AIRCRAFT DAILY MOVEMENTS BY RUNWAY AND AIRCRAFT TYPE

		ARRIVALS		DEPARTURES		Total DAY	Total NIGHT		
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT			Total	Annual Movements
8	BEC58P	0.0375	0.0135	0.1802	0.0822	0.2177	0.0957	0.3134	114
	CNA172	0.0402	0.0000	0.0423	0.0292	0.0825	0.0292	0.1117	41
	CNA441	0.0519	0.0462	0.3540	0.1699	0.4058	0.2160	0.6219	227
	CNA500	0.0025	0.0012	0.0255	0.0093	0.0281	0.0105	0.0385	14
	DC3	0.0007	0.0001	0.0031	0.0007	0.0038	0.0009	0.0047	2
	DHC6	0.0193	0.0055	0.1316	0.0202	0.1509	0.0256	0.1765	64
	DHC8	0.0030	0.0019	0.0204	0.0069	0.0234	0.0088	0.0322	12
	F10062	0.0014	0.0000	0.0146	0.0002	0.0161	0.0003	0.0163	6
	GASEPF	0.0307	0.0000	0.0322	0.0266	0.0629	0.0266	0.0895	33
	GASEPV	0.0310	0.0000	0.0326	0.0132	0.0636	0.0132	0.0769	28
	GIV	0.0063	0.0037	0.0634	0.0282	0.0696	0.0319	0.1015	37
	GV	0.0054	0.0029	0.0542	0.0219	0.0596	0.0248	0.0844	31
	LEAR35	0.0040	0.0022	0.0400	0.0166	0.0440	0.0188	0.0628	23
	MU3001	0.0010	0.0002	0.0101	0.0018	0.0111	0.0020	0.0131	5
8 Total		0.2348	0.0774	1.0042	0.4268	1.2390	0.5041	1.7431	636
17	BEC58P	1.3685	0.5571	4.4586	1.4462	5.8270	2.0034	7.8304	2,858
	CNA172	0.7042	0.1148	2.1644	0.3171	2.8686	0.4319	3.3005	1,205
	CNA441	1.5308	0.7994	4.8626	2.0328	6.3934	2.8322	9.2256	3,367
	CNA500	0.1228	0.0218	0.4198	0.0637	0.5426	0.0855	0.6281	229
	DC3	0.0239	0.0050	0.0778	0.0131	0.1017	0.0181	0.1198	44
	DHC6	0.5690	0.0948	1.8075	0.2411	2.3766	0.3360	2.7126	990
	DHC8	0.0882	0.0325	0.2800	0.0826	0.3682	0.1151	0.4833	176
	F10062	0.0703	0.0005	0.2404	0.0016	0.3107	0.0021	0.3128	114
	GASEPF	0.5368	0.1047	1.6500	0.2892	2.1869	0.3939	2.5808	942
	GASEPV	0.5433	0.0520	1.6700	0.1436	2.2133	0.1956	2.4089	879
	GIV	0.3047	0.0664	1.0416	0.1937	1.3463	0.2601	1.6064	586
	GV	0.2607	0.0517	0.8911	0.1508	1.1518	0.2025	1.3543	494
	LEAR35	0.1925	0.0392	0.6582	0.1142	0.8507	0.1534	1.0041	366
	MU3001	0.0487	0.0042	0.1665	0.0121	0.2152	0.0163	0.2315	84
17 Total		6.3644	1.9442	20.3886	5.1018	26.7531	7.0460	33.7990	12,337
26	BEC58P	4.1116	1.3739	0.5866	0.3287	4.6982	1.7025	6.4007	2,336
	CNA172	1.8577	0.2521	0.4273	0.0547	2.2850	0.3067	2.5917	946
	CNA441	4.3581	1.9890	1.0619	0.5832	5.4200	2.5723	7.9923	2,917
	CNA500	0.4567	0.0928	0.1096	0.0278	0.5663	0.1206	0.6869	251
	DC3	0.0718	0.0124	0.0102	0.0030	0.0820	0.0154	0.0974	36
	DHC6	1.6220	0.2360	0.3948	0.0692	2.0148	0.3052	2.3199	847
	DHC8	0.2510	0.0809	0.0612	0.0237	0.3121	0.1046	0.4167	152
	F10062	0.2615	0.0023	0.0628	0.0007	0.3243	0.0030	0.3273	119
	GASEPF	1.4162	0.2299	0.3257	0.0499	1.7419	0.2797	2.0217	738
	GASEPV	1.4333	0.1141	0.3296	0.0248	1.7630	0.1389	1.9019	694
	GIV	1.1332	0.2822	0.2721	0.0845	1.4052	0.3667	1.7720	647
	GV	0.9695	0.2198	0.2327	0.0658	1.2022	0.2856	1.4878	543
	LEAR35	0.7161	0.1664	0.1719	0.0498	0.8880	0.2162	1.1042	403
	MU3001	0.1811	0.0176	0.0435	0.0053	0.2246	0.0229	0.2475	90
26 Total		18.8378	5.0693	4.0899	1.3710	22.9277	6.4402	29.3679	10,719
35	BEC58P	1.9121	0.6193	2.2044	0.7067	4.1165	1.3260	5.4425	1,987
	CNA172	1.1234	0.1288	1.0916	0.0948	2.2150	0.2236	2.4386	890
	CNA441	2.4020	0.9337	2.0643	0.9824	4.4663	1.9161	6.3824	2,330
	CNA500	0.1682	0.0243	0.1953	0.0394	0.3635	0.0636	0.4271	156
	DC3	0.0334	0.0056	0.0385	0.0064	0.0719	0.0120	0.0838	31
	DHC6	0.8929	0.1108	0.7673	0.1165	1.6602	0.2273	1.8875	689
	DHC8	0.1383	0.0380	0.1189	0.0399	0.2572	0.0779	0.3351	122
	F10062	0.0963	0.0006	0.1118	0.0010	0.2081	0.0016	0.2097	77
	GASEPF	0.8564	0.1175	0.8322	0.0864	1.6886	0.2039	1.8925	691
	GASEPV	0.8667	0.0583	0.8422	0.0429	1.7090	0.1012	1.8102	661
	GIV	0.4174	0.0738	0.4845	0.1197	0.9019	0.1935	1.0954	400
	GV	0.3571	0.0575	0.4145	0.0932	0.7716	0.1507	0.9223	337
	LEAR35	0.2637	0.0435	0.3061	0.0706	0.5699	0.1141	0.6840	250
	MU3001	0.0667	0.0046	0.0774	0.0075	0.1442	0.0121	0.1562	57
35 Total		9.5947	2.2162	9.5490	2.4074	19.1436	4.6236	23.7672	8,675
HE_17	R44	0.1267	0.0000	0.1267	0.0000	0.2534	0.0000	0.2534	93
	AS365	2.8295	1.8863	2.8295	1.8863	5.6589	3.7726	9.4315	3,443
	EC135P1	0.7161	0.4774	0.7161	0.4774	1.4321	0.9547	2.3868	871
	EC225LP	0.2968	0.0330	0.2968	0.0330	0.5936	0.0660	0.6595	241
	B412	0.0654	0.0163	0.0654	0.0163	0.1307	0.0327	0.1634	60
	B206L-4	0.0519	0.0130	0.0519	0.0130	0.1039	0.0260	0.1299	47
	B407	0.0519	0.0130	0.0519	0.0130	0.1039	0.0260	0.1299	47
	E350B3	0.1039	0.0260	0.1039	0.0260	0.2078	0.0519	0.2597	95
HE_17 Total		4.2421	2.4649	4.2421	2.4649	8.4843	4.9299	13.4142	4,896
HE_35	R44	0.1267	0.0000	0.1267	0.0000	0.2534	0.0000	0.2534	93
	AS365	2.8295	1.8863	2.8295	1.8863	5.6589	3.7726	9.4315	3,443
	EC135P1	0.7161	0.4774	0.7161	0.4774	1.4321	0.9547	2.3868	871
	EC225LP	0.2968	0.0330	0.2968	0.0330	0.5936	0.0660	0.6595	241
	B412	0.0654	0.0163	0.0654	0.0163	0.1307	0.0327	0.1634	60
	B206L-4	0.0519	0.0130	0.0519	0.0130	0.1039	0.0260	0.1299	47
	B407	0.0519	0.0130	0.0519	0.0130	0.1039	0.0260	0.1299	47
	E350B3	0.1039	0.0260	0.1039	0.0260	0.2078	0.0519	0.2597	95
HE_35 Total		4.2421	2.4649	4.2421	2.4649	8.4843	4.9299	13.4142	4,896
HE_C	R44	1.3617	0.0000	1.3617	0.0000	2.7233	0.0000	2.7233	994
	AS365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC135P1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC225LP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	B412	0.7022	0.1756	0.7022	0.1756	1.4044	0.3511	1.7555	641
	B206L-4	0.5582	0.1395	0.5582	0.1395	1.1163	0.2791	1.3954	509
	B407	0.5582	0.1395	0.5582	0.1395	1.1163	0.2791	1.3954	509
	E350B3	1.1163	0.2791	1.1163	0.2791	2.2327	0.5582	2.7909	1,019
HE_C Total		4.2966	0.7337	4.2966	0.7337	8.5932	1.4675	10.0606	3,672
HE_N	R44	1.3617	0.0000	1.3617	0.0000	2.7233	0.0000	2.7233	994
	AS365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC135P1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC225LP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	B412	0.7022	0.1756	0.7022	0.1756	1.4044	0.3511	1.7555	641
	B206L-4	0.5582	0.1395	0.5582	0.1395	1.1163	0.2791	1.3954	509
	B407	0.5582	0.1395	0.5582	0.1395	1.1163	0.2791	1.3954	509
	E350B3	1.1163	0.2791	1.1163	0.2791	2.2327	0.5582	2.7909	1,019
HE_N Total		4.2966	0.7337	4.2966	0.7337	8.5932	1.4675	10.0606	3,672
HE_S	R44	0.4539	0.0000	0.4539	0.0000	0.9078	0.0000	0.9078	331
	AS365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC135P1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC225LP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	B412	0.2341	0.0585	0.2341	0.0585	0.4681	0.1170	0.5852	214
	B206L-4	0.1861	0.0465	0.1861	0.0465	0.3721	0.0930	0.4651	170
	B407	0.1861	0.0465	0.1861	0.0465	0.3721	0.0930	0.4651	170
	E350B3	0.3721	0.0930	0.3721	0.0930	0.7442	0.1861	0.9303	340
HE_S Total		1.4322	0.2446	1.4322	0.2446	2.8644	0.4891	3.3535	1,224
HE_W	R44	2.2695	0.0000	2.2695	0.0000	4.5389	0.0000	4.5389	1,657
	AS365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC135P1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	EC225LP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
	B412	1.1704	0.2926	1.1704	0.2926	2.3407	0.5852	2.9259	1,068
	B206L-4	0.9303	0.2326	0.9303	0.2326	1.8606	0.4651	2.3257	849
	B407	0.9303	0.2326	0.9303	0.2326	1.8606	0.4651	2.3257	849
	E350B3	1.8606	0.4651	1.8606	0.4651	3.7212	0.9303	4.6514	1,698
HE_W Total		7.1610	1.2229	7.1610	1.2229	14.3219	2.4458	16.7677	6,120
Grand Total		60.7023	17.1717	60.7023	17.1717	121.4046	34.3434	155.7481	56,848

Notes:
1. Where figures have been rounded, discrepancies may occur between totals and the sums of component items.

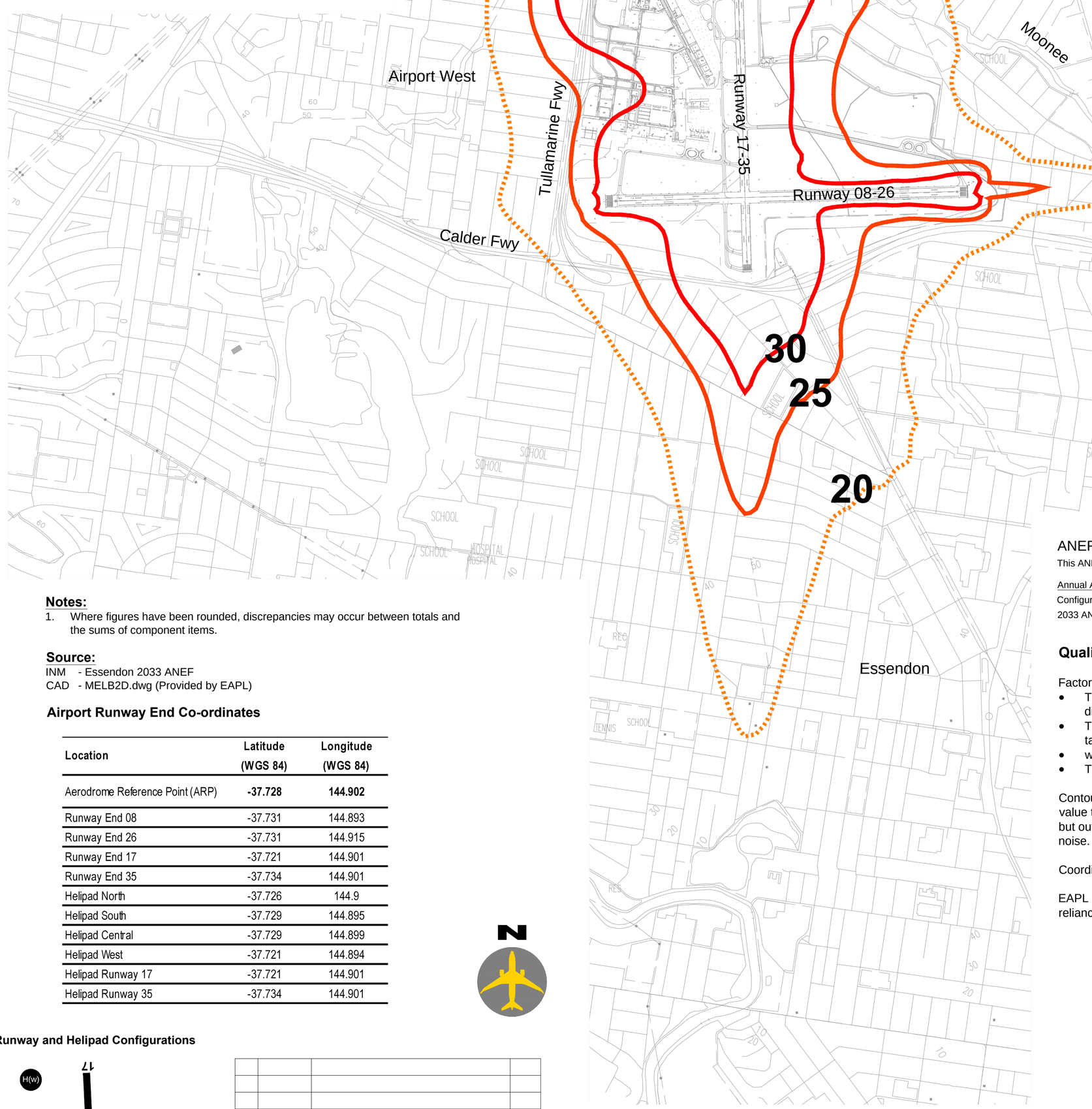
Source:
INM - Essendon 2033 ANEF
CAD - MELB2D.dwg (Provided by EAPL)

Airport Runway End Co-ordinates

Location	Latitude (WGS 84)	Longitude (WGS 84)
Aerodrome Reference Point (ARP)	**-37.728**	**144.902**
Runway End 08	-37.731	144.893
Runway End 26	-37.731	144.915
Runway End 17	-37.721	144.901
Runway End 35	-37.734	144.901
Helipad North	-37.726	144.9
Helipad South	-37.729	144.895
Helipad Central	-37.729	144.899
Helipad West	-37.721	144.894
Helipad Runway 17	-37.721	144.901
Helipad Runway 35	-37.734	144.901

Runway and Helipad Configurations

A	26/06/2013	ORIGINAL ISSUE	DW
NO.	DATE	REVISIONS	INIT.
DRAWN DW		DESIGNED DW	APPROVED ML



500 0 500 1000 1500 2000

SCALE IN METRES 1:15,000 AT A1

BUILDING SITE ACCEPTABILITY BASED ON ANEF ZONES

To be used in conjunction with (AS2021-2000) Table 3.3

Building type	ANEF zone of site		
	Acceptable	Conditionally Acceptable	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25 to 30 ANEF	Greater than 30 ANEF
School, university	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF (Note 1)	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF (Note 1)	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zones		

Notes:

1. The actual location of the 20 ANEF contour is difficult to define accurately, mainly because of variations in aircraft flight paths. Because of this, the procedure of (AS2021-2000) Clause 2.3.2 may be followed for building sites outside but near to the 20 ANEF contour.

2. Within 20 ANEF to 25 ANEF, some people may find that the land is not compatible with residential or educational uses. Land use authorities may consider that the incorporation of noise control features in the construction of residences or schools is appropriate (see also (AS2021-2000) Figure A1 of Appendix A).

3. There will be cases where a building of a particular type will contain spaces used for activities which would generally be found in a different type of building (e.g. an office in an industrial building). In these cases the above table should be used to determine site acceptability, but internal design noise levels within the specific spaces should be determined by (AS2021-2000) Table 3.3.

4. This standard does not recommend development in unacceptable areas. However, where the relevant planning authority determines that any development may be necessary within existing built-up areas designated as unacceptable, it is recommended that such development should achieve the required ANR determined according to (AS2021-2000) Clause 3.2. For residences, schools, etc., the effect of aircraft noise on outdoor areas associated with the buildings should be considered.

5. In no case should new development take place in greenfield sites deemed unacceptable because such development may impact airport operations.

Source : AS2021-2000 Table 2.1

ANEF origin

This ANEF has been prepared using the Integrated Noise Model package (INM 7.0c).

Annual Aircraft Movements for ANEF configurations

Configuration	Annual Aircraft Movements
2033 ANEF	56,848

Qualification

Factors taken into account in the ANEF calculation are the following:

- The numbers and types of aircraft forecast to operate on the average day, their distribution on the various runways and flight paths and their destinations.
- The noise characteristics of each aircraft type at each phase of its operation (landing or take-off).
- whether the operation was in daytime (7am - 7pm) or night-time (7pm - 7am)
- Terrain was used in the modelling of this study.

Contours are plotted at steps of 5 ANEF over the range 20 to 30 ANEF - the higher the ANEF value the greater the noise exposure. Aircraft noise does not stop at the 20 ANEF contour, but outside 20 ANEF, noise from sources other than aircraft may predominate over aircraft noise.

Coordinate system used is WGS 84

EAPL neither assumes nor accepts responsibility for the accuracy of the contours or any reliance placed upon them.

airservices

ENDORSEMENT FOR TECHNICAL ACCURACY

STANDARD ANEF

Signed

Date: 04 / 07 / 2013

General Manager Environment
Airservices Australia. Canberra

The aircraft noise contours on this chart have been calculated using an appropriate modelling process. Airservices Australia has, in accordance with the approved manner of endorsement, considered the physical ultimate capacity of the existing or proposed runway/s in its endorsement process.
The data input and assumptions made in that process are derived in part from external sources. Airservices Australia makes no warranty in respect of that information and excludes all liability for any loss arising from reliance on that information.