s91 of the Airports Act for the contents of a MDP and demonstrates that this MDP is consistent with these requirements.

| S91 | Contents of a major development plan  | Relevant section(s) of this MDP  |
|-----|---|--|
| 1   | <p>A major development plan, or a draft of such a plan, must set out:</p> <p>(a) The airport-lessee company's objectives for the development; and</p> <p>(b) The airport-lessee company's assessment of the extent to which the future needs of civil aviation users of the airport, and other users of the airport, will be met by the development; and</p> <p>(c) a detailed outline of the development; and</p> <p>(d) if a final master plan for the airport is in force – whether or not the development is consistent with the final master plan; and</p> <p>(e) if the development could affect noise exposure levels at the airport – the effect that the development will be likely to have on those levels; and</p> <p>(f) the airport lessee company's plans, developed following consultations with the airlines that use the airport, local government bodies in the vicinity of the airport and – if the airport is a joint user airport – the Department of Defence, for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels; and</p> <p>(g) an outline of the approvals that the airport-lessee company, or any other person, has sought, is seeking or proposes to seek under Division 5 or Part 12 in respect of elements of the development; and</p> <p>(h) the airport lessee company's assessment of the environmental impacts that might reasonably be expected to be associated with the development; and</p> <p>(j) The airport-lessee company's plans for dealing with the environmental impacts mentioned in paragraph (h) (including plans for ameliorating or preventing environmental impacts); and</p> <p>(k) if a draft environmental strategy has been approved – the date of the approval; and</p> <p>(l) such other matters (if any) as are specified in the regulations.</p> | <p>2.3</p> <p>Section 4.2 &amp; Chapter 6</p> <p>3</p> <p>4.2</p> <p>3.7</p> <p>3.7</p> <p>Not applicable</p> <p>Chapters 8 &amp; 9</p> <p>Chapters 8 &amp; 9</p> <p>8.1</p> <p>Not applicable</p> |

| <b>S91</b> | <b>Contents of a major development plan</b>   | <b>Relevant section(s) of this MDP</b>                    |
|------------|---|---|
| 2          | Paragraphs (1) (a) to (k) (inclusive) do not, by implication, limit paragraph (1)(l).   | Noted   |
| 3          | The regulations may provide that, in specifying a particular objective, assessment, outline or other matter covered by subsection (1), a major development plan, or a draft of such a plan, must address such things as are specified in the regulations.                                     | Noted   |
| 4          | In specifying a particular objective or proposal covered by paragraph 1(a) or (c), a major development plan, or a draft of such a plan, must address the extent (if any) of consistency with planning schemes in force under a law of the State or Territory in which the airport is located. | 4.2   |
| 5          | Subsection (4) does not, by implication, limit subsection (3)   | Noted   |
| 6          | In developing plans referred to in paragraph (1)(f), an airport-lessee company must have regard to Australian Standard AS2021 – 1994 (“Acoustics – Aircraft noise intrusion – Building siting and construction”).   | 3.7 (The relevant standard - AS2021 is now 2000 not 1994) |
| 7          | Subsection (6) does not, by implication, limit the matters to which regard may be had.  | Noted   |

Appendix 2 Development Plans



**SITE 1 DETAILS**

|                 |            |
|-----------------|------------|
| BUILDING A1 #   | 2,900 SQM  |
| BUILDING A2 #   | 1,800 SQM  |
| BUILDING B #    | 2,400 SQM  |
| BUILDING C #    | 2,400 SQM  |
| BUILDING D #    | 8,000 SQM  |
| BUILDING E #    | 3,100 SQM  |
| BUILDING F #    | 7,000 SQM  |
| BUILDING G #    | 1,100 SQM  |
| GFA #           | 27,100 SQM |
| SITE AREA #     | 74,600 SQM |
| SITE COVERAGE # | 39%        |
| CARSPACES #     | 740        |

**SITE 2 DETAILS**

|                   |            |
|-------------------|------------|
| BUILDING H #      | 3,200 SQM  |
| BUILDING I #      | 9,000 SQM  |
| BUILDING L #      | 2,400 SQM  |
| BUILDING M #      | 2,000 SQM  |
| SERVICE STATION # | 1,900 SQM  |
| GFA #             | 18,800 SQM |
| SITE AREA #       | 54,800 SQM |
| SITE COVERAGE #   | 33%        |
| CARSPACES #       | 500        |

**NOTES:** TREE SPECIES  
THE TREE SPECIES NOTED BELOW HAVE BEEN SELECTED FROM THE URBAN LANDSCAPE PLANTINGS LIST BY ECOLOGY AUSTRALIA. NO SPECIES HAVE BEEN CHOSEN THAT ATTRACT BIRDS. THEREFORE THERE ARE NO EUCALYPTUS ON THE LIST.

- ★ FEATURE TREES THROUGHOUT SITE - PALM TREES
- ☉ EXOTIC MEDIUM TO LARGE TREE SPECIES: E PLATANUS ORIENTALIS, Q BRASSIA, P PLANE TREES. PLEASE ALSO NOTE THAT THERE IS SHRUB PLANTING ALONG ON THE EDGE OF THE PATHWAY. GRASS TO BE PLANTED INSIDE THE TREES ALONG THE NATURAL STRIP.
- MAIN ROAD THROUGH SITE - EXOTIC SPECIES MEDIUM SIZE
- ⊙ CARPARKING TREES - EXOTIC SPECIES: E. GLEDERBA, B. CANARICUS, SHADENMASTER

**PLANTING BED BANDS**  
MAIN ENTRANCE ROAD - 2 CONTRASTING BANDS OF COLOURED 'STRAPPY' SHRUBS THAT ALTERNATE AS PER THE HATCH PATTERN. HEIGHT 400 - 600MM AVERAGE.

**PERIMETER PLANTING** - GRASSES AND GROUND COVERS THAT ALTERNATE IN BANDS THAT ALIGN WITH THE SIGNAGE PANELS ALONG THE HIGHWAY. THE PERIMETER PLANTING IS TO BE MASS COLOURS. REFER TO THE HATCH PATTERN. AS EACH HATCH PATTERN IS REPRESENTATIVE OF A SPECIES TYPE. IF BY CHANCE A SIMILAR PLANTING CONCEPT OF STRONG BANDS OF COLOUR, E PINK, YELLOW AND GREEN OR RED THAT GETS REPEATED ALONG THE SIGNAGE WALL.

**CARPARKING ISLANDS** - THESE ARE TO BE PLANTED WITH STRAPPY PLANTING SPECIES. E. GLEDERBA BY HEIGHT. PROBABLY 2-3 SPECIES THROUGHOUT THE SITE.

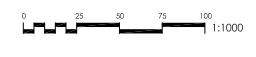
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|------|----------|--|
| A    | 07/07/07 | REVISION FOR DEVELOPMENT PLAN APPLICATION          |
| B    | 07/07/07 | REVISION FOR CARPARKING AND ACCESS ROAD AMENDMENTS |

CONCEPT PLAN

MP 101 / B

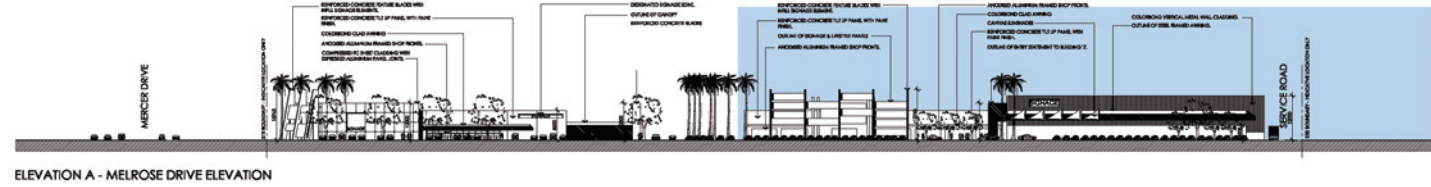


MELBOURNE AIRPORT DEVELOPMENT PROPOSAL

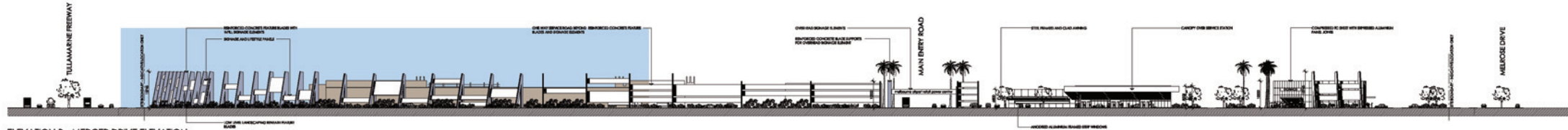


**LEFFLER SIMES ARCHITECTS**  
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 PH: (61) 03 9244 1444 FAX: (61) 03 9244 1444 EMAIL: info@lefflersimes.com.au  
 DATE: 06/06/07 PROJECT NO: 2388 DRAWN: CM/BJ SCALE: 1:1000 @ A0

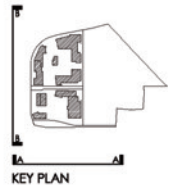
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ELEVATION A - MELROSE DRIVE ELEVATION



ELEVATION B - MERCER DRIVE ELEVATION



KEY PLAN

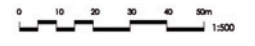
| NO. | DATE       | REVISION           |
|-----|------------|--------------------|
| 1   | 08/06/2006 | ISSUED FOR TENDERS |

ELEVATIONS

MP 103 / A



MELBOURNE AIRPORT DEVELOPMENT PROPOSAL



LEFFLER SIMES ARCHITECTS  
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 PROJECT NO: 103-103-001-001 DRAWING NO: MP103/A-010  
 DATE: 08/06/06 DRAWN: CSB CHECKED: CSB  
 PROJECT NO: 2388 SCALE: 1:500



Appendix 3 Perspective drawings

perspective



perspective



Appendix 4 Relevant environmental legislative framework

ENVIRONMENTAL LEGISLATION/REGULATIONS & GUIDELINES/STANDARDS

| Issue | Commonwealth Legislation & Regulations   | State Legislation & Regulations  | Guidelines/Standards   |
|-------|--|--|--|
| Noise | <ul style="list-style-type: none"> <li>• Airports Act 1996</li> <li>• Airports (Environment Protection) Regulations 1997</li> <li>• Air Navigation (Aircraft Noise) Regulations 1984</li> </ul>  | <ul style="list-style-type: none"> <li>• Environment Protection Act 1970</li> <li>• State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) 1989</li> <li>• Occupational Health and Safety (Noise) Regulations 2004</li> </ul>  | <ul style="list-style-type: none"> <li>• AS2021 Acoustic – Aircraft Noise Intrusion Building Siting and Construction 2000</li> <li>• A Guide to the Measurement and Analysis of Noise (EPA Victoria) 1991</li> <li>• Designation of Types of Zones and Reservations in the Metropolitan Region Planning Schemes for the Purposes of State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No N-1 (EPA Victoria) February 2000</li> <li>• Melbourne Airport Operational Safety Policy: Ground Running of Aircraft July 2000</li> <li>• Noise Control Guidelines (EPA Victoria) 1992</li> </ul> |
| Air   | <ul style="list-style-type: none"> <li>• Airports Act 1996</li> <li>• Airports (Environment Protection) Regulations 1997</li> <li>• Air Navigation (Aircraft Engine Emissions) Regulations 1995</li> <li>• Air Navigation (Fuel Spillage) Regulations 1999</li> <li>• Environment Protection and Biodiversity</li> </ul> | <ul style="list-style-type: none"> <li>• Environment Protection Act 1970</li> <li>• Environment Protection (Vehicle Emissions) Regulations 2003</li> <li>• Industrial Waste Management Policy (Protection of the Ozone Layer) 2001</li> <li>• Industrial Waste Management Policy (National Pollutant Inventory) 1998</li> <li>• National Environment Protection Council</li> </ul> | <ul style="list-style-type: none"> <li>• A Guide to the Sampling and Analysis of Air Emissions and Air Quality (EPA Victoria) December 2002</li> <li>• Protocol for Environment Management: Minimum Control Requirements for Stationary Sources (EPA Victoria) January 2002</li> <li>• Protocol for Environment Management: Greenhouse Gas Emissions and Energy Efficiency in Industry (EPA Victoria)</li> </ul>   |



Environmental Legislation/Regulations & Guidelines/Standards 2005 Update

| Issue        | Commonwealth Legislation & Regulations  | State Legislation & Regulations  | Guidelines/Standards   |
|--------------|---|--|--|
|              | <ul style="list-style-type: none"> <li>• Conservation Act 1999</li> <li>• Fuel Quality Standards Act 2000</li> <li>• National Environment Protection Council Act 1994</li> <li>• National Environment Protection (Air Toxics) Measure 2004</li> <li>• National Environment Protection (Ambient Air Quality) Measure as varied July 2003</li> <li>• National Environment Protection (National Pollutant Inventory) Measure as varied June 2000</li> <li>• Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</li> <li>• Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Act 1995</li> </ul> | <ul style="list-style-type: none"> <li>• Act 1995 (Vic)</li> <li>• State Environment Protection Policy (Ambient Air Quality) 1999</li> <li>• State Environment Protection Policy (Air Quality Management) 2001</li> </ul>  | <ul style="list-style-type: none"> <li>• January 2002</li> <li>• Managing Emissions of Volatile Organic Compounds (EPA Victoria) November 2003</li> <li>• Protecting Victoria's Air Quality (EPA Victoria) February 2002</li> <li>• Victorian Greenhouse Strategy (NRE) 2002</li> </ul>  |
| <b>Water</b> | <ul style="list-style-type: none"> <li>• Airports Act 1996</li> <li>• Airports (Environment Protection Regulations) 1997</li> <li>• National Environment Protection (National Pollutant Inventory) Measure as varied June 2000</li> </ul>   | <ul style="list-style-type: none"> <li>• Environment Protection Act 1970</li> <li>• Industrial Waste Management Policy (National Pollutant Inventory) 1998</li> <li>• State Environment Protection Policy (Waters of Victoria) 1988</li> <li>• Variation to the State Environment Protection Policy (Waters of Victoria) inscription of Schedule F6, Waters of Port Phillip Bay 1997</li> <li>• Variation to the State Environment Protection Policy (Waters of Victoria) – insertion of Schedule F7, Waters of the</li> </ul> | <ul style="list-style-type: none"> <li>• Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Environment Australia) May 2000</li> <li>• Septic Tanks Code of Practice - Guidelines for Environmental Management (EPA Victoria) March 2003</li> <li>• Disinfection of Treated Wastewater – Guidelines for Environmental Management (EPA Victoria) September 2002.</li> <li>• A Guide to the sampling and analysis of waters, wastewaters, soils and wastes</li> </ul> |

Environmental Legislation/Regulations & Guidelines/Standards 2005 Update

| Issue                     | Commonwealth Legislation & Regulations  | State Legislation & Regulations   | Guidelines/Standards  |
|---------------------------|---|---|---|
| <b>Soil Contamination</b> | <ul style="list-style-type: none"> <li>• Airports Act 1996</li> <li>• Airports (Environment Protection) Regulations) 1997</li> <li>• National Environment Protection (Assessment of Site Contamination) Measure 1999</li> <li>• National Environment Protection (National Pollutant Inventory) Measure as varied June 2000</li> </ul> | <p>Yarra Catchment 1999</p> <ul style="list-style-type: none"> <li>• State Environment Protection Policy (Groundwaters of Victoria) 1998</li> <li>• Trade Waste Regulations 1994 No 141 – By-Law No 332.</li> <li>• Water Act 1989</li> </ul> <ul style="list-style-type: none"> <li>• Catchment and Land Protection Act 1994</li> <li>• Conservation, Forest and Lands Act 1987</li> <li>• Industrial Waste Management Policy (National Pollutant Inventory) 1998</li> <li>• State Environment Protection Policy (Prevention and Management of Contaminated Land) June 2002</li> </ul> | <p>(EPA Victoria) March 2000</p> <ul style="list-style-type: none"> <li>• Groundwater Sampling Guidelines (EPA Victoria) April 2000</li> <li>• Melbourne Airport Operational Safety Policy: Spill Prevention and Response, March 1999</li> <li>• Use of Reclaimed Water – Guidelines for Environmental Management (EPA Victoria) November 2003</li> </ul> <ul style="list-style-type: none"> <li>• Guidelines for the Assessment and Management of Contaminated Sites (ANZECC) 1997.</li> <li>• Environmental Auditor (Contaminated Land) - Guidelines for Issue of Certificates and Statements of Environmental Audit (EPA Victoria) October 2002</li> <li>• A Guide to the sampling and analysis of waters, wastewaters, soils and waste (EPA Victoria) March 2000</li> </ul> |
| <b>Soil Erosion</b>       |   | <ul style="list-style-type: none"> <li>• Catchment and Land Management Act 1994</li> <li>• Conservation, Forests and Lands Act 1987</li> </ul>  | <ul style="list-style-type: none"> <li>• Construction Techniques for Sediment Pollution Control (EPA Victoria) May 1991</li> <li>• Environmental Guidelines for Major Construction Sites (EPA Victoria) February 1996</li> <li>• Control of Erosion on Construction Sites (Soil Conservation Authority) 1981</li> </ul>   |

Environmental Legislation/Regulations & Guidelines/Standards 2005 Update

| Issue                         | Commonwealth Legislation & Regulations   | State Legislation & Regulations  | Guidelines/Standards  |
|-------------------------------|--|--|---|
| <p><b>Dangerous Goods</b></p> | <ul style="list-style-type: none"> <li>• Civil Aviation Regulations 1988</li> </ul>  | <ul style="list-style-type: none"> <li>• Dangerous Goods Act 1985</li> <li>• Dangerous Goods (Storage and Handling) Regulations 2000</li> <li>• Occupational Health and Safety Act 2004</li> <li>• Occupational Health and Safety (Asbestos) Regulations 2003</li> <li>• Occupational Health and Safety (Hazardous Substances) Regulations 1999</li> </ul> | <ul style="list-style-type: none"> <li>• Australian Code for the Transport of Dangerous Goods by Road and Rail (6<sup>th</sup> Edition) 1998</li> <li>• Bunding Guidelines (EPA Victoria) December 1992</li> <li>• Code of Practice for Pipeline, Road Tanker Compartment and Underground Tank Identification (AIP) July 2003</li> <li>• Code of Practice for Selective Couplings for Road Tankers Dedicated to Aviation Fuel (AIP) July 2003</li> <li>• Code of Practice for the Operation and Maintenance of Aviation Fuelling Vehicles (AIP) 2000</li> <li>• Code of Practice for the Design, Installation and Operation of Underground Petroleum Storage Systems (AIP) 2007.</li> <li>• Code of Practice for the Removal and Disposal of Underground Petroleum Storage Tanks (AIP) 1994</li> <li>• Guidelines on the Design, Installation and Management Requirements for Underground Petroleum Storage Systems (EPA Victoria) March 2003</li> <li>• AS 1940 Storage and Handling of Flammable and Combustible Materials 2004</li> <li>• Guidelines for the Management of PCBs</li> </ul> |
| <p><b>Waste</b></p>           | <ul style="list-style-type: none"> <li>• National Environment Protection (Used Packaging Materials) Measure as varied</li> </ul> | <ul style="list-style-type: none"> <li>• Environment Protection Act 1970</li> </ul>  |   |

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Environmental Legislation/Regulations & Guidelines/Standards 2005 Update

| Issue   | Commonwealth Legislation & Regulations   | State Legislation & Regulations  | Guidelines/Standards  |
|---|--|--|---|
|   | <ul style="list-style-type: none"> <li>• July 2004</li> <li>• National Environment Protection (Movement of Controlled Waste between States and Territories) Measure as varied December 2004</li> <li>• Airports (Environment Protection) Regulations 1997</li> </ul> | <ul style="list-style-type: none"> <li>• Environment Protection (Resource Efficiency) Act 2002</li> <li>• Environment Protection (Prescribed Wastes) Regulations 1998</li> <li>• Industrial Waste Management Policy (National Pollutant Inventory) 1998</li> <li>• Industrial Waste Management Policy (Prescribed Industrial Waste) 2000</li> <li>• Industrial Waste Management Policy (Movement of Controlled Waste between States and Territories) 2001</li> <li>• Occupational Health and Safety (Asbestos) Regulations 2003</li> <li>• Occupational Health and Safety (Major Hazard Facilities) Regulations 2000</li> <li>• State Environment Protection Policy (Used Packaging Materials) 2000</li> <li>• Trade Waste Regulations 1994 No 141 By-Law No 332.</li> <li>• Water Act 1989</li> </ul> | <ul style="list-style-type: none"> <li>• (LPA Victoria) December 2001</li> <li>• The Transport and Disposal of Waste Asbestos (FPA Victoria) November 2004</li> <li>• Classification for Contaminated Soil – Industrial Waste Management Policy (Prescribed Industrial Waste) (FPA Victoria) October 2002</li> <li>• Polychlorinated Biphenyls Management Plan (ANZ/ECC) April 2003.</li> </ul> |
| <p><b>Flora, Fauna and Ecological Significant Areas</b></p> | <ul style="list-style-type: none"> <li>• Airports Act 1996</li> <li>• Airports (Environment Protection) Regulations 1997</li> <li>• Australian Heritage Council Act 2003</li> <li>• Environment Protection and Biodiversity Conservation Act 1999</li> </ul>         | <ul style="list-style-type: none"> <li>• Catchment and Land Protection Act 1994</li> <li>• Flora and Fauna Guarantee Act 1988</li> <li>• Flora and Fauna Guarantee Regulations 2001</li> <li>• Wildlife Act 1975</li> <li>• Wildlife Regulations 2002</li> </ul>   | <ul style="list-style-type: none"> <li>• Victoria's Biodiversity Strategy (NRE) 1998</li> <li>• Victoria's Native Vegetation Management – A Framework for Action (NRE) 2002</li> </ul>  |

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Environmental Legislation/Regulations & Guidelines/Standards 2005 Update

| Issue                                   | Commonwealth Legislation & Regulations   | State Legislation & Regulations   | Guidelines/Standards   |
|---|--|---|--|
| <b>Land Management</b>                  | <ul style="list-style-type: none"> <li>• Environment Protection and Biodiversity Conservation Regulations 2000</li> <li>• Environment Protection and Biodiversity Conservation Act 1999</li> <li>• Environment Protection and Biodiversity Conservation Regulations 2000</li> </ul>  | <ul style="list-style-type: none"> <li>• Catchment and Land Protection Act 1994</li> <li>• Waste Management Policy (Siting, Design and Management of Landfills) 2004</li> </ul>   |  |
| <b>Aboriginal and European Heritage</b> | <ul style="list-style-type: none"> <li>• Aboriginal and Torres Strait Islander Heritage Protection Act 1984</li> <li>• Airports Act 1996</li> <li>• Airports (Environment Protection) Regulations 1997</li> <li>• Australian Heritage Council Act 2003</li> <li>• Native Title Act 1993</li> <li>• Protection of Movable Cultural Heritage Act 1996</li> </ul> | <ul style="list-style-type: none"> <li>• Archaeological and Aboriginal Relics Preservation Act 1973</li> <li>• Archaeological and Aboriginal Relics Preservation Regulations 2003</li> <li>• Heritage Act 1995</li> <li>• Heritage (General) Regulations 1996</li> <li>• Land Titles Validation Act 1994</li> </ul> |  |
| <b>Airport Development</b>              | <ul style="list-style-type: none"> <li>• Airports Act 1986</li> <li>• Airports (Building Control) Regulations 1996</li> <li>• Environment Protection and Biodiversity Conservation Act 1999</li> <li>• Environment Protection and Biodiversity Conservation Regulations 2000</li> </ul>  |   | <ul style="list-style-type: none"> <li>• Environmental Guidelines for Major Construction Sites (EPA Victoria) February 1996</li> </ul> |

Appendix 5 Phase 1 environmental site assessment

**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SITE INSPECTION CHECKLIST**

|                           |  |
|---------------------------|--|
| <b>Name of site</b>       | Proposed Retail Precinct<br>Melbourne Airport                                      |
| <b>Location</b>           | Area of land between Tullamarine Freeway<br>and Melrose Drive<br>Melbourne Airport |
| <b>Date of Assessment</b> | 3 December 2002  |
| <b>Name of Assessors</b>  | Jeanette Tasevski & Bryan Perry  |

| <b>Site Inspection Item</b>  | <b>Findings</b>  |
|--|--|
| 1. Known past property uses<br><i>List past known property uses.</i>   | Aerial photographs indicate past uses of the area were grazing pasture and farm-related buildings and structures.  |
| 2. Current property uses<br><i>List all current property uses.</i>   | Used for grazing of cattle and pasture improvement   |
| 3. Hazardous Materials<br><i>Compile an inventory of hazardous materials on site including wastes.</i>   | Asbestos cement sheet pieces found on site which may be the remains of an old farm shed.   |
| 4. Unidentified Substances<br><i>Compile an inventory of all unidentified substances on site.</i>  | No unidentified substances present.  |
| 5. Storage Tanks<br><i>Compile an inventory of all above and below ground storage tanks including size and age.</i>  | Near the southern boundary of the site a vent was discovered. Vent pipe may be associated with a disused UST or sewage pipe. Requires further investigation. |
| 6. Storage Containers<br><i>Document presence, condition and where possible, contents of all storage containers.</i>   | A few empty 10-15 litre drums on site, however, there was no evidence of contamination.  |
| 7. Odours<br><i>Identify and describe all pungent odours including possible source.</i>  | No pungent odours detected   |
| 8. Potable Water Supply<br><i>Identify and describe all sources of potable water.</i>  | No potable water sources.  |
| 9. Heating and Cooling Systems<br><i>Identify and describe heating and cooling systems including fuel source and method to release waste substances.</i>     | No heating or cooling systems.   |
| 10. Stains<br><i>Identify and describe all stains within buildings along with possible source. The proximity of drains and watercourses should be noted.</i> | No visible staining.   |
| 11. Drains and Sumps<br><i>Document the location and condition of all floor drains and sumps.</i>  | Open drains evident on site that lead to farm dams. All dams with the exception of one were dry.   |

| <b>Site Inspection Item</b>   | <b>Findings</b>   |
|---|---|
| <p>12. Observations of Adjoining<br/><i>Describe relevant features of adjoining properties and buildings.</i></p>   | <p>Surrounded by Long Term car park to the north, Airport Motel to the south, Tullamarine Freeway to the east and Melrose Drive to the west.</p>  |
| <p>13. Topographic, geologic and hydrogeologic conditions<br/><i>Observe and note topographic, geologic and hydrogeologic features.</i></p> <p>14. Structures<br/><i>Observe and describe structures or other improvements on the property.</i></p> | <p>Flat topography<br/>Silty clays overlying basalt</p> <p>Structures observed on site include:</p> <ul style="list-style-type: none"> <li>▪ Switch yard – no evidence of contamination</li> <li>▪ Brick building 73 and 74 (APAM) containing old car park booths and inert waste.</li> </ul> |
| <p>15. Wells<br/><i>Identify and describe existing and abandoned wells.</i></p>   | <p>None</p>   |
| <p>16. Sewage disposal<br/><i>Identify and describe method of sewage and/or trade waste disposal.</i></p>   | <p>Not applicable</p>   |
| <p>17. Pits and Lagoons<br/><i>Identify and describe artificial pits and lagoons.</i></p>   | <p>A number of dry farm dams observed on site. One large dam contains water.</p>  |
| <p>18. Stained Materials<br/><i>Identify and describe stained materials (e.g. soil, asphalt).</i></p>   | <p>None.</p>  |
| <p>19. Stressed Vegetation<br/><i>Identify and describe location and extent of stressed vegetation.</i></p>   | <p>Not observed, pasture improvement program implemented in the past hence evidence of sown grass.</p>  |
| <p>20. Fill<br/><i>Identify and describe areas that appear to be filled of material from unknown origin.</i></p>  | <p>Evidence of imported fill in some locations however, there was no evidence of contamination.</p>   |
| <p>21. Wastewater<br/><i>Identify and describe wastewater or other liquid discharge points.</i></p>   | <p>Not observed</p>   |
| <p>22. Watercourses, Ditches or Standing Water<br/><i>Identify and describe surface water features of the property.</i></p>   | <p>A number of dry farm dams observed on site. One large dam contains water.</p>  |
| <p>23. Roads, Parking Facilities and Rights of Way<br/><i>Identify roads, streets, parking facilities or rights of way through the property.</i></p>  | <p>Evidence of old road constructed of crushed rock on site. Roads leading into switchyard and brick buildings 73 and 74.</p>   |
| <p>24. Other observations</p>   | <p>Some areas contain inert waste<br/>Groundwater bore on site</p>  |

### **Discussion**

The area audited is mostly undeveloped land with a switchyard and two brick buildings (73 & 74) located at the southern end of the site.

There was some general inert rubbish observed on site however there was no evidence of contamination.

There were two areas observed on site that contained the remains of asbestos cement sheet walls. This material will need to be removed by an approved waste disposal company and disposed to an appropriately licensed facility before the commencement of construction on site.

Imported fill was evident in some areas however, there was no evidence of soil contamination.

A groundwater well was observed on site and issues associated with removal or ongoing monitoring will need to be addressed before construction commences on site.

At the southern end of the site a vent was observed however, it could not be determined whether the vent was associated with an underground storage tank. This will need to be investigated before construction commences on site.

### **Recommendations**

- As past history of the site indicate that area was used for farming purposes and current uses extend to the switchyard and brick buildings /3 and /4 used for storage, no soil contamination is suspected. No further soil testing is recommended.
- Further investigation into the vent pipe observed on site is required.
- Asbestos cement sheet observed on site should be removed before the commencement of construction
- Ongoing management and/or removal of the groundwater monitoring bore should be further investigated.



**MELBOURNE AIRPORT**  
**PHASE 1 SITE ASSESSMENT - SITE INSPECTION**

**Name of site:** Proposed Retail Development  
**Location:** Melrose Drive  
**Date of assessment:** 18 August 2006  
**Name(s) of assessor(s):** Sally White and Bryan Perry

| <b>Site Inspection Item</b>  | <b>Findings</b>   |
|--|---|
| 1. Known past property uses<br><i>List past known property uses.</i>   | Aerial photographs indicate past uses of the area were grazing pasture and farm-related buildings and structures.   |
| 2. Current property uses<br><i>List all current property uses</i>  | Used for grazing of cattle and pasture improvement  |
| 3. Hazardous materials<br><i>Compile an inventory of hazardous materials on site including wastes.</i>   | N/A   |
| 4. Unidentified substances<br><i>Compile an inventory of all unidentified substances on site.</i>  | N/A   |
| 5. Storage tanks<br><i>Compile an inventory of all above and below ground storage tanks including size and age.</i>  | N/A   |
| 6. Storage containers<br><i>Document presence, condition and where possible, contents of all storage containers.</i>   | N/A   |
| 7. Odours<br><i>Identify and describe all pungent odours including possible source</i>   | No odours detected on site.   |
| 8. Potable water supply<br><i>Identify and describe all sources of potable water</i>   | No potable water sources.   |
| 9. Heating and cooling systems<br><i>Identify and describe heating and cooling systems including fuel source and method to release waste substances.</i>     | N/A   |
| 10. Stains<br><i>Identify and describe all stains within buildings along with possible source. The proximity of drains and watercourses should be noted.</i> | No visible stains detected on site  |
| 11. Drains and sumps<br><i>Document the location and condition of all floor drains and sumps.</i>  | Evidence of open unlined drainage on site.  |
| 12. Observations of adjoining<br><i>Describe relevant features of adjoining properties and buildings.</i>  | Mercer Drive is located to the north.<br>Tullamarine Freeway is situated to the east.<br>Qantas Joey Club Child Care Centre is located to the south.<br>Melrose Drive is located to the west.           |
| 13. Topographic, geologic and hydrogeologic conditions<br><i>Observe and note topographic, geologic and hydrogeologic features.</i>                          | Flat topography.<br>Silty clays overlying basalt.   |
| 14. Structures<br><i>Observe and describe structures or other improvements on the property.</i>  | Structures observed on the site include a substation – with no evidence of staining around the facility.<br>A groundwater monitoring bore belonging to the Department of Sustainability and Environment |

|  |   |
|--|---|
|  | was also identified near the northern boundary of the site.                                     |
| 15. Wells<br><i>Identify and describe existing and abandoned wells.</i>  | None  |
| 16. Sewage disposal<br><i>Identify and describe method of sewage and/or trade waste disposal.</i>  | N/A   |
| 17. Pits and lagoons<br><i>Identify and describe artificial pits and lagoons</i>   | No pits or lagoons were identified on the site.   |
| 18. Stained materials<br><i>Identify and describe stained materials (e.g. soil, asphalt)</i>   | None  |
| 19. Stressed vegetation<br><i>Identify and describe location and extent of stressed vegetation.</i>  | Pasture improvements program undertaken in the past hence evidence of sown grass.               |
| 20. Fill<br><i>Identify and describe areas that appear to be filled of material from unknown origin.</i>                                     | No evidence of imported fill.   |
| 21. Wastewater<br><i>Identify and describe wastewater or other liquid discharge points.</i>  | Not observed.   |
| 22. Watercourses, Ditched or Standing Water<br><i>Identify and describe surface water features of the property.</i>                          | No evidence of standing water on the site.  |
| 23. Roads, parking facilities and rights of way<br><i>Identify roads, streets, parking facilities or rights of way through the property.</i> | Gravel road to the west of the site and gravel entry road at the north east corner of the site. |

### Discussion

The area audited is undeveloped land which had previously been used for grazing. Evidence of pasture improvement work was evident on site.

Waste materials such as asbestos cement sheet walls detected during the Phase 1 Assessment in 2002 have since been removed from the site.

There was no evidence of imported fill on the site and no evidence possible soil contamination detected.

A groundwater well was observed on site which is the property of the Department of Sustainability and Environment. This well must be protected during future construction works.

A small portion of the site near the Tullamarine Freeway features some planted Eucalypt and grassland species.

### Recommendations

- Past history of the site indicates that the area was used for farming purposes and current uses, no soil contamination is suspected. However, as a precaution, soil testing prior to construction of the retail development is recommended.
- The site does feature a small amount of native vegetation adjacent to the Tullamarine Freeway. It is recommended that this vegetation is incorporated into future development.
- A groundwater monitoring bore which is the property of the Department of Sustainability and Environment must be retained during construction.

**Appendix 6** Cultural heritage report by Dr. Vincent Clark and Associates

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**Archaeological Sub-surface  
Investigations at Aboriginal  
Sites AAV7822/1333 and 1447**

**Report to Australia Pacific Airports  
(Melbourne) Pty. Ltd.**

**JUNE 2006**

**Vincent Clark**

**drvincentclark & associates**  
archaeology and cultural heritage

**1<sup>st</sup> Floor, 98 Fletcher Street, Essendon, Victoria 3040  
207 Ashbourne Road, Woodend, Victoria 3442**

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Sub-surface archaeological investigation of sites  
AAV7822-1333 and 1447, Melbourne Airport

## Executive Summary

Dr. Vincent Clark & Associates Pty Ltd undertook this study for Australia Pacific Airports (Melbourne) Pty Ltd (hereafter Melbourne Airport). The aim of the study was to provide further information about two Aboriginal cultural heritage sites that had been recorded during earlier field surveys of areas of land owned by Melbourne Airport (Clark et al 2002; Clark et al 2003).

Site AAV7822 – 0133 was identified during a field survey of southern and eastern sections of land owned by Melbourne Airport (Clark 2002). It is located to the north of Annandale Road, close to the edge of the escarpment of the Maribyrnong River valley and close to the western boundary of the airport land (see Figures 1 and 2). It was recorded as a surface scatter of stone artefacts. The area around the site was identified as being likely to contain sub-surface indigenous archaeological deposits.

Site AAV7822 – 1447 was identified as a surface scatter of stone artefacts during a field survey of land lying between Melrose Drive and the Tullamarine Freeway, to the southeast of the Melbourne Airport terminal precinct (Clark et al 2003).

Recommendations arising from both field surveys were that the sites should be further investigated if any development was to be proposed in their immediate vicinity. This further investigation was to be by means of sub-surface testing, to determine their nature and extent and to enable appropriate management strategies to be implemented. As a result of these recommendations, Melbourne Airport requested the consultant to undertake sub-surface testing of both sites. This report details this further investigation and its results.

The consultant has discussed the project with the Wurundjeri Tribe Land Compensation and Cultural Heritage Council Incorporated and obtained consent from them to undertake the further investigation. The consultant also obtained an excavation permit (Form C) from Aboriginal Affairs Victoria (Attachments 1 and 2).

The sub-surface testing was undertaken on 29 and 30 March 2006 by Vincent Clark and Sarah Collins (the consultants) and Shane Nicholson (a representative of the Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc.).

A total of 23 test holes were dug at site AAV7822 – 1333 and 25 test holes were dug at site AAV7822-1447. At both sites the ground was found to have been disturbed previously by ploughing and by other activities in the post-contact period. At site AAV7822/1333, a total of 95 artefacts were found,



Sub-surface archaeological investigation of sites  
AAV7822-1333 and 1447, Melbourne Airport

artefacts being identified in 14 of the 23 test holes excavated. No cultural heritage material was identified at site AAV7822/1447.

This report finds that:

- Site AAV7822 - 1333 is an extensive artefact scatter that potentially contains 1000s of artefacts; and
- Site AAV7822 - 1447 is a small, localised, surface artefact scatter and there do not appear to be any significant sub-surface cultural deposits.

All Aboriginal cultural heritage sites in Victoria, whether previously recorded or as yet unrecorded, have legislative protection under Victorian and/ or Commonwealth legislation. Details are provided in Appendix 1 of this report. Permission to disturb a site is required from the relevant Aboriginal community, as identified in the Schedule to the *Aboriginal and Torres Strait Islander Heritage Protection Act* 1984, in this case the Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc. Consent to disturb both sites during construction work has been sought and this has been granted by the Wurundjeri, conditional upon a number of requirements that are set out in the Consent document for each site (see Attachment 3). Site construction works were completed on 11 March 2003.

### **Recommendations**

#### ***Site AAV7822 – 1333***

##### Protection of Aboriginal Cultural Heritage

1. Damage to all Aboriginal cultural heritage sites should be avoided if possible. It is recommended that this site be incorporated into a buffer zone along the western boundary of the subject land in order to protect and preserve aboriginal cultural heritage in this area. This zone should extend at least 50m eastwards from the western boundary fence.

##### Requirement to Obtain Permission to Disturb Aboriginal Sites

2. If it is proposed to disturb the site, written permission will be required in advance from the Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc. Melbourne Airport should consult with the Wurundjeri at least three months prior to any proposed disturbance, to allow the Wurundjeri to determine appropriate conditions that would be included in any consent to disturb or destroy sites.

##### Further Investigation of the Site if it is to be Disturbed

3. Prior to any proposed disturbance of the site, further archaeological investigations, in the form of test pit excavations, should be undertaken at the northern end of the site in the vicinity of test pits 11,

Sub-surface archaeological investigation of sites  
AAV7822-1333 and 1447, Melbourne Airport

13, 15, 16, 22 and 23 and in the vicinity of pit 5. The purpose of this would be to further elucidate the nature of the site by the controlled excavation of a larger sample of data.

Artefacts recovered during Sub-surface Testing

4. Artefacts collected from the site during the sub-surface testing should be placed in a durable and secure container and relocated to a secure place in the vicinity of the site. The location of these artefacts should be noted and advised to Aboriginal Affairs Victoria.

**Site AAV7822 – 1447**

Protection of Aboriginal Cultural Heritage

5. Damage to this site should be avoided if possible. If this can be achieved then the area of the site should be stabilised to prevent further erosion or damage to it.

Requirement to Obtain Permission to Disturb Aboriginal Sites

6. If it is proposed to disturb the site, written permission will be required in advance from the Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc. Melbourne Airport should consult with the Wurundjeri at least three months prior to any proposed disturbance, to allow the Wurundjeri to determine appropriate conditions that would be included in any consent to disturb or destroy sites.

Further Investigation of the Site if it is to be Disturbed

7. Prior to any proposed disturbance of the site, artefacts should be recovered from it. This would require the collection of artefacts visible on the surface and digging by shovel and sleving of the surrounding soil in an area of approximately 1 - 2m around the artefact deposit. This should be undertaken by an archaeologist and a representative of the Wurundjeri. Any artefacts recovered should be relocated to a place agreed to between the Wurundjeri and Melbourne Airport. Permission to disturb this site must be obtained from the Wurundjeri.

Appendix 7 Copies of reports cited in section 8.2.3



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*check site register.*

27/12/02

Ms Jeanette Tasevski  
Environment Manager  
Melbourne Airport  
Locked Bag 16  
Gladstone Park VIC 3043

Dear Ms Tasevski,

**re : Area to be assessed for significant flora at  
Melbourne Airport (between Tullamarine Freeway  
and Melrose Drive)**

The site almost entirely comprises previously cultivated or otherwise highly disturbed land dominated by introduced species, primarily in the form of Cocksfoot and Rye-grass pasture. A very small area (less than 0.05 ha) near the south-eastern corner supports vegetation dominated by a small range of indigenous wetland species - these appear to have colonised this area as a consequence of locally impeded drainage resulting from the construction of Melrose Drive.

A total of 16 indigenous species were observed within the subject land, mostly as incidental specimens scattered within the overwhelmingly introduced vegetation. A small range of native species have also colonised the verges of the main dam. None of the species recorded on-site are considered significant at the State or National level, or listed under any relevant threatened species legislation. While Plains Grassy Wetland is considered a significant habitat, the small wetland in the south-eastern corner of the subject land appears adventive, and lacks the range of associated herbaceous species of more intact remnants.

Due to the obvious impacts of prior landuse and consequent character of the vegetation, it is not considered that there is any need for any future assessment of the vegetation in relation to indigenous flora values. A list of indigenous species recorded within the subject area is attached.

Yours faithfully,

Douglas Frood

A handwritten signature in cursive script that reads "Douglas Frood".

Principal, Pathways Bushland and Environment

6

**AIRPORT LAND BETWEEN TULLAMARINE FREEWAY AND MELROSE DRIVE, 13/12/02**

16 indigenous vascular plant species were recorded, as follows.

**Indigenous Species**

|   |                            |
|---|----------------------------|
| <i>Agrostis avenacea</i> var. <i>avenacea</i>   | Common Blown-grass         |
| <i>Amphibromus nervosus</i>                     | Common Swamp Wallaby-grass |
| <i>Atriplex semibaccata</i>                     | Berry Saltbush             |
| <i>Austrodanthonia fulva</i>                    | Copper-awned Wallaby-grass |
| <i>Austrodanthonia duttoniana</i>               | Brown-back Wallaby-grass   |
| <i>Austrodanthonia carphoides</i>               | Short Wallaby-grass        |
| <i>Austrodanthonia racemosa</i>                 | Stiped Wallaby-grass       |
| <i>Austrodanthonia setacea</i>                  | Bristly Wallaby-grass      |
| <i>Chloris truncata</i>                         | Windmill Grass             |
| <i>Eleocharis acuta</i>                         | Common Spike-sedge         |
| <i>Enchylaena tomentosa</i>                     | Ruby Saltbush              |
| <i>Juncus flavidus</i>                          | Yellow Rush                |
| <i>Lythrum hyssopifolia</i>                     | Small Loosestrife          |
| <i>Portulaca oleracea</i>                       | Common Purslane            |
| <i>Pseudognaphalium luteoalbum</i>              | Jersey Cudweed             |
| <i>Sclerolaena muricata</i> var. <i>villosa</i> | Grey Roly-poly             |



# WILDLIFE PROFILES P/L

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e-mail: wildlife.profiles@bigpond.com

4 September, 2002

Ms Jeanette Pagliaro  
Environment Manager  
Melbourne Airport  
Locked Bag 10  
Gladstone Park VIC 3043

Dear Ms Pagliaro,

re: Proposed new works areas – Melbourne Airport.  
Habitat considerations.

Thank you for the opportunity to undertake the field inspection of the three potential development sites with Brian Perry, Sally White and yourself on Tuesday, 3<sup>rd</sup> August.

The first site examined was during the installation of a power pole in potential Striped Legless Lizard habitat south of Link Road, according to provisions of permit number E2002-31448 issued under Regulation 17 of the *Environment Protection and Biodiversity Conservation Regulations 2000*. No legless lizards were detected during this procedure, and habitat disturbance was minimal.

The second site examined is adjacent to the Airline Maintenance Area, proposed to be developed as part of Australia Post facilities. That part of the site west of the access road supports mown degraded native grassland of Wollaby grasses, with numerous soil crevices and invertebrate burrows. As such it constitutes potential habitat for the threatened Grassland Earless Dragon (*Tympanocryptis pinguicolla*). I would advise that targeted survey be undertaken for this species, by endoscopic inspection of potential shelter sites. One day should be adequate for this work.

The area of this site east of the access road is highly disturbed grassland dominated by exotic grasses and weeds. As such it is unlikely to comprise habitat for either the Striped Legless Lizard or the Grassland Earless Dragon, and survey work should not be necessary. However, as there is some surface rock present, I would advise that a quick inspection be undertaken at the same time as that in the western portion of the site.

The third site between Melrose Drive and the Tullamarine Freeway, comprises highly disturbed grassland of introduced species, which shows evidence of cultivation and pasture 'improvement'. As such, it would be unsuitable habitat for either the Striped Legless Lizard or the Grassland Earless Dragon, and no further survey works should be required in this area.

I hope these comments are useful. Please contact me should you require clarification of any points or further information.

Yours sincerely,



Peter Robertson  
Principal, Wildlife Profiles

Wildlife Profiles Pty. Ltd. A.B.N. 30 061 119 219

## Threatened Species Assessment Update - Proposed Retail Development

### ***Location:***

The location of the proposed retail development is shown on the plan in Appendix 2. The plot stretches from the eastern side of Mercer Drive to a north-south line approximately 300 metres eastwards and is approximately 500 metres from the Tullamarine Freeway in the north to Melrose Drive in the south.

### ***Previous Inspections***

The area has been included within the following previous assessments by external consultants

#### August 2002

Assessed by Peter Robertson of Wildlife Profiles in company with Melbourne Airport Environment Section personnel and the AEO. Mr Robertson considered that the Striped Legless Lizard and the Grassland Barless Dragon were the threatened species that the area should be assessed for, and subsequently reported (see Appendix 7) that "The third site between Melrose Drive and the Tullamarine Freeway, comprises highly disturbed grassland of introduced species, which shows evidence of cultivation and pasture improvement. As such, it would be unsuitable habitat for either the Striped Legless Lizard or the Grassland Barless Dragon, and no further survey works should be required in this area."

#### December 2002

Assessed by Douglas Flood of Pathways Bushland and Environment. Mr Flood subsequently reported (see Appendix 7) that "A total of 16 indigenous species were observed within the subject land, mostly as incidental specimens scattered within the overwhelmingly introduced vegetation." and "None of the species recorded on-site are considered significant at the State or National level, or listed under any relevant threatened species legislation."

#### September 2004

This covered a further assessment by Peter Robertson of Wild Life Profiles to assess the likelihood of the threatened Warty Swamp Frog *Litoria raniformis* being at a small dam in the area of the then proposed Mercer Drive. Although common frogs of various types were identified, no Warty Swamp Frogs were seen and Mr Robertson subsequently reported that it was extremely unlikely that any would be present. The dam was filled in during the Mercer Drive construction works.

#### Observations on 18 August 2006

The area was inspected by Airport Environment Manager Sally White and Airport Environment Officer, Bryan Perry. A primary objective was to determine if there had been any significant changes to the vegetation as described in the reports identified above that might require re-assessment by an external consultant.

The whole area was predominantly flat and uniformly vegetated with introduced non-indigenous species predominating. Growth was green and healthy to a height of approximately 500 mm and the soil surface was not easily visible over most of the area. Occasional examples of indigenous grasses were observed, confirming the findings of the Pathways report of December 2002. There were occasional examples of the introduced scarlet tussock, but in general, there were few tussocked plants of any type.

In the extreme north-west of the area was a small area approximately 50 metres by 20 metres of indigenous and introduced trees and bushes, with grass under-storey, including some indigenous grasses. The AEO understands that Melbourne Airport will preserve this area because of its policy for retaining trees wherever possible. This area was included in the area assessed in the previous reports identified above.

Since the above assessments, the main change had been the construction of the new Mercer Drive through the western section of the assessed area. However, the subject area west of Mercer Drive appeared generally unchanged in all respects, including vegetation types.

***Threatened Species Listings - Update:***

The following threatened species information was examined:

**EPBC Act**

From examination of the current listings in the EPBC section of the Department of Environment and Heritage web-site, it was determined that none of the 16 indigenous plant species identified in the December 2002 Pathways report have been since listed as threatened under the EPBC Act.

Also in the web site, a Protected Matters Report was generated for a localized area which included the entire airport site. The Plains Rice-flower *Pimelea spinescens subsp. spinescens* was included in the Protected Matters report, and was added to the lists in May 2003. However, the subject area did not include the grassland or open shrubland habitat and the plant is slow-growing and long-lived and any specimens would therefore have been most likely to have been identified as present indigenous species in the Pathways report of December 2002.

White Box Yellow Box Blakely's Red Gum Grassy Woodlands and derived Native Grassland was added to the list of threatened ecological communities in May 2006. However, by examination of the EPBC Act Policy Statement booklet on this community, it was deduced from the criteria that there was no such community on the subject area, for instance there was no area where the under-storey is predominantly native.

In addition, no fauna species likely to occur in the area had been added to the lists since the most recent Wild Life Profiles visit and report in September 2004.

**Flora and Fauna Guarantee Act 1988 (FFG) Threatened List**

The July 2006 version of the FFG Threatened List was examined and it was determined that none of the 16 indigenous plant species identified in the December 2002 Pathways report have been since listed as threatened under the FFG Act. Again, there are no areas which can be considered as plains grassland or plains grassy woodland.

***Conclusion***

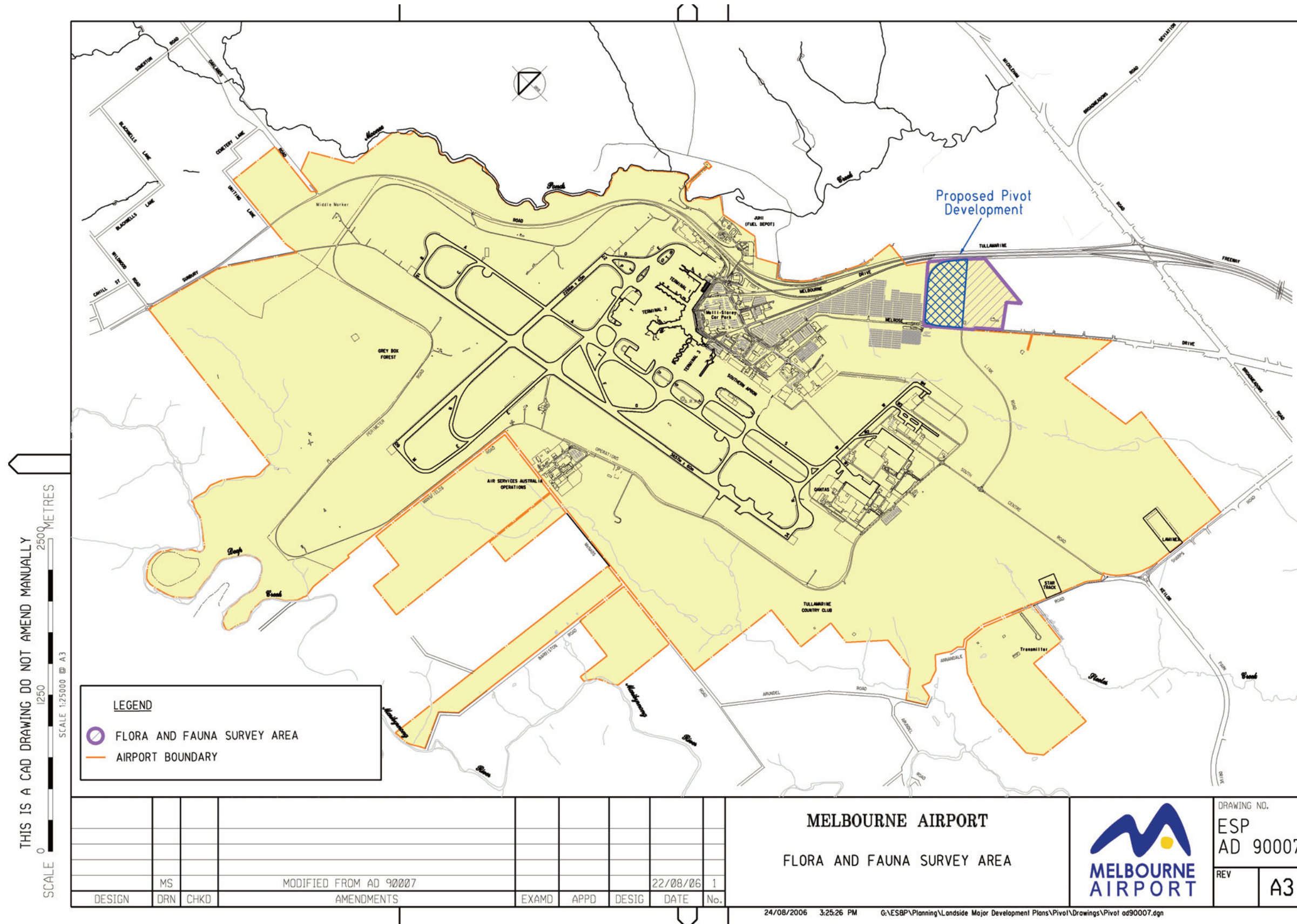
There is negligible likelihood of any listed threatened species being present in the area inspected. The three nominated reports by external consultants generated between 2002 and 2004 are still relevant.

24 August 2006

Bryan Perry

Airport Environment Officer, Melbourne





**Beverley Van Praagh (BSc Hons, PhD)**  
Invertebrate Consultant  
ABN 96817328909

Jan 31<sup>st</sup> 2007

**Attention : Sally White**  
Environment Manager  
Australia Pacific Airports (Melbourne)  
Level 2, T2 International  
Melbourne Airport

Dear Ms White,

**Re: Site assessment for Golden Sun Moth *Synemon plana* habitat at Melbourne Airport (between Tullamarine Freeway and Melrose Drive).**

The Golden Sun Moth, *Synemon plana* is a small day flying moth belonging to the family Castniidae. In Victoria, the Golden Sun Moth is listed as Threatened under the Victorian *Flora and Fauna Guarantee Act* (1988) and Critically Endangered under the Federal *EPBC Act* (1999). The species was once widespread over South-eastern Australia, its distribution closely correlated with that of native grasslands dominated by *Austrodanthonia* spp (Wallaby Grass). Agricultural expansion and urbanisation has drastically reduced the available habitat of the Golden Sun Moth and resulted in local extinctions throughout the species range. Adults are only active for a short time period each year, usually extending over 6 weeks, with exact timing reflecting weather and latitude. The flight season in and around Melbourne usually occurs between late November and early January. The non-feeding adults only live for 1-4 days, so that there is a rapid turnover of individuals during this flight period. Males fly actively in search of mates and are the only sex that can be surveyed adequately since females are semi flightless. Eggs are laid between the tillers of the *Austrodanthonia* and the soil. The larvae remain underground where they are thought to feed on the roots of several species of *Austrodanthonia*.

A field assessment of the study area was conducted on 22<sup>nd</sup> January 2007 to determine whether the site supported any potential Golden Sun Moth habitat. However, the presence or absence of the species can only be confirmed by surveying for the species during the flight season under very specific sampling conditions. This assessment occurred just outside the flight season, which apparently ended in early January (Wendy Moore pers. com. 2007). The warm, dry conditions in Spring resulted in an early start to the flight season while the cold snap in December appeared to end the season earlier than usual, shortened the season. The study area occurs within the known range of the species, with the closest populations occurring in the Mickleham, Craigieburn and Campbellfield area approximately 10 to 15 km north and north east of the site.

The study site comprises a highly disturbed and modified landscape dominated by introduced species. During the flora assessment of the site, it was found that less than 5% of the site had a 10-15% *Austrodanthonia* cover, with more than 50% of the site supporting less than 1% cover (Frood pers. com. 2007). This was apparently a significant increase over the amount recorded during surveys of the site in 2002 where *Austrodanthonia* was more incidental in the landscape (Frood pers. com. 2007). It is thought that the cessation of grazing at the site, combined with the drought has allowed the re-colonization of more opportunistic native



grasses such as *Austrodanthonia* and *Austrostipa* (Frood pers. com. 2007). Therefore the slightly increased cover of *Austrodanthonia* at the site is a recent phenomenon, occurring over the last few years. This would indicate that historically, the site would have been unlikely to have supported what has been traditionally regarded as suitable *S. plana* habitat as the site was maintained as permanent pasture. Little is known about the ability of *S. plana* to colonize new sites but given the limited dispersal of the moth (approximately 100m) this would require a source population close by. There are no known remnants of native grassland within 500m of the site (Frood, pers.com. 2007).

Previous studies have indicated that *S. plana* is associated with native grasslands where the cover of *Austrodanthonia* spp. normally exceeds 40%. However, recent *S. plana* surveys across Melbourne have suggested that the species may have less specific requirements than previously thought (Endersby and Koehler 2006) with the species recorded from habitats ranging from modified native grasslands to degraded areas supporting exotic pasture (A. Webster pers. com. 2007). The implications of these findings are not yet clear but suggest that more information is required to gain a clear understanding of the habitat requirements of this species. At present, details of the floristics and habitat structure of the new sites are unavailable (Endersby and Koehler 2006). The study site supports what is generally considered unsuitable *S. plana* habitat. It is quite degraded and supports a low density of *Austrodanthonia* and is of a much poorer quality than that observed at the Craigieburn Grasslands, which presently supports the largest known population of *S. plana* in Victoria.

Therefore, based on the current understanding of the habitat requirements of this species (grasslands characterised by an open tussock structure and the presence of *Austrodanthonia*), it seems unlikely that *S. plana* would be present at this site, given it has been maintained as permanent pasture at least since the early 1970s (S. White pers. com. 2007) and the presence of the small amount of *Austrodanthonia* is a recent response to the cessation of grazing and climatic conditions.

Yours Sincerely,

Beverley Van Praagh

**Personal Communications :**

Wendy Moore: Friends of Craigieburn Grassland,

Alan Webster: Senior Flora & Fauna Officer, Department of Sustainability & Environment Port Phillip Region,

Doug Frood: Pathways Bushland & Environment, Greensborough.

Sally White: Environment Manager Australia Pacific Airports (Melbourne)

**REFERENCE**

Endersby, I and Koehler, S. 2006. Golden Sun Moth *Synemon plana*: discovery of new populations around Melbourne. *The Victorian Naturalist* 123 (6)362-365.



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1/2/07

Ms Sally White  
Environmental Manager  
Airport Management  
Level 2 International Terminal  
Melbourne Airport  
Locked Bag 16  
Gladstone Park VIC 3043

Dear Sally

**Re: Wallaby-grasses at Melbourne Airport, site east of Melrose Drive**

Thank you for the opportunity to undertake the field inspection of the proposed development site on Thursday 25th January. The results of this inspection are provided below. Please do not hesitate to contact me should any further clarification be required.

Yours faithfully,  
Douglas Flood

**Previous Assessment of the Vegetation**

The vegetation of the site was assessed by the current writer several years previously. The former native vegetation was presumed to have comprised grassy woodland dominated by box eucalypts, but the tree component had been cleared, and the native ground-layer vegetation had been virtually totally displaced by past land-use. The relevant vegetation was dominated by introduced pasture species and the indigenous flora was effectively reduced to a sparse component of species which are capable of

recolonizing following such disturbance. The indigenous species which had managed to persist or recolonize on the site included a range of wallaby-grasses (*Austroanthonia* spp.).

#### Current Assessment of the Vegetation

The current assessment required an appraisal of the proportion of ground-cover provided by wallaby-grasses. The cover provided by native species has increased substantially in parts of the site over the several years period since the previous assessment. Of the small range of native species present, grasses (*Austroanthonia* spp., *Chloris truncata* and *Austrostipa bigeniculata*) and to a lesser extent Berry Saltbush (*Atriplex semibaccata*) are by far the most abundant. Drought conditions and cessation of grazing appear to have favoured this recolonization by the more opportunistic of the native species present. Despite this recolonization process occurring at the site, native grasses are still generally subordinate to introduced pasture grasses such as Cocksfoot (*Dactylis glomerata*) and rye-grasses (*Lolium* spp.).

#### Detection and Identification of Wallaby-grasses

The site had not recently been grazed and the associated annual grasses had withered, making detection of individual wallaby-grass tussocks relatively straight-forward. While it was later in the season than is optimal for identification of individual species of wallaby-grass, the old flowering culms of the main species are reasonably distinctive, even when lacking seeds. Of the species of *Austroanthonia* present, the most numerous and extensive was clearly *A. setacea* (Bristly Wallaby-grass), followed by *A. duttoniana* (Brown-back Wallaby-grass), with *A. caespitosa* (Common Wallaby-grass) also relatively common in small patches. Other species (e.g. *A. bipartita* [previously *A. linkii*] - Leafy Wallaby-grass and *A. eriantha* - Hill Wallaby-grass) were noted only as incidental plants. While *A. carphoides* (Short Wallaby-grass) was previously recorded during the survey of an area including the subject land, it was not observed during the current assessment. If *A. carphoides* is present within this area, it is at most an extremely minor component of the vegetation. The latter species is intolerant of closure of the vegetation and tends not to persist within denser swards.

#### Estimations of Current Cover of Wallaby-grasses

The density of wallaby-grasses varies in a patchy fashion across the site, presumably reflecting a combination of factors including effects of prior management, patterns of recolonization based around chance survival or re-establishment events, variation in soil and moisture characteristics, and recent disturbance events on the site. The local proportion of ground-cover provided by the genus was assessed visually and the site mapped into generalized zones based on average percentage cover (see map below).

These cover estimations were tested for validity in two patches of relatively higher cover (estimated wallaby-grass cover approximately 10% and 15% respectively), using counts of tussocks obtained by casting a 50 cm square wire frame within the patch (25 frames per patch). Plants were counted if at least half of the tussock base occurred within the area occupied by the cast frame. This method produced average counts of 8.6 plants / m<sup>2</sup> and 12.2 plants / m<sup>2</sup> respectively. If the average cover of plants is taken as a circle 12 cm in diameter, then one plant / m<sup>2</sup> represents a cover of ca. 1.14%, giving estimates of cover based on this sampling as 9.8% and 14.3% respectively. While the assumption of tussock size may not be perfect, it will be within a small range of the true value, suggesting the visually estimated covers were reasonably reliable for the purposes of a rapid assessment, at least at relatively higher densities of cover. Particularly considering that there will be some degree of seasonal variability in cover, it would seem that little extra information would be gained from potentially more accurate but extremely time-consuming techniques such as collection of large data sets from point quadrats along line transects through the site.

#### Summary of Wallaby-grass Cover

Wallaby-grasses provided around 10-15% ground-cover over slightly in excess of 5% of the site, approximately 5% average cover over a little under 50% of the site, and were absent to providing less than ca. 1% average cover over the residue of the area (almost 50% of the site). The wallaby-grasses species providing by far the greatest proportion of this cover were, in decreasing order of abundance, *A. setacea*, *A. duttoniana* and *A. caespitosa*.

Vegetation Map



KEY TO MAP OF VISUALLY ESTIMATED WALLABY-GRASS COVER

GREEN: Wallaby-grasses ca. 15% average cover

BLUE: Wallaby-grasses ca. 10% average cover

YELLOW: Wallaby-grasses ca. 5% average cover

UNCOLOURED: Wallaby-grasses absent to less than ca. 1% average cover

[The mapping applies only to the area within the subject land boundary - i.e. it should not be inferred that Wallaby-grasses occur only at very low covers within adjacent land outside this boundary]



**Appendix 8** Format of operational EMP

**MELBOURNE AIRPORT**  
**ENVIRONMENT MANAGEMENT PROGRAM**  
(Financial year)

- 1. ORGANISATIONAL ARRANGEMENTS**  
Includes name and contact details of responsible Manager.
- 2. DESCRIPTION OF OPERATIONS**  
General description of operations
- 3. PROPOSED CHANGES TO OPERATIONS IN (financial year)**  
Details of proposed changes to activities products and services in the coming year.
- 4. APPLICABLE LEGAL AND OTHER REQUIREMENTS**  
The significant environmental legislation / regulations applicable to operations at Melbourne Airport.

Operator to identify environmental issues relevant to their operations and identify appropriate legal and other requirements. Operator is responsible for ensuring the currency of legislation that applies to their operations.

**5. ENVIRONMENTAL ASPECTS AND IMPACTS**

*Environmental Aspect* - refers to an element of activity that can have an adverse or beneficial impact on the environment

*Environmental Impact* - refers to the change that takes place in the environment because of the aspect

| <u>Activity, Product or service</u> | <u>Environmental Aspect</u>                  | <u>Environmental Impact</u>                                       | <u>Significance</u>      |
|-------------------------------------|--|---|--------------------------|
| <i>Eg. Vehicle maintenance</i>      | <i>Eg. Potential for accidental spillage</i> | <i>Eg. Contamination of soil or water</i>                         | <i>High, medium, low</i> |
| <b>Waste generation</b>             | <b>Potential for litter</b>                  | <b>Contamination of stormwater drains / surrounding waterways</b> | <b>Medium</b>            |
| <b>Hotel vehicle usage</b>          | <b>Potential for oil/fuel spill</b>          | <b>Contamination of soil or water</b>                             | <b>Low</b>               |
|                                     |  |   |                          |
|                                     |  |   |                          |

**6. ENVIRONMENTAL ACTIONS FOR (financial year)**

List of proposed environmental management actions for the coming year including responsible manager and planned completion date.

**Table 2**  
**Environmental Actions for (financial year)**

| Planned Action                         | Responsibility for carrying out action | Target completion date |
|--|--|------------------------|
| Investigate recycling program of waste | Manager                                | May 2005               |
|  |  |                        |
|  |  |                        |

**7. ENVIRONMENTAL MONITORING AND MEASUREMENT**

Details of proposed environmental monitoring and measurement activities.

**Table 3**  
**Environmental Monitoring Programs for (financial year)**

| Monitoring Program | Frequency / target completion | Responsibility |
|--------------------|-------------------------------|----------------|
|                    |                               |                |
|                    |                               |                |

**8. ENVIRONMENTAL AUDITING**

Details of proposed environmental auditing activities.

**Table 4**

| Audit | Frequency | Responsibility for audit |
|-------|-----------|--------------------------|
|       |           |                          |
|       |           |                          |
|       |           |                          |

**9 ENVIRONMENTAL REPORTING**

It is expected that (Operator) will submit a report to Australia Pacific Airports (Melbourne) by 30 June 200x including a summary of monitoring results and progress in relation to other proposed initiatives.

**10 ENVIRONMENTAL TRAINING**

Details of proposed environmental training activities for staff.

**Table 5**

| <b>Staff</b> | <b>Training Needs</b> | <b>Proposed Program</b> |
|--------------|-----------------------|-------------------------|
|              |                       |                         |

## Appendix 9 Format of construction environmental management plan

### GUIDELINES FOR PREPARATION OF A CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan should include as a minimum, the following elements.

#### **Introduction**

- State the objective of the Environmental Management Plan
- Specify responsibility for implementation of the Environmental Management Plan

#### **Description of Undertaking**

- Describe key activities performed as part of the undertaking.
- Outline who will carry out the activities.
- Outline where the activities will be carried out.

#### **Regulatory Requirements**

- List applicable environmental legislation and regulations.

#### **Assessment of Environmental Risk**

- Identify activities to be conducted as part of the undertaking that have the potential to impact upon the environment.
- Evaluate the significance of the potential environmental impacts.
- Develop a list of potentially significant environmental impacts that require management.

#### **Environmental Management Program**

- **Operational Control**
  - Issues for which operational controls may be required include but are not limited to:
    - Stormwater and Wastewater Management
    - Chemical Management
    - Recycling
    - Flora & Fauna
    - Noise & Vibration
    - Dust Suppression
    - Litter Control
    - Waste Disposal
    - Asbestos Management
    - Odour Control
    - Management of Ozone Depleting Substances
    - Erosion Control
    - Emergency Procedure including spill response.
- **Training**
  - Training to be provided to staff in relation operational control issues.
- **Audit and Inspection Programs**
- **Reporting (complaints, incidents)**
- **Monitoring Program**
- **Documentation to be recorded and retained**

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**Appendix 10** Conditions of Ministerial Approval

**Draft Major Development Plan**  
**Mixed Use Development, Melbourne Airport**  
**(Australia Pacific Airports**  
**(Melbourne) Pty Ltd)**

**Conditions of Ministerial Approval**



## DEFINITIONS

In this document, unless a contrary intention appears, the terms below have the meanings given to them:

**ABC** means an Airport Building Controller appointed by the Secretary of the Department of Transport and Regional Services (or his delegate).

**Act** means the *Airports Act 1996* as amended from time-to-time

**Airport** means Melbourne (Tullamarine) Airport as defined in the *Airports Regulations 1997* as amended from time to time.

**Airport Lease** means the Headlease for Melbourne (Tullamarine) Airport executed between the Commonwealth of Australia and APAM on 2 July 1997.

**AEO** means an Airport Environment Officer appointed by the Secretary of the Department of Transport and Regional Services (or his delegate).

**APAM** means Australia Pacific Airports (Melbourne) Pty Ltd and includes any future Airport Lessee Company for Melbourne (Tullamarine) Airport.

**AS 2021-2000** means Australian Standard 2021-2000 "*Acoustics – Aircraft Noise Intrusion - Building Siting and Construction*" and as amended from time to time.

**Building activity** has the meaning given in section 98 of the Act.

**CEMP** means the Construction Environmental Management Plan for the Development.

**Development** means the Mixed Use Development to be carried out in accordance with the MDP approved by the Minister for Transport and Regional Services.

DEW means the Department of Environment and Water Resources.

**the Department** means the Department administering the Act from time to time.

**MDP** means the Major Development Plan for the Mixed Use Development approved by the Minister for Transport and Regional Services.

**OEMP** means the Operational Environment Management Plan.

## CONDITIONS

The Department of Transport and Regional Services (the Department) expects Australian Pacific Airports (Melbourne) Pty Ltd (APAM) to undertake all activities and to complete all works as indicated in the draft Major Development Plan (MDP). In the event of any inconsistency between the undertakings and commitments made by APAM in the MDP and the conditions contained in this document, the conditions in this document shall prevail to the extent of that inconsistency.

### *Conditions about the environment*

1. APAM will prepare a Construction Environment Management Plan (CEMP) to be approved by the Airport Environment Officer (AEO), and the Airport Building Controller (ABC), prior to commencement of building activity on the site. The plan is to include, among other matters, a Heritage Management Plan, details of Water Sensitive Urban Design measures, and measures to reduce waste and energy consumption. This could include measures to:
  - Capture and store rain water for use within the precinct;
  - Treat and reuse grey water, particularly for in-building and landscape purposes;
  - Introduce waterless toilet (urinal) facilities;
  - Adopt low-energy lighting and other electrical devices for use in-building and landscape purposes;
  - Reduce external and in-building lighting (other than for security and OH&S reasons) outside trading hours; and
  - Adopt recycling procedures for waste products, such as paper, containers, and biodegradable items such as food scraps.
2. An Operational Environment Management Plan (OEMP) is to be developed in consultation with the AEO and approved by the AEO prior to the commencement of use. The ALC must carry out the activity in accordance with the approved OEMP.
3. A Golden Sun Moth (GSM) Management Plan is to be prepared and implemented no later than 18 months from the date of approval and shall encompass the entire Airport site and cover two flight season monitoring periods. APAM is to provide the AEO with results from the first flight season and an initial draft Management Plan no later than 9 months from the date of approval. The draft GSM Management Plan should include sufficient measures to preclude damage to identified habitats from on-airport development in the interim period prior to the second flight season and finalisation of the GSM Management Plan.

The finalised Management Plan is to be approved by the AEO, in consultation with the Department of Environment and Water Resources (DEW) prior to implementation. The Plan is to include the data from the monitoring of the GSM during the two flight seasons and investigate the implementation or rehabilitation of potential habitat sites for the GSM. APAM is not to undertake other development on the airport in areas of identified or potential GSM habitat until the GSM Management Plan is approved, without consultation with and approval by the ABC and AEO.

4. APAM will consult with the Wurundjeri Tribe Land Compensation and Cultural Heritage Council if archaeological site AAV 7822/1447 is likely to be disturbed during construction of the Development.

***Conditions regarding ground transport infrastructure***

5. APAM must work in conjunction with the Victorian and local governments to develop an Airport Ground Transport Plan (AGTP) for the airport site with reference to the Victorian Planning Provisions no later than 24 months from the date of approval. APAM is required to work closely with the Hume City Council and VicRoads to ensure that implementation of the Development does not result in unacceptable traffic impacts and APAM must negotiate in good faith to fund any fair and reasonable mitigation measures.
6. APAM must ensure that advertising and signage upon the mixed use development complies with the Victorian Planning Provisions to ensure that they do not present a safety concern to traffic travelling along the Tullamarine Freeway.
7. In addition to the AGTP, APAM is to provide to the ABC a Traffic Management Plan incorporating strategies regarding traffic control during the initial four weeks of business trading by tenants of the Development. This should be provided at least one month prior to each stage opening. It is intended that the Traffic Management Plan will apply during the initial four weeks of business trading for each of the three stages of the development.

***Conditions requiring action prior to use and occupation***

8. Upon completion of building activity and prior to use and occupation, APAM must provide the ABC with evidence validated by an accredited acoustical consultant that maximum internal noise levels during aircraft fly-overs comply with Table 3.3 of AS 2021-2000. In particular, APAM must show evidence that the child care facility has been adequately insulated to comply with Table 3.3 of AS2021-2000 noting that Table 3.3 is a minimum standard.

***Conditions about providing information***

9. APAM will make all reasonable efforts to provide information requested by the AEO, ABC or the Department relating to this Development and compliance with these conditions within the time requested. Information provided by APAM shall be in an electronic format.

***Chief Executive Officer to acknowledge compliance***

10. The Chief Executive Officer of APAM will advise the Department in writing of compliance with the above conditions at the end of each development stage if applicable, and in all other instances, on the anniversary of the date of Ministerial approval of the MDP.



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