

CHAPTER VI

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

According to the data analysis and discussion in chapter V, finally the research objectives in the first chapter can be answered:

The objective is to design the geometry for Runway, Taxiway, and Apron for Kuabang airport for aircraft in Boeing type 737-800 is compatible with ICAO Annex 14 and FAA AC 150/5300-13 code. From the analysis and design result based on ICAO Annex 14 and FAA AC 150/5300-13 reference code, the dimension from the calculation for new design runway is 2818 x 45 meters, for taxiway using entrance and exit with width is 15 meters, and apron dimension is 215 x 64 meters. Compare with the existing airport, the capacity cannot accommodate the Boeing 737-800, because from the dimension for the runway, taxiway, and apron is not fulfil the requirement for the aircraft.

5.2 **Suggestion**

According to the result of the research and the conclusion above, some suggestion can be obtained;

Kuabang Kao Airport management need to develop based on the runway, taxiway, and apron dimension from the analysis result by following the ICAO Annex 14 and FAA AC 150/5300-13 reference code in order to accommodate Boeing 737-800.

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Email : stamet.ternate@gmail.com

Nomor : ME.102/015/TNT/V/2018 Ternate, 30 Mei 2018
Lampiran : 2 Lampiran
Perihal : Data Arah dan Kecepatan Angin rata-rata dan Suhu rata-rata dan maksimum tahun 2008 – 2017 wilayah Kao Kuabang.

Yth.

Dede Yona Sasisingen

di.

T e m p a t

1. Menunjuk surat pemohon nomor 1769/XI/U/2018 tanggal 24 Mei 2018 perihal Permintaan Data Arah dan Kecepatan Angin rata-rata dan Suhu rata-rata dan maksimum wilayah Kao sebagai bahan analisis tugas akhir (skripsi).
2. Terkait butir 1 (satu) diatas kami lampirkan data yang diperlukan.
3. Demikian Surat Keterangan ini kami buat untuk dipergunakan sebagaimana mestinya.



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Lampiran 1

Lokasi : Wilayah Kao
Lintang : 01 ° 10 ' LS
Bujur : 127 ° 56 ' BT
Ketinggian (MSL) : ±13 feet

Data Angin

Tahun	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd	ff	ddd
2008	9	180	8	180	9	0	8	180	8	180	8	180	8	0	8	0	10	0	8	0	7	0	9	180
2009	10	180	9	180	9	180	*	*	9	180	9	180	10	180	8	180	9	180	*	*	11	180	7	180
2010	10	30	17	30	10	30	8	30	7	30	4	150	4	150	4	90	4	150	4	150	4	160	4	180
2011	7	30	7	180	5	30	6	30	7	180	6	180	6	180	4	180	6	180	5	30	6	180	2	180
2012	5	30	7	180	7	180	6	180	6	180	5	180	5	180	4	180	6	180	5	180	4	180	3	0
2013	4	180	2	0	1	180	3	180	3	310	3	140	3	140	4	140	5	180	6	180	6	180	4	180
2014	4	140	2	140	3	230	4	180	2	140	2	180	3	180	4	90	4	180	4	230	2	140	4	180
2015	*	*	2	135	2	135	2	180	2	135	3	135	*	*	4	135	4	180	4	135	2	135	3	135
2016	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2017	3	*	2	*	2	90	2	90	2	135	2	135	2	135	2	135	2	135	2	180	2	135	3	135

Ket : - Data kecepatan angin dalam km/jam (ff)
- Data arah angin dalam derajat (ddd)
- (*) Data angin tidak ada pengamatan





Lampiran 2

Data Suhu

Tahun	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2008	26,1	26,0	25,8	25,8	26,3	26,0	25,4	25,2	25,9	25,9	25,8	26,0
2009	26,2	25,9	25,7	26,9	26,7	26,1	26,0	26,2	26,8	26,6	26,5	26,1
2010	25,8	25,7	27,7	27,0	27,0	28,0	26,3	26,2	26,8	27,1	27,1	27,1
2011	25,8	25,2	25,6	26,3	26,3	25,7	25,9	25,8	25,9	25,9	26,3	26,0
2012	25,6	25,9	26,1	26,3	26,6	26,0	26,4	25,7	26,4	26,6	26,3	26,2
2013	26,4	26,1	26,4	26,1	26,4	26,5	25,7	25,6	25,8	26,7	26,0	26,5
2014	25,5	24,9	26,1	27,2	26,9	26,6	26,4	26,2	26,0	26,7	26,6	26,6
2015	26,5	25,8	26,1	27,1	26,8	26,2	26,2	25,9	26,6	26,3	26,8	26,8
2016	*	*	26,3	26,8	26,9	26,5	*	26,7	26,5	26,6	26,9	26,5
2017	26,5	26,2	26,1	26,5	26,5	25,8	26,1	26	25,9	26,4	26,5	26,7

Ket : - Data suhu dalam derajat celsius

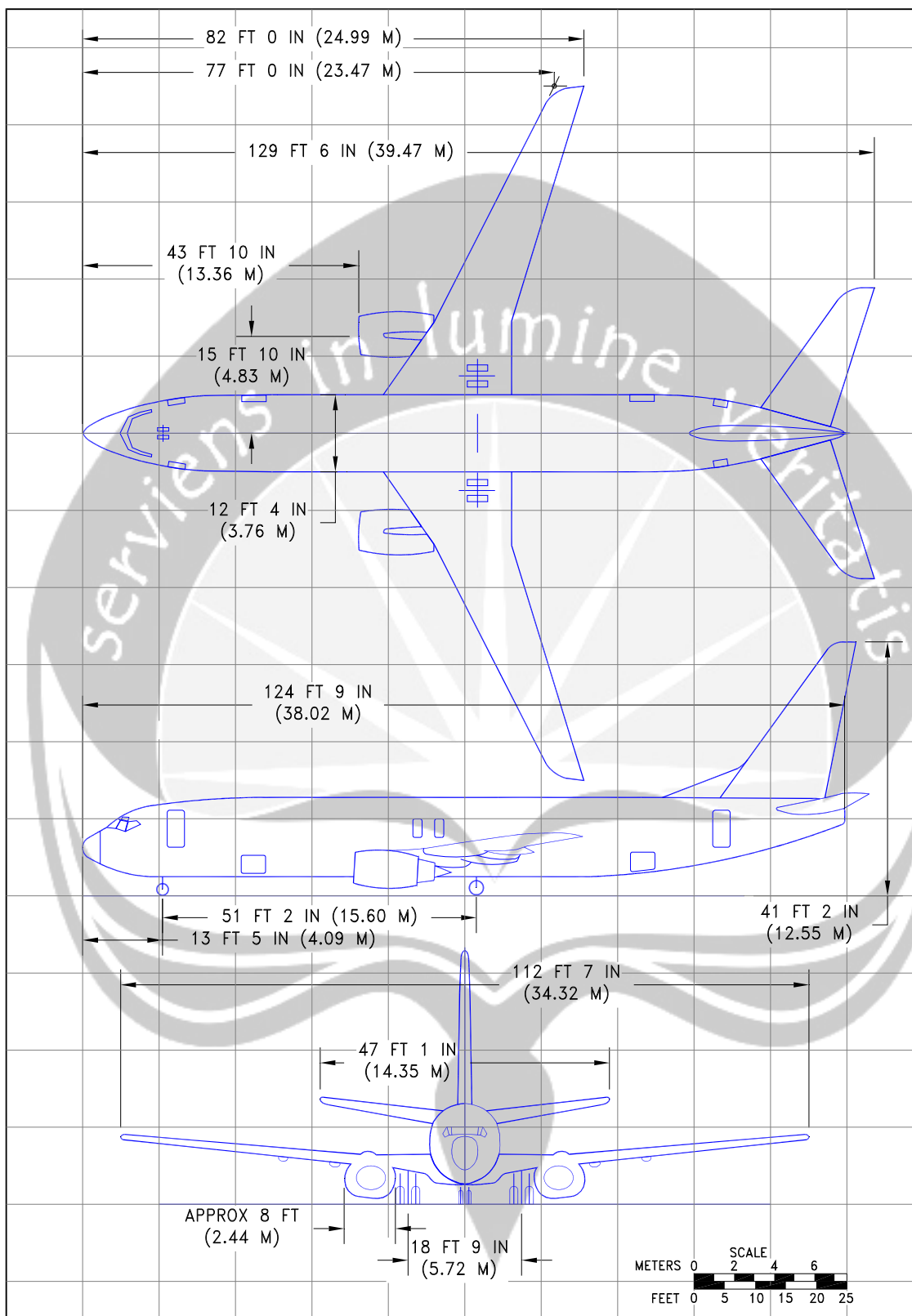
- (*) Data tidak ada

Data ini diberikan kepada **Dede Yona Sasingen**



Aircraft	FAA Reference Code	Approach Speed (knots)	MTW (lb.)	MTW (kg)	MLW (lb.)	MLW (kg)	Wingspan (ft.)	Wingspan (m)	Length (ft.)	Length (m)	Max Tail Height (ft.)	Max Tail Height (m)
707-320/-420	C-IV	125	316,000	143,500	207,000	94,000	142.42	43.40	152.92	46.61	42.17	12.85
707-320B	C-IV	128	333,600	152,500	215,000	97,500	145.75	44.42	152.92	46.61	42.08	12.83
707-320C	C-IV	137	336,000	152,500	247,000	112,100	145.75	44.42	152.92	46.61	42.00	12.80
717-200	C-III	133	119,000	55,338	102,000	46,269	93.33	28.40	124.00	37.80	29.67	9.00
717-200HGW	C-III	139	122,000	54,884	110,000	49,898	93.33	28.40	124.00	37.80	29.67	9.00
727-100	C-III	126	170,000	77,200	142,500	64,700	108.00	32.92	133.17	40.59	34.25	10.44
727-200	C-III	136	210,000	95,300	161,000	73,100	108.00	23.92	153.17	46.68	34.92	10.65
737 BBJ	C-III	135	171,500	77,791	134,000	60,781	117.42	35.79	110.33	33.63	41.58	12.67
737 BBJ 2	D-III	142	174,700	79,245	146,300	66,360	117.42	35.79	129.50	39.47	41.42	12.62
737 BBJ 3	D-III	144	187,700	85,139	157,300	71,350	117.83	35.90	138.17	42.10	40.75	12.42
737-100	C-III	128	111,000	50,349	99,000	44,906	93.00	28.35	94.00	28.65	37.17	11.33
737-200	C-III	130	116,000	52,617	103,000	46,720	93.00	28.35	100.17	30.53	37.25	11.35
737-200ADV/C/QC	C-III	133	128,600	58,332	107,000	48,534	93.00	28.35	100.17	30.53	37.25	11.35
737-300	C-III	135	140,000	63,503	116,600	52,889	94.75	28.88	109.58	33.40	36.58	11.15
737-300W	C-III	135	140,000	63,503	116,600	52,889	102.42	31.22	109.58	33.40	36.58	11.15
737-400	C-III	139	150,500	68,266	124,000	56,245	94.75	28.88	119.58	36.40	36.58	11.15
737-500	C-III	127	136,500	61,915	110,000	49,895	94.75	28.88	101.75	31.01	36.58	11.15
737-600	C-III	126	145,000	65,771	121,500	55,111	112.58	34.32	102.50	31.24	41.67	12.70
737-600W	C-III	126	145,000	65,771	121,500	55,111	117.42	35.79	102.50	31.24	41.67	12.70
737-700/C	C-III	132	155,000	70,307	129,200	58,604	112.58	34.32	110.33	33.63	41.58	12.67
737-700W	C-III	132	155,000	70,307	129,200	58,604	117.42	35.79	110.33	33.63	41.58	12.67
737-8	n/a-III	n/a	181,700	82,417	152,800	69,308	117.83	35.90	129.50	39.47	40.75	12.42
737-800	D-III	142	174,900	79,333	146,300	66,361	112.58	34.32	129.50	39.47	41.42	12.62
737-800W	D-III	142	174,900	79,333	146,300	66,361	117.42	35.79	129.50	39.47	41.42	12.62
737-900	D-III	141	174,700	79,243	147,300	66,814	112.58	34.32	138.17	42.11	41.42	12.62

Aircraft	FAA Reference Code	Approach Speed (knots)	MTW (lb.)	MTW (kg)	MLW (lb.)	MLW (kg)	Wingspan (ft.)	Wingspan (m)	Length (ft.)	Length (m)	Max Tail Height (ft.)	Max Tail Height (m)
737-900ER	D-III	144	188,200	85,366	157,300	71,350	112.58	34.32	138.17	42.11	41.42	12.62
737-900ERW	D-III	144	188,200	85,366	157,300	71,350	117.42	35.79	138.17	42.11	41.42	12.62
737-900W	D-III	141	174,700	79,243	147,300	66,814	117.42	35.79	138.17	42.11	41.42	12.62
747-100B	D-V	145	753,000	341,500	585,000	265,300	195.67	59.64	231.83	70.40	64.25	19.58
747-200B	D-V	152	836,000	379,100	630,000	285,700	195.67	59.64	231.83	70.40	64.25	19.58
747-200F	D-V	152	836,000	379,100	630,000	285,700	195.67	59.64	231.83	70.40	64.67	19.71
747-300	D-V	142	753,000	341,500	564,000	255,800	195.67	59.64	231.83	70.40	64.25	19.58
747-400	D-V	153	877,000	397,801	630,000	285,764	213.00	64.92	231.85	70.67	64.00	19.51
747-400 Domestic	D-V	146	613,500	278,279	574,000	260,362	195.67	59.63	231.85	70.67	64.25	19.59
747-400ER	D-V	157	913,000	414,130	652,000	295,743	213.00	64.92	231.85	70.67	64.25	19.59
747-400ERF	D-V	158	913,000	414,130	666,000	302,093	213.00	64.92	231.85	70.67	64.08	19.54
747-400F	D-V	158	877,000	397,801	666,000	302,093	213.00	64.92	231.85	70.67	64.08	19.54
747-8	D-VI	153	990,000	449,056	688,000	312,072	224.42	68.40	250.17	76.25	64.00	19.51
747-8F	D-VI	161	990,000	449,056	763,000	346,091	224.42	68.40	250.17	76.25	64.17	19.56
747SP	C-V	126	703,000	318,800	450,000	204,100	195.67	59.64	184.75	56.31	65.83	20.06
757-200/PF	C-IV	137	256,000	116,100	210,000	95,250	124.83	38.05	155.25	47.32	45.08	13.74
757-300	D-IV	142	271,000	122,930	224,000	101,610	124.83	38.05	178.58	54.43	44.75	13.64
767-200	C-IV	133	317,000	143,789	272,000	123,377	156.08	47.57	159.17	48.51	52.92	16.13
767-200ER	C-IV	140	396,000	179,623	300,000	136,078	156.08	47.57	159.17	48.51	52.92	16.13
767-300	C-IV	140	352,000	159,665	300,000	136,078	156.08	47.57	180.25	54.94	52.58	16.03
767-300ER	D-IV	145	413,000	187,334	320,000	145,150	156.08	47.57	180.25	54.94	52.58	16.03
767-300F	D-IV	147	413,000	187,334	326,000	147,871	156.08	47.57	180.25	54.94	52.92	16.13
767-400ER	D-IV	150	451,000	204,570	350,000	158,757	170.33	51.92	201.33	61.37	55.83	17.01
777-200	C-V	139	634,500	287,800	460,000	208,700	199.92	60.93	209.08	63.73	61.50	18.75
777-200LR	C-V	138	768,000	348,358	492,000	223,168	212.58	64.80	209.08	63.73	61.50	18.75



2.2.11 GENERAL DIMENSIONS

MODEL 737-800

D6-58325-6

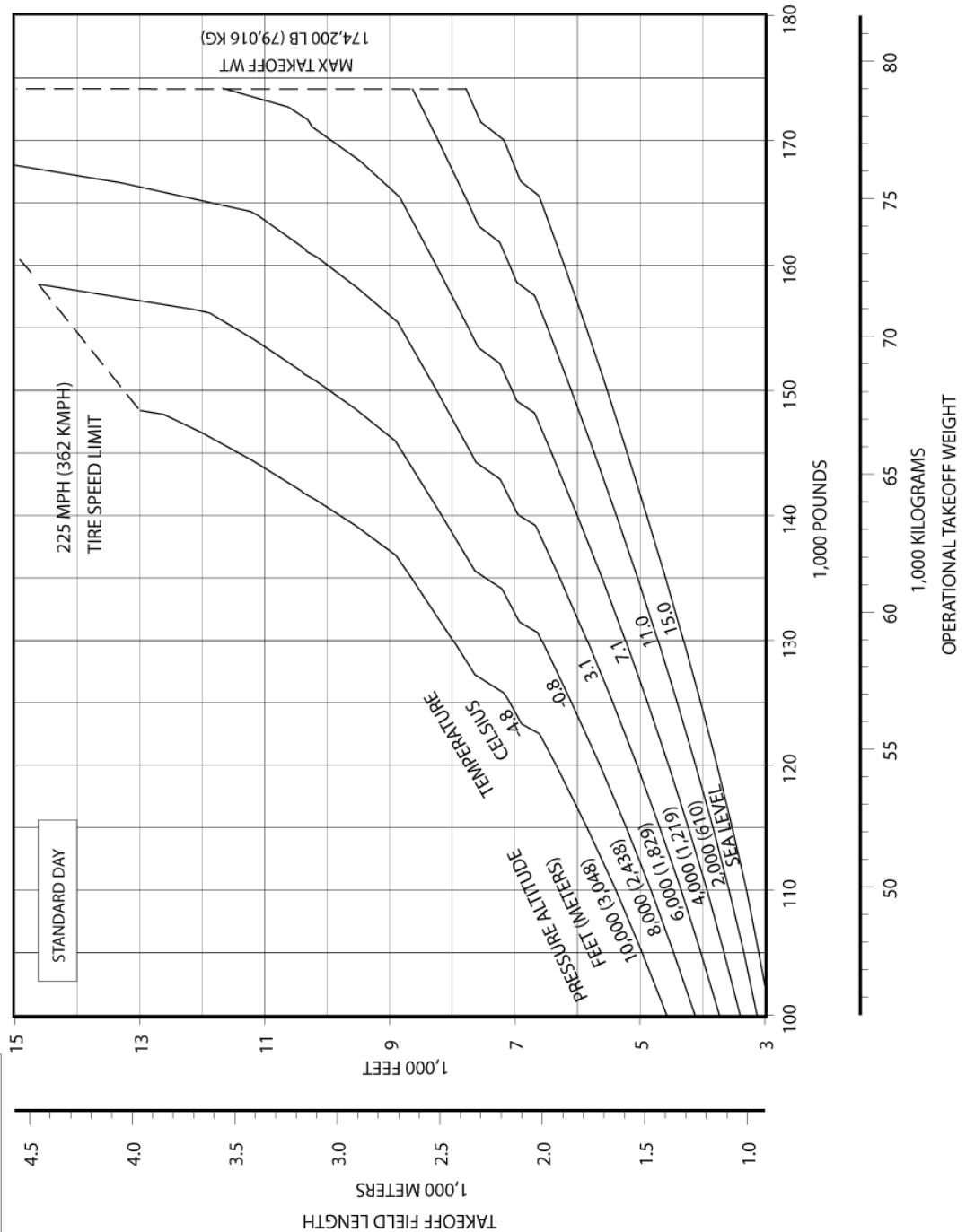
DO NOT USE FOR DISPATCH

Takeoff Runway Length Requirements

737-800/-800W/BBJ2 (CFM56-7B24/-7B26/-7B27)

- NON-WINGLET PERFORMANCE SHOWN. WINGLET AIRCRAFT WILL HAVE SLIGHTLY IMPROVED PERFORMANCE.
- CONSULT USING AIRLINE FOR SPECIFIC OPERATING PROCEDURE PRIOR TO FACILITY DESIGN.

DRY RUNWAY
ZERO WIND
ZERO RUNWAY GRADIENT
AIR CONDITIONING OFF
OPTIMUM FLAP SETTING



3.3.47 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS

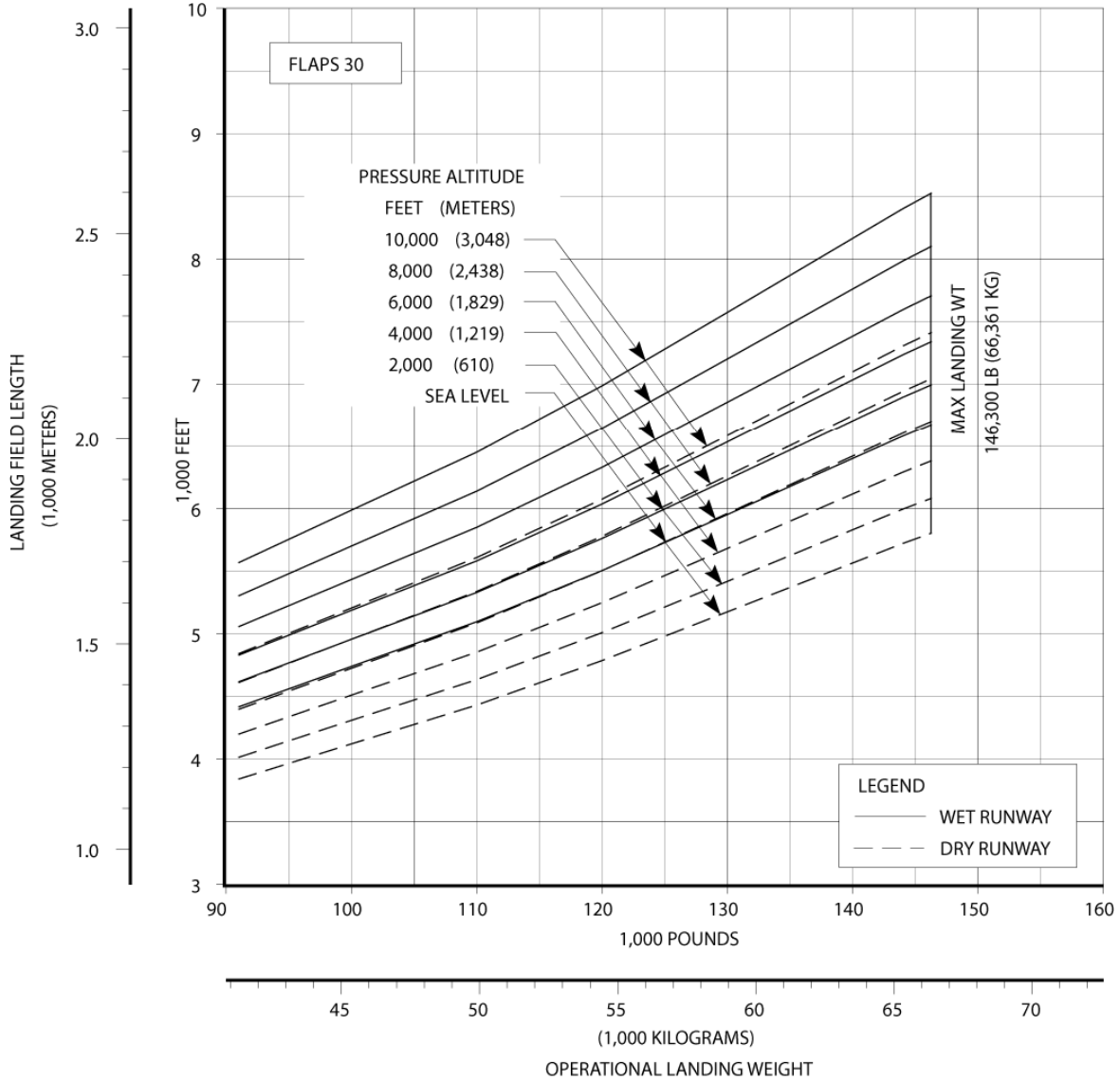
STANDARD DAY, DRY RUNWAY

MODEL 737-800/-800W/BBJ2 (CFM56-7B24/-7B26/-7B27 ENGINES AT 26,000 LB SLST)

DO NOT USE FOR DISPATCH

Landing Field Length
737-800/-800W/BBJ2 (CFM56-7B Series)

- STANDARD DAY, ZERO WIND
- AUTO SPOILERS OPERATIVE
- ANTI-SKID OPERATIVE
- ZERO RUNWAY GRADIENT
- CONSULT USING AIRLINE FOR SPECIFIC OPERATING PROCEDURE PRIOR TO FACILITY DESIGN



3.4.21 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS - FLAPS 30
MODEL 737-800

D6-58325-6